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HISTORY AND PURPOSE OF NABET

The Northeastern Association of Business, Economics and Technology is in its fortieth year of existence. It was formerly known as APUBEF, the Association of Pennsylvania University Business and Economics Faculty. It was founded by a group of economics and business professors from the fourteen state universities comprising the Pennsylvania System of Higher Education. The goal was to provide a platform for sharing and encouraging scholarly work among the business faculty of the fourteen state universities. As a result of their efforts, the organization has grown and has sponsored an academic conference each year for the past 40 years. Since 2006 NABET has been regional in scope.

The original goal of NABET/APUBEF was to benefit the business faculty of the colleges and universities in Pennsylvania and surrounding states with emphasis on the faculty of the smaller schools. However, due to NABET's regional focus, at the 40th Annual Meeting, the scholarly work of authors from fifteen states and three foreign countries (Sweden, Vietnam and Zimbabwe) representing 68 colleges and universities were presented. The NABET conference has consistently welcomed a mix of experienced scholars and those who are relatively new to the arena of scholarly growth.

At NABET, we encourage conference presenters to complete their papers and submit them for publication in the Peer-Reviewed Proceedings. Of the 119 papers, workshops and discussion panels presented at the 40th Annual Meeting, the following pages contain those papers that were completed by the authors and submitted to the Proceedings editors. Each paper has gone through a thorough review/edit process. *The Official Conference Program* of the 40th Annual Meeting including the abstracts of each paper that was presented at the conference is also included.

The founders also established a referred journal, The Journal of Business, Economics and Technology (formerly the Pennsylvania Journal of Business and Economics and, subsequently the Journal of the Northeastern Association of Business, Economics and Technology). The Journal applies a double-blind review process and is listed in Cabell's Directory. It is published at least once each year, and has a devoted editorial staff supported by an excellent corps of reviewers.

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INTEGRATING CODIFICATION RESEARCH AND MEMO WRITING INTO INTERMEDIATE ACCOUNTING

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ABSTRACT

The ability to effectively communicate is a very important skill for accountants. The AICPA has identified communication skills as a core competency, and demonstrating competence in effective written communication is a component on the CPA exam. This paper provides an overview of an approach taken by the author in an intermediate accounting course to incorporate both memo writing and codification research. Results show that by the end of the semester, students report significant increases in their understanding of the codification, their perceived ability to research using the codification and present what they find in a professional business memo.

INTRODUCTION

The ability to effectively communicate is a very important skill for accountants. In fact, the importance of effective communication is listed by the American Institute of Certified Public Accountants (AICPA) as one of the core competencies that all students entering accounting should be able to do (AICPA 2017a). Furthermore, demonstrating competence in written communication is required on the CPA exam (AICPA 2017b).

Unfortunately, the typical accounting curriculum requires such a large focus on technical knowledge that it can become challenging to devote precious time towards developing students' communication skills. Therefore, the purpose of this paper is to outline an approach taken by the authors within Intermediate Accounting to improve students' written communication skills by requiring the writing of memos. This approach takes very little time away from lectures, allows students to have a better understanding of the importance of effective communication, and hones their memo-writing skills. It also has the additional bonus of exposing them to the FASB codification and incorporating research skills.

Overall, the codification research and memo writing exercises appears to be a value-added activity. Students report significant increases between the beginning and the end of the semester with respect to their knowledge and understanding of the codification, as well as their perceived ability to search through the codification, effectively summarize their findings, and write a high-quality business memo.

The remainder of this paper will first address prior literature on communication skills and their importance to the accounting major. Next will be a discussion on the development of the assignment. Third will be how this assignment was incorporated into the class. Fourth is an overview of findings with respect to a survey distributed at the beginning and end of the semester, and the final section will conclude.

LITERATURE REVIEW

Research with respect to communication skills has found that effective written communication is an important skill for accounting graduates Albrecht and Sack (2000) reported that accounting practitioners viewed the top three skills needed by future accountants to be written communication, oral communication, and critical thinking. Blanthorne et al. (2005) asked accountants recently promoted to partners at the (then) Big Five accounting firms to rate six skills—technical, communication, interpersonal, administrative, leadership, and practice development—with respect to their importance in being promoted from staff to senior, senior to manager, and manager to partner. Within tax, communication skills was rated the second highest (after technical) for advancement to senior and to manager, and third highest (after interpersonal and leadership) to partner. On the audit side, communication was rated the highest for advancement to senior and to partner, and second highest (after technical) for advancement to manager.

More recently, Kavanagh and Drennan (2008) asked 322 Australian accounting students to summarize what they believed to be the three most important qualities for a successful career, and reported that one of the highest rated skills was effective communication (288). Sharifi et al. (2009) summarized a series of reports and surveys and concluded that effective communication was a skill emphasized most often for success in the accounting profession. Lin et al. (2010) reported the results of a survey provided both to accounting students and accounting professionals.

On a scale of 1 (strongly disagree) to 5 (strongly agree), respondents were asked to rate their agreement with the statement that "weak writing skills are a disadvantage for advancing in accounting". The average score was 3.86 for students but 4.41 for professionals, indicating that while students recognized the importance of writing skills, they don't yet see it as important as practitioners do.

Despite the importance of effective communication skills, some research has indicated that accounting graduates are deficient in this area. Jones (2011) compiled responses of 46 accounting employers and reported that as a whole, the employers were only marginally satisfied with respect to the students' communication skills. Focusing on specific written communication skills, clear writing and outlining tied for the lowest satisfaction levels. Camacho (2015) interviewed human resource supervisors and managers of seven different accounting firms, and all firms "…agreed that most students lack the necessary skills to write at a professional level that would represent the firm properly" (323). One suggestion made was that students should practice writing skills while still at school (323).

Taken together, communication skills are extremely important among accounting majors who wish to advance in their field. This is reinforced by the AICPA, who promote effective communication as a key for success in accounting. The AICPA website shows a "pre-certification core competency framework," which defines skills necessary for accountants that are not necessarily covered in traditional, content-driven accounting curricula (AICPA 2017a). Within this framework are two complementary accounting competencies. First is "reporting," an accounting competency defined as:

> "Identify the appropriate content and communicate clearly and objectively to the intended audience, the work performed and the results as governed by professional standards, required by law or dictated by the business environment."

Second, is "communication," a professional competency defined as:

> "Actively listen and effectively deliver information in multiple formats tailored to the intended audience."

The AICPA also includes a "written communication" assessment on the CPA exam (AICPA 2017b). The AICPA website discusses what is expected on this portion of the exam:

> "Each case study simulation will include a writing skills exercise. In this portion of the exam, candidates must read a situation description and then write an appropriate document ("constructed response") relating to the situation. The instructions will state what form the document should take (such as a memo or letter) and its focus. The candidate's response should provide the correct information in writing that is clear, complete, and professional."

In sum, developing effective communication skills for the accounting major is important; however, the challenge lies in finding a way to do so that will add value but not take away from class time needed to cover technical knowledge. The next section will discuss how communication assignments were incorporated into an Intermediate Accounting course.

INCORPORATING THE ASSIGNMENT INTO THE ACCOUNTING CLASS

The class used was Intermediate Accounting III[1] (the textbook is Intermediate Accounting by Kieso, Weygandt, and Warfield, 16th edition). During the course of the semester, all students were required to hand in two professional memos. Each one was weighted approximately 3.5% of their grade, so altogether, 7% of their grade is determined by their performance on these writing assignments—enough that it could make the difference of a letter grade by the end of the semester.

In-Class Handout

On one of the first days of class, I take approximately 20-25 minutes to discuss the overall memo assignments. I give students a handout providing an overview and read through the high points and request they read it through more carefully again before preparing their first memo assignment.

[1] At this institution, the Intermediate series of accounting is broken up into three semesters. The concepts covered in this paper could still apply to Intermediate II for institutions that have the intermediate series cover two semesters instead of three.

The first part of the handout explains the codification. There is a short paragraph that states the FASB is preparing a codification of its standards and its purpose. Next, the handout informs students that the CPA exam is now including research using the codification, citing the following: “Overall, more emphasis is being placed on skills assessment using case study-based questions known as Task-Based Simulations. Authoritative literature in the CPA exam incorporates use of new Financial Accounting Standards Board codifications of U.S. Generally Accepted Accounting Principles” (AICPA 2011).

Next, the handout discusses that many recent accounting graduates are not effective when it comes to preparing standard business communications, and provides the following citations:

- Sharifi et al. (2009) summarize a series of reports and surveys with respect to which skills are the most important to succeed in the accounting profession, and conclude that effective communication is one skill that is emphasized the most often (181).
- Albrecht and Sack (2000) report that accounting practitioners view the top three skills needed by future accountants to be written communication, oral communication, and critical thinking.
- Blanthorne et al. (2005) asked accountants recently promoted to partners to rate various skills with respect to their importance in leading to promotions from staff to senior, from senior to manager, and from manager to partner, for both tax and audit positions. Within tax, communication received the second-highest ratings (after technical) for advancement to senior and manager. Within audit, communication was rated the highest for advancement to senior and to partner, and second-highest (after technical) for advancement to manager.

The students are informed that the CPA exam will include assessments of written communication skills, citing: “Each case study simulation will include a writing skills exercise. In this portion of the exam, candidates must read a situation description and then write an appropriate document (“constructed response”) relating to the situation. The instructions will state what form the document should take ***(such as a memo or letter)*** and its focus. The candidate’s response should provide the correct information in writing that is clear, complete, and professional.” (AICPA 2017b, emphasis added).

After providing this information, students will hopefully understand the value of being able to conduct research and provide effective written communication. The next portion of the handout encourages students to either pick up a copy of “Effective Writing, a Handbook for Accountants” (May and May 2015, and I place an earlier edition on reserve in the campus library), or to review Purdue’s online writing lab on memos found at https://owl.english.purdue.edu/owl/resource/590/1/ . I insist that they should review at least one of these resources before doing any writing, even if they believe they already know how to write a memo.

Next, the handout provides information on accessing the codification. Using a computer, I also show them in class how to do so and walk through possible ways to search for topics.

After providing the above information, the handout focuses on the writing of the memo itself. Students are told to assume that their audience is an accounting client (and not an accounting professor). I give them a list of helpful items to keep in mind; for example, to only use the codification, use of proper citation, and keeping answers concise yet understandable. I also provide a list of common mistakes that will result in grade penalties, such as providing incorrect information, citing an incorrect code section, using too much jargon, or not looking like a memo.

The next section of the handout provides students with two examples of what a “good” memo response to an accounting question might look like, as well as some search tips when using the codification. Finally, I provide them with the grading criteria so they know ahead of time exactly what to expect.

Assignments

In order to tie the memo assignments to the class material, each memo assignment relates to one of the chapters covered during the semester from the Kieso et al. (2016) textbook. In this particular class, in the first half of the semester, students learn about full disclosure, revenue recognition, and deferred taxes; in the second half, they learn about pensions, leases, and accounting changes. Students are assigned one memo from the first half of the class and one memo from the second half of the class. In order to keep the inflow of memos at a manageable level for grading purposes, during the first half, the students are assigned into thirds—one third is required to do a memo on full disclosure, one third on revenue recognition, and one third on deferred taxes. Similarly, during the second half, the students are assigned into thirds—one third does a memo on pensions, one third on leases, and one third on accounting changes. Assignment is random, by using a random number generator; in order to keep each group into approximate thirds, if one group received too many students, I randomly reassigned some of the students within that group to one of the other memo assignments.

For the most part, questions assigned to the students were taken from the Intermediate Accounting textbook. The resources at the end of each chapter includes questions entitled Codification Research Cases and Codification Exercises. I did sometimes reword or use my own questions, but the majority came from or were inspired by these resources.

Grading Rubric

The instructor resources that accompany the May and May (2012) text provided an instructor's check sheet—a suggested list of criteria on which students can be graded (117). I used this as a starting point—some of the provided items I kept, some I reworded, some I removed, and I added some of my own.

My final list of grading criteria included the following:

- Accounting Content
    - Accounting issues identified and addressed?
    - Conclusions supported by the information provided?
    - Informative?
    - Written appropriately for the reader (i.e., explained higher level items and/or did not waste time defining things the reader would know)?
    - Did you answer all of the client's questions satisfactorily?
- Clear and Readable Style
    - Sentences constructed so they are clear and easy to read?
    - Concise yet understandable?
    - All information included has a clear purpose/no unnecessary filler or fluff?
- Coherent Organization
    - Purpose of memo clearly stated, including main ideas/conclusions summarized near the beginning of the document?
    - Paragraphs well organized: begin with topic sentences, 4 or 5 sentences maximum, develop one idea?
    - Transitions where necessary to preserve logical flow of thought?
    - Grammatical and mechanical errors do not distract the reader?

The May and May (2012) instructor resources also suggested using a Likert scale, but I chose a different approach. I was not sure a student or a grader would be able to attach meaning between a score of five or six on an items such as "sentences are clear and easy to read." Plus, in the real world, I am assuming that the target audience of these memos (an accounting client) will be more likely to note whether the memo is satisfactory or not, as opposed to assigning a grade or ranking. Therefore, for each item listed above, students were assigned a score of either 0 (no or very little), 0.25 (not enough), 0.5 (mostly), or 0.75 (yes). I then added up their score, and would subtract additional penalties if students made any egregious errors, such as their answers being clearly wrong, not using the codification, not reading like a memo, citing an incorrect code section, or including too much irrelevant information in their response. After adding up their earned points and subtracting penalties, they received a final score (out of a maximum possible score of nine points).

In addition, I provided feedback on their memos, highlighting what was good and providing constructive criticism for various items in which they were lacking. While I provide feedback for both memos, it was more comprehensive for their first memo because I wanted them to take the feedback into consideration before they did their second one later in the semester.

SURVEYS

Near the first day of the semester, students received a "pretest" that asked them a series of questions to gauge their experience and knowledge with respect to the codification and memo assignments. They filled out the pretest before receiving any specific information about the codification and memo assignments. They also received a "posttest" at the end of the semester, in order to see how their perceptions changed.

Overview of Respondents

With respect to the respondents, there were 51 students in total across two sections who answered the surveys (one section had 26 students and the other had 25). All students answered the pretest but only 44 answered the posttest. With respect to demographics, 17 were female, 32 were male, and 2 declined to answer. 22 were juniors and 28 were seniors, and 1 declined to answer. The average age was 21.52 (ranged between 20 and 33, with median 21 and standard deviation 2.11), and the average self-reported GPA was 3.369 (ranged between 2.580 and 3.980, with median 3.4 and standard deviation 0.345).

On the pretest, students were asked if they had any exposure to the codification outside of this course, such as in another accounting course, during employment, or any other time. Of the 51 students, 35 said no, 10 said yes, and 6 provided either an unclear answer or no answer. The most common response among those who said "yes" was that they had brief exposure when they needed to look up a quick answer for an assignment in Intermediate Accounting II. Students were also asked on the pretest if they had any exposure to writing memos outside of this course, such as in another class or employment. 24 said no, 21 said yes, and 6 provided either an unclear answer or no answer.

On the posttest, students were asked if they had any other exposure to the codification besides this course during the current semester. Of the 44 students, 35 said no, 3 said yes, and 6 provided either an unclear answer or no answer. Students were also asked if they had any exposure to writing memos besides this course during the current semester, and 24 said no, 16 said yes, and 4 provided either an unclear answer or no answer.

Two questions were asked only on the pretest. Answers were provided using a 7-point Likert scale, ranging from 1 (strongly disagree) to 4 (neutral) to 7 (strongly agree). The first of these questions was "Before the start of this class, I knew that codification research was required on the CPA exam." The scores ranged from 1 to 7, with an average score of 3.10 (median 2.00, standard deviation 2.14). The second question was "Before the start of this class, I knew that professional writing was required on the CPA exam." Scores ranged from 1 to 7, with an average score of 4.45 (median 5.00, standard deviation 2.18). This seems to indicate a wide variety of knowledge with respect to codification and memo writing on a CPA exam, but that many of the respondents had at least some expectations on these items (albeit more on the professional writing component of the exam than the codification).

Results

The pre- and posttests asked many of the same questions, in order to determine how students' perceptions changed during the semester. Students selected a response using a 7-point Likert scale, ranging from 1 (strongly disagree) to 4 (neutral) to 7 (strongly agree). Because an ordinal Likert scale was used, tests for significance between the pre- and posttests were conducted using the nonparametric Wilcoxon Signed Rank test. If the distribution of the differences between answers is not symmetrical, then the Sign Test is more appropriate, however, for all tests discussed below, the results were found to be the same for both tests. Therefore, the Wilcoxon Signed Rank results will be provided (with corresponding Z statistic and p-value).

Students were asked to respond to the question "I believe that I know how to write a high-quality business memo." The average score on the pretest was 3.14 (median 3.00, standard deviation 1.51) and on the posttest was 5.75 (median 6.00, standard deviation 0.84). The average change between pre- and posttests was a 2.77 increase (median 3.00, standard deviation 1.68). The differences were significant ($Z = -5.461$, $p < 0.001$). This indicates that students' confidence in writing a high-quality memo increased during the course of the semester.

Next, two questions gauging students' general awareness on the codification were included. For the first of these, they were asked to rank "Before the start of this class, I was aware that the FASB and GASB are developing codification," and on the posttest "I am aware that the FASB and GASB are developing codification." The average pretest score was

3.96 (median 4.00, standard deviation 1.83) and on the posttest was 6.48 (median 7.00, standard deviation 0.70). The average change between pre- and posttests was a 2.41 increase (median 2.00, standard deviation 1.76). The differences were significant ($Z = -5.260$, $p < 0.001$).

The second question used to determine general awareness on the codification was on the pretest "Before the start of this class, when I heard 'accounting codification,' I knew what that meant", and on the posttest, "When I hear about 'accounting codification', I know what that means." The average score on the pretest was 3.47 (median 3.00, standard deviation 1.68), and the average score on the posttest was 6.55 (median 7.00, standard deviation 0.79). The average change between pre-and posttests was 3.20 (median 3.00, standard deviation 1.80). The differences were significant ($Z = -5.468$, $p < 0.001$).

The results of the previous two questions shows that students' knowledge with respect to the codification increased during the semester.

The next question was the same on the pre- and post-tests: "I know how to search through the codification to find possible answers to an accounting question." For the pretest, the average was 2.88 (median 3.00, standard deviation 1.80), but for the posttest, the average was 6.16 (median 6.00, standard deviation 0.96). The average change between the beginning and end of the semester was a 3.41 increase (median 4.00, standard deviation 2.13). This difference was significant ($Z = -5.496$, $p < 0.001$). Students definitely seemed to feel more comfortable in using the codification as a result of the memo assignments.

Finally, students were asked on the pre- and posttests: "I know how to summarize and effectively communicate information found in the codification." The pretest score average was 2.65 (median 3.00, standard deviation 1.29) and the posttest score average was 6.00 (median 6.00, standard deviation 1.08). The average difference was an increase of 3.45 (median 4.00, standard deviation 1.80), which was significant ($Z = -5.668$, $p < 0.001$).

Altogether, students' perceived ability to use the codification and then communicate its findings significantly increased during the course of the semester. In order to determine if students found the codification research and memo writing to be valuable, three additional questions were asked, but only on the posttest.

Two of these questions were asked with responses to be ranked using the Likert scale. The first question was "I believe that the activities engaged in during this course helped me in the future to be able to perform research using the codification." The average score was 6.39 (median 7.00, standard deviation 0.72). The second question was "I believe the activities engaged in during this course helped me in the future to be able to write effective business memos." The average score was 6.32 (median 6.00, standard deviation 0.74).

Finally, students were asked the following: "If on average, your overall level agreement on the statements above increased during the semester, to what extent do you believe the activities engaged in during the Intermediate 3 class were responsible?" Students were asked to provide an overall percentage. Answers ranged from between 30% to 100%, with an average of 82% (median 85%, standard deviation 18%).

CONCLUSION

A successful career in the accounting profession requires effective business writing skills. In addition, the CPA exam requires that candidates demonstrate competence in written communication, but research suggests that accounting majors are somewhat deficient in this area. The current study outlines an approach tested by the author within an Intermediate class in an attempt to remedy this situation. This approach involves the writing of memos and also provides exposure to the FASB codification and incorporates research skills.

The current study concludes that students' confidence in their ability to write a professional quality memo increased after completing the writing assignments. Students also indicated that they felt more comfortable using the codification, and summarizing and effectively communicating information found in the codification.

More research needs to be completed on this topic. The author plans to assign the memo writing task to his fall 2017 semester students, thus increasing the number of respondents. Also, results will also be analyzed, controlling for demographic data (e.g., differences between class section, gender, juniors vs. seniors, those who reported previous experience with codification or memo vs. those who did not). However, the results show that incorporating codification research and memo writing components appears to be a value-added activity.

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DEVELOPMENT OUTCOMES: WHY SOME COUNTRIES DEVELOP AND OTHERS FALL BEHIND

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ABSTRACT

The question of why some countries excel and some countries fall behind and fail to improve their socio-economic conditions is not new. It has been debated for decades, if not centuries, and is one of the puzzles modern-era economists have tried to better understand. Achieving economic development has been one of the biggest challenges poorer countries have faced over time. Only a few nations in recent years have shown stunning success in some areas of social and economic development and have leapfrogged over the rest. Most still experience a large gap between rich and poor and a sharp divide between urban and rural, and most continue to struggle even if they are endowed with ample natural resources.

This paper reformulates the question: Why have some countries developed faster than others? To address this question, it focuses on a specific case, that of Peru. Why Peru? Because it is a country well-endowed with natural resources, but it has not been able to sustain its momentum when the economy has accelerated (Schuldt 2007, Thorp and Bertram 1978, Carranza et al. 2005). It is a country that has struggled to shift to a higher gear. Its modest economic growth during much of the twentieth century and its good macroeconomic performance for much of the past two decades have been insufficient to generate overall prosperity. Despite the gains made in recent years, the country is falling behind relative to the Newly Industrialized Countries (NICs) of East Asia, and even relative to its southern neighbor Chile, which has outperformed Peru in many respects.

To shed some light on what might constitute a successful development outcome, a comparative strategy is used to examine Peru relative to two other successful cases: Chile and South Korea. Contrasting their experiences via paired comparisons allows us to explore how and why some countries have taken the leap to development while Peru has lagged behind, and to reformulate ideas and approaches to the issue. Overcoming underdevelopment is a long process with no easy or magical solutions, but there are lessons that can be drawn from approaches that have been successful in other countries (Acemoglu and Robinson 2012, Fukuyama 2008, Davis 2004).

In the early 1960s, Peru's GDP per capita was higher than that of South Korea. Now Koreans are three times wealthier than Peruvians. In 1974, Chile's GDP was about the same as Peru. Today Chileans are twice as wealthy as Peruvians. Within Peru, the contrast between urban and rural and between formal and informal continues to be significant. While its higher rates of growth have led to improvements in social indicators, and while it has made progress in poverty reduction, literacy, and life expectancy over the past two decades, Peru still lags behind in overall socio-economic development (Hunt 2011, Jimenez 2016, Parodi Trece 2015, Orihuela and Tavara 2014).

The three countries were chosen for comparison because they were not significantly different in the early 1960s in terms of their level of development. All three countries have market systems and open economies. This study considers more than five decades and compares their evolution over time. It makes use of multiple indicators to measure development outcome. It addresses the reasons why South Korea and Chile have outperformed Peru. Politically, all three have changed over time, but after transitioning to democratic governance, both South Korea and Chile—in contrast to Peru—experienced continuity and sustainability. All three have experienced policy changes and are currently more market-friendly. Chapters 3 and 4 will examine and compare Peru's performance and policy orientation to that of each of the other two countries.

Throughout the past 25 years, Peru has experienced significant changes. But whether these changes have been sufficiently profound to allow Peru to achieve the ultimate goal of development might be debatable. There is still no clearly defined blueprint to follow. Economic growth has improved the lives of many, and poverty has been reduced, from 54.7% in 2001 to 22.7% in 2014 (see Figure 1.1). This is significant, considering that in 1990 Peru's economy was unraveling. It was faced with hyperinflation, and it was on the brink of defaulting on its loans (Parodi 2000). Having emerged from this disastrous position, Peru has made significant gains in economic growth in recent years that have had a positive effect on the economy as a whole. But much of this trend has come about as the world economy was growing and there was a higher demand for commodities, particularly from China and other emerging economies. Thus one could argue that poverty reduction has been a global phenomenon. But even if the economic pie has grown, many still seem to be economically dissatisfied with the democratic political process because little gets done and many are left behind (Jimenez 2016, Orihuela and Tavara 2014).

According to the World Bank's *World Economic Indicators 2016*, Peru has attained high-middle-income country status, but the challenges it faces are enormous. The data show that while GDP growth has translated into greater output, more tax revenue, and more exports, social indicators other than poverty reduction have not shown significant increases in welfare (Figure 1.2). While there have been advances in the macro economy, the transition to institutional development has not kept pace (Orihuela and Tavara 2014, Parodi 2015) From a broader perspective, for the past 15 years Peru has sought a more mature political system even as the traditional parties have diminished in stature and almost ceased to exist (Levitsky 2013, Tanaka 2005). The country also has sought to construct a more efficient state by revamping its public administration to be more expeditious (Crabtree 2006). Its biggest task is to formalize the informal sector, where more than half of the labor force works, so the economy will be able to generate greater levels of productivity (Ganoza and Stiglich 2016, Álvarez Falcón 2015). Loayza (2016a), emphasizes that productivity is the key to promote growth and development.

DEVELOPMENT REDEFINED

Development is a multidimensional term that comprises historical, economic, geographical, political, and social dimensions. It can be viewed in terms of a comprehensive approach because it has been discussed from different angles within different disciplines (Graboski, Self, and Shields 2013) As the conditions experienced by initially similar countries are better understood, it is possible to begin to understand why some move faster and discern what can be done to achieve measurable development goals. Policy debates continue on some issues because approaches vary on whether there should be more reliance on free markets or whether the state has a role to play in steering the development effort. Nevertheless, there is much to be learned, and lessons can be drawn from successful development models.

All countries were initially underdeveloped, but some countries eventually achieved development. Underdevelopment is characterized by low levels of per capita income, high levels of poverty, inadequate basic needs in human development, low quality of life in terms of human rights, and low levels of happiness. Peru's obstacles to development are similar to those many countries in Latin America have faced: Weak governance capacity, high population growth relative to income gains, weak infrastructure that raises the cost of getting goods to market, low levels of human capital, heavy reliance on commodity exports that are vulnerable to price shocks, ethnic fragmentation, a large informal sector, a deep divide in the urban-rural link, and the social exclusion of and discrimination against indigenous peoples. These are features of underdevelopment that need to be overcome. In this sense, economic development should be seen as the complete economic transformation of a given country (Cypher 2014, Roland 2013, Taylor and Lybbert 2015).

Development as it is known today is a post-war phenomenon that has been analyzed from various points of view (Cypher 2014). The evolution of development theory has not been uniform. A number of approaches to development have emerged and generated debate among complex and evolving schools of thought. Briefly, these approaches can be summarized as follows:

The *modernization* approach that was in vogue in the 1950s focused on prosperity and assimilation. Its proponents claimed that all societies pass through stages from tradition to modernity. An alternative approach that challenged modernization was *dependency*. Its advocates viewed the former as linear and inadequate because it was a one-size-fits-all outlook. The dependency school also had different variants, which mainly saw under-development as a historical process and not as an original condition (Hunt 1989, Orman and Wignaraja 1991) Latin American underdevelopment was attributed to Iberian colonialism. This analysis has proven useful in highlighting the power relationships between the core or center, which is dominant and strong, and the periphery, which is weak (Cypher 2014, Franco 2007).

In the 1960s, LDCs (less developed countries) pressed for *collective self-reliance*. They felt more empowered, and the *nonaligned movement* emerged as a representative force. In the 1970s, as many of these countries used the United Nations as a forum to air their grievances, there was an initiative to establish a *new international economic order*. During the 1970s and 1980s, other approaches emerged. One was the *basic needs* approach, aimed at satisfying the essential human necessities of the many. This brought a touch of realism to the development discourse. Although feasible, this became more ingrained in thinking about development aid (Easterly 2006) As a result of the debt crisis, the 1980s and 1990s saw the retreat of the state, manifested in the reduction of the public sector. This marked the advent of free market philosophies best exemplified in *neoliberalism.* This new trend has dominated the development agenda since it was partly impelled by crisis and partly adopted as a reaction to it (Cypher 2014). One key and fundamental proposal was the *structural adjustment* program. These programs targeted countries with large trade and fiscal deficits and high inflation. They aimed to restructure the economy, making the state leaner and providing incentives to the private sector to stimulate a self-regulating market (Cypher 2014)

The process of economic development has to be a transformative process that begins with economic restructuring. Policy prescriptions since the 1980s and 1990s have opened the economy, but have lacked an explicit industrial policy. Manufacturing is the most investment-intensive sector of any economy. It can assimilate, create, or reproduce technology, which is the driving force behind the generation of wealth and the improvement of living conditions. Economic historians have noted the causal link between manufacturing and technology, which in turn leads to economic growth (Savillon 2008).

The goal of economic development is to create prosperity and enhance the welfare of the bulk of the population. The common assumption has been that economic growth is the key engine of development—it gets everything else moving. The thinking is as follows: As long as the economy grows faster, the country produces more, and the pie gets bigger. This translates into more resources that can be allocated to social areas such as education, culture, and health. Higher GDP (gross domestic product) growth, on the other hand, is an indicator of greater production but not necessarily of improved welfare. To measure the latter, other indicators such as poverty rate, infant mortality rate, access to clean water, quality of education, etc., are needed. Higher GDP growth is ideal if this growth is achieved by promoting a sustained and prolonged process. Sustaining such progress has been one of the biggest challenges non-industrialized countries have faced over the years. A nation with greater economic growth can end up with a much higher standard of living, such that accelerating GDP per capita has been seen by many economists as the main driver of development. A nation enjoys a higher living standard if it can produce more and better and is able to compete globally. The most obvious and recent example is that of China (Ang 2016).

STATE vs. MARKET

The neoliberal or ‘market-first’ approach calls for a minimalist state. Its proponents assert that as long as economic agents are free to interact, economic growth will propel the economy forward. When this happens, there is moderate optimism even if there is still inequality and many are left out. This is what has happened in Peru, where there has been a fundamental shift, the state has retreated and eliminated many controls to favor the private sector. There has been a change of course. Now much of the economic and financial sector is in the hands of new economic power groups with political ambitions (Durand 2010). It is a new form of accumulation that has revamped the old economic system but also brings with it new contradictions. The neoliberal promise of prosperity can run into complications and is vulnerable in the context of a country like Peru. There is a large informal economy, and many operate outside the rule of law or are not ‘licensed’ to function. So, in the new model, about half of the population directly benefit from economic prosperity. Moreover, economic growth on its own does not necessarily lead to the strengthening of institutions and authority. The process can also lead to generalized distrust when there is lack of opportunity for large segments of society. Although the average skill of the labor force has increased, as measured by more years of schooling, education improvements has not kept up, and labor has not become more productive (Ros 2013, CENTRUM 2016, Vega-Centeno 2015, León and Valdivia 2015).

On the opposite end is the state-centered development approach. Prior to the 1990s, the state had played a significant role in development, and in some countries of Latin America, state planning was a means for channeling resources and for coordinating investment and infrastructure projects. The main argument was that the state could allocate resources most efficiently (Saberbein 1987). But its role was questioned and scrutinized due to high deficits and debt burden (Franco 2007). Critics argued that state intervention tends to create allocative inefficiencies and thus slower growth. This eventually led to economic liberalization, streamlining, and a wave of privatizations of state companies. As the traditional role of the state has changed during the past three decades, the market-based approach gained ascendency (Font 2015). More precisely, the role of the state has been transformed from one of state intervention or activism, known as *dirigisme*, to one of state support (Ros 2013).

There are alternative views on the role of the state and the market in development. For instance, South Korea’s and Taiwan’s ventures have been deemed successful public-private partnerships. Their success had been due in large measure to active government involvement in targeted sectors (Amsden 1992, Lee 1992, Wade 1990). Amsden argues that in the case of these *late industrializers*, the government had “to intervene and deliberately distort prices to stimulate investment and trade” (53). The success of these countries has raised questions as to whether they were truly as *liberal* as some have claimed (Tan 2005). In a relatively short period of time, these Asian countries excelled while Latin America and other regions’ conditions deteriorated. The emergence of China might be another example of a state-led approach that has turned it into a high-growth performer. Franco (2007) reminds us that a successful strategy relies on complementary institutions. In addition to subsidizing investment and providing low-interest credit, state-sponsored institutions can promote better flows of information, encourage standards for production, and facilitate cooperation between state and private firms. CORFO, Chile’s state development corporation is a case in point. It promotes business linkages and helps firms to break into unknown foreign markets (Kwon 2015, Orihuela 2014). Even in Japan, the government had provided “administrative guidance” and facilitated a process that made it easier for firms to compete. This suggests that there is an appropriate role for government to support firms and coordinate among them without distorting incentives (Amsden 1992). These successful experiences suggest that economic development is facilitated by creating a healthy economic environment in which the state moves from a directing role to one of offering support to the private sector. When the mix of public and private institutions is optimal it reflects a recognition that both have important roles to perform (Chang 2003).

A point of clarification: For years, the literature on economic development has used the terms *developing countries* and *Third World*. The first term is not entirely accurate because much of Africa and South Asia and parts of Latin America are not really developing per se. The second term seems to imply otherness and backwardness. Furthermore, it has an ideological connotation, because the term *Second World* traditionally referred to Soviet-type economies, which have since collapsed (Ma 1998, Randal 2004). But the old rationale for using these terms was never entirely accurate because it lumped all these countries into one category. A more appropriate concept is *less developed country*, and for those that are very poor, the term *least developed* seems more adequate. In recent years, international organizations such as the World Bank have shown a preference for the use of high-income, middle income, and low-income categories, with some variations.

GROWTH AND DEVELOPMENT

Less developed countries (LDCs) are a heterogeneous group; they pursue different development objectives and set their own priorities. But as De Janvry and Sadoulet note, “of all development objectives, income growth is likely the most important one; the other objectives—poverty reduction, reduced disparities, satisfaction of basic needs, and achieving a satisfactory quality of life—are difficult if not impossible to achieve [without income growth]” (2016, 4). For instance, reducing poverty would be difficult to accomplish without growth. The usual claim is that growth is necessary, but it might not be sufficient. Hence, growth is of paramount importance, as long as this can be a sustained process. Because of past economic growth, the richest or most developed countries today have left the smaller, less developed economies behind. The international differences in income, output, and wealth are striking. Nevertheless, some countries have made big strides and are now part of the high-income developed countries of the Organization of Economic Cooperation and Development (OECD) group. Korea and Chile are two examples.

Growth is highly effective if it can be sustained. The issue of sustained growth refers to the ability to maintain respectable rates of growth (above 5%) over a prolonged period. Sustainable development, on the other hand, goes beyond the management of natural resource use. Sustainable growth can be important in long-term poverty reduction, e.g., South Korea, China, and Singapore. Income growth might be a key dimension of development, but development can go beyond that yardstick. Here we can go into other dimensions such as the quality of growth, which is delivered by higher income.

Some of the successful high-growth examples, such as South Korea, Taiwan, Singapore, and Chile, experienced military dictatorships early on that were very concerned with achieving high GDP growth. They managed to deliver positive results with a heavy hand, but kept a stable political process. The trade-off was autocratic rule with limited freedoms, no unions, and suppressed wages. These are also countries with little land and few resources. In the end, as Deaton (2013) argues, people are, on the whole, happier when incomes are rising.

Over the past two decades, an expanded literature on development and growth has enriched the debate. One current of thought that has become more prominent focuses on institutional explanations of development (Acemoglu and Robinson 2012). The claim is that institutions are the fundamental determinants of the wealth and poverty of nations. One of the central arguments of institutionalists is that countries with better institutions will invest more and achieve a higher level of income. They also argue that state intervention in the economy should be kept to a minimum. Another factor is the unsettled debate over natural resource endowment. Lederman and Maloney (2007) openly questioned the position of those who viewed natural resources as a curse, something that was used to explain uneven growth performance (Sachs and Warner 1999, 2002). These contributions have provided new evidence that has generated more plausible explanations for differences in development performance.

Chang (2003) provides a very different perspective with respect to the role of the state. He points out that "to assume the primacy of the market is to believe that it will naturally develop as long as the state does not interfere" (2003, 50). He points out that markets are not entirely free. Even in the now-developed countries, there is not truly laissez-faire capitalism because the state still regulates, restructures markets, and sets the rules of the game. Even transition economies have had to set up a well-functioning state in order to allow a market-based economy to function. In this respect, some countries succeeded in the process, but others failed and continue to lag behind, e.g., Russia, Bulgaria, and Romania.

Social scientists often ask: Why are incomes so much higher in some countries than in others? Why are some countries better at producing goods and services than others? For instance, South Korea is a country where the average income growth was above 7% in recent decades. According to the simple rule of 70, at this rate average income would double every ten years. This is also the case with China, which in 35 years has substantially reduced its income gap with the West. There is agreement among development economists that income and GDP growth are fundamental for development. Countries that have grown faster for prolonged periods, on the whole, have done better.

Arias and Wen (2015) argue that economic growth has lifted many low-income countries to middle-income per capita levels, but very few have been able to catch up with high-income-level countries. This is what they call the *middle-income trap* phenomenon. This argument contradicts what Robert Solow called global *economic convergence* (1956). Solow's argument was that as technology spreads, income levels will grow faster in poor countries such as South Korea and Taiwan that have succeeded in reducing their income gap with rich countries. Between the majority of LDCs and the developed countries that are OECD members, the income gap is wide—somewhere between 30 and 50 times as wide. For the gap to be reduced in a period of 40 to 50 years, LDCs would have to grow 8% faster than the U.S., which has an average growth of 2%. China was one of the few countries that was able to maintain a 9-10% annual growth rate for many years. However, in 2015 per capita income in China—even though it had closed the gap—was still one-third what it was in the U.S. While many LDCs have made substantial progress in one generation, the income gap is closing slowly (Ros 2013).

There is general agreement that the level of real GDP is a good gauge of economic prosperity, and the growth of real GDP is a good gauge of economic progress. But growth should be seen as a means to an end rather than an end in itself. More importantly, a look at real GDP per person is key. But economic growth means more than an increase in output. To bring about economic prosperity, sustained economic growth also must be associated with higher rates of savings and investment. Countries that devote a higher share of GDP to investment tend to have higher growth rates. The role of investment is an important determinant of growth, and this has been theoretically used in growth models. It is also a well-known fact that some of the East Asian countries have maintained impressive investment ratios that have propelled their economic growth. However, investment alone does not guarantee economic growth, which hinges on quality and type of investment, as well on investment in human capital and improvements in technological capability (Jones 2012).

Economic growth is not necessarily synonymous with development, although it is a necessary condition for it. The process of economic growth involves many factors. Some of these factors are the quality of labor resources (human capital), physical capital inputs (machinery and equipment), technological capabilities, and appropriate government policy to stimulate the growth process. Beyond these, the following four potential sources of growth can be considered key determinants:

1. *Natural Resource Endowment and Favorable Geography*. Being endowed with natural resources is a blessing. Lederman and Maloney (2007) revisit this question. Since the 1960s, Latin American countries—which are rich in resources—have grown more slowly than East Asian countries, which have few resources. A number of LDCs, Peru included, are endowed with natural resources. Peru is essentially an exporter of primary commodities, particularly minerals such as copper, silver, and zinc. The *Prebisch-Singer hypothesis* (Prebisch 1950, Singer 1958, Sapsford and Chen 1998) that was developed in the early 1950s

states that resource-based activities put LDCs at a disadvantage because commodity prices tend to fall and negatively affect the terms of trade vis-a-vis manufactured exports from developed countries. The World Bank study by Lederman and Maloney, on the other hand, insists that natural resource wealth is good for development and argues that there should be a more judicious use of this wealth.

Sachs and Warner (2002), Schuldt (2007), and others point out that heavy reliance on commodity exports can be a blessing or a curse. In the next chapter, the question of why Peru is relatively poor despite being resource-abundant is discussed further. Schuldt raises this same question and addresses it in some detail, in contrast to the many others who have posed it but have provided ambiguous answers. One argument is related to the Prebisch-Singer thesis that commodity exports are susceptible to world market price volatility. History repeats itself, and Peru is the classic example of a country that has faced booms and busts in guano (1840s–1870s), silver (1870s–1880s), and fishing (1950s–1960s). Ascendency gained through the exploitation of a natural resource that is in much demand for a time can also come to a halt when the resource is depleted or a substitute is found. The question arises as to whether countries rich in natural resources can efficiently diversify toward manufacturing and service sector exports. The World Bank is optimistic and stresses that this is possible through diversification of activities and the adaptation of technology (Lederman and Maloney 2007).

The critical issue of geography and climate has been used to explain development and underdevelopment. The main argument is that there is a direct positive correlation between development and desirable geographic location and climate. Thus, countries in the Northern Hemisphere tend to have higher GDP. Those who have widely discussed the effects of geography insist that this correlation varies over time (Sachs and Warner 1999, 2002). Most countries in the tropics are at a serious geographical disadvantage because they normally have two distinct seasons: dry and rainy. Their climate is not good for farming and their agricultural productivity is low (Diamond 1999). Peru faces the Pacific Ocean and has an extensive coast line; others are landlocked and are constrained to trade. Peru also has a large portion of the Amazon, rich in natural resources, and climatic conditions vary. Although favorable resource endowment and geography matter, Peru has not used them optimally and their potential as part of a growth-oriented policy has remained untapped. For instance, more than half of Peru sits in the Amazon basin, which is rich in natural resources.

The literature on the role of geography also has sparked a growing debate since Sachs and others raised the issue, with disagreement hinging on some of the environmental premises posed and on whether the role of institutions is more important for development than the role of geography. Acemoglu and Robinson (2012) argue that the reversal of fortunes for countries that were once rich, e.g., Peru under the Incas, and others that were once poor, e.g., New Zealand and Australia, had to do mainly with the role played by institutions, not geography. They argue that the relatively poor regions attracted European settlers who established adequate institutions. In the prosperous areas (Incas), the Spanish settlers established *extractive institutions* of private property that were responsive to the crown. They argue that in such reversals the geography did not change—the institutions were what changed. The role played by geography versus institutions remains controversial.

2. *Robust Institutions*. Several authors have touched on this issue: North (1990), Acemoglu and Robinson 2012), Besley and Persson (2011), and Ugur and Sunderland (2011). They argue that institutions matter and are an important determinant of development. Recognition of the importance of institutions dates back to Adam Smith, who championed property rights and the rule of law. More recent literature asserts that the quality of economic and political institutions plays a fundamental role in development. Institutions matter because they are governance structures and, therefore, are relevant to development. Institutions are necessary as regulatory entities; they facilitate efficient public policy. Countries with better and more-efficient institutions encourage trust/cooperation and provide more incentives for investment, contract enforceability, accountability in taxation and public expenditures, and judicial impartiality. A more transparent government reduces graft and corruption, which is a common phenomenon in LDCs that tends to drain resources (Berrios 2006). However, there is some controversy between those who believe in the primacy of institutions and those who emphasize geography or culture.

   According to the OECD, much of Latin America, and Peru specifically, has done poorly in strengthening and improving the quality of its institutional development. The country ranks very low in terms of independence of the judiciary, the institutionalization of congress, and the quality of civil service. A 2014 OECD study claims that there is a need to "foster consensus and intertemporal cooperation among democratic players."

Traditional analysis of development until recently had not paid much attention to institutional obstacles to explain growth. The state is considered important because it sets the rules of the game and has the power to enforce contracts. In Latin America, institutional uncertainty is prevalent. For instance, uncertainty is deeply entrenched in the judicial system because there are inconsistent enforcement of contracts, unpredictable political changes, and sometimes outright corruption. The judicial system is considered at very low steam. Institutional uncertainties impact economic decision-making and affect investment and growth. There is the problem of credibility because of the lack of check and balances. Finally, constitutional consensus is in short supply. Overcoming some of these obstacles is a necessary precondition for accelerating growth.

3. *Good governance*. There is extensive literature on the relationship between governance institutional quality and economic performance. How the government, through its public institutions, governs or conducts public affairs and manages funds has significant implications for growth and development. Different authors report a strong relationship between governance quality and development outcomes (Ugur and Sunderland 2011). The role of state institutions is to create conditions for the economic system to operate effectively. Institutions and governance are interrelated in that effective institutions improve governance in the political and economic spheres. Good governance is intended to create stronger institutions. Governance failures might result from institutional failures, ineffective policy formulation, and/or ineffective policy implementation. Effective governance requires transparency and makes leaders accountable to their constituents. It can also be seen through outcomes: for instance, in the provision of social services. Government policies are expected to promote investment and growth, a good business climate, and a social policy that encourages human development. Political scientists argue that a robust and secure system of democracy and thriving markets are crucial for development. In addition, others insist on a simpler administrative process, because the public administration system is still complex and its shortcomings generate a lack of trust in how public institutions operate (Crabtree 2006).

4. *Cohesive Cultural Norms*. The study of development might be dominated by economic perspectives but the culture factor is also of interest. Cultural norms matter because there is a diversity of values, practices, beliefs, and different ways of doing things (Parmar 2011). For instance, a country such as Peru is ethnically diverse. A given culture may be characterized by social exclusion, discrimination, and widespread distrust. A case in point in the Rohingya muslims being persecuted in Myanmar. South Korea is very homogeneous, and Chile is much less diverse than Peru. Culture is an aspect of human behavior. Culture can influence economic variables. But purely cultural explanations of economic success ignores standard economic factors. There is by now consensus that culture has an influence on business. Graft in a country like Peru is still a way to get things done, and there has been some tolerance for the abuse of power, although that is changing because of a more open press that denounces such abuses. Some of Peru's strong Iberian traditional norms have clashed with native beliefs. Cultural norms can have considerable influence in changing a society because when people are less trusting of politicians, tax avoidance is widespread, and there is a lack of social engagement. This is an important difference between Latin America and East Asia (Davis 2004). Generalized trust can foster openness. Another issue is the perception of risk. In Asia risk is identified as a central element in the political culture. East Asian countries have had a hospitable environment for investment.

OTHER DIMENSIONS OF DEVELOPMENT

This book discusses some development dimensions that have been widely debated but are worth examining from a broader and comparative perspective. There is much to learn from scholarly debates about current problems and emerging challenges and from detailed diagnostics on success and failure under different models. One major challenge is that the political, economic, and social environments are changing as the pace of technological transformation continues to accelerate, and the planet is now under environmental stress. In this context, the process of development is being redesigned and is undergoing reinvention, and Peru has to redefine and propose its own specific solutions. It can be argued that the country has to create and adopt its own institutional reforms and follow its desired goals rather than follow a cookie-cutter approach as promoted by international development agencies (Easterly 2002).

Many development analysts, particularly economists, have argued for different solutions to achieve better development outcomes. Some have emphasized the role of basic institutions that need reform, others are skeptical of foreign aid programs, others argue that simple technologies can help, others promote the availability of and greater access to credit, while others insist that facilitating property rights is essential. Yet others see economic development essentially as human development, meaning that people are at the center of it. Amartya Sen and Paul Streeten are two notable scholars who have raised these issues for years. This all suggests that new approaches and alternatives will have to be tested in a constantly changing environment. The useful point is that economic development is interdisciplinary, and each discipline may view these issues from the vantage point of different methodological premises.

Development economists have identified income, poverty, inequality, basic needs, and quality of life as key variables in development outcomes. Among the indexes of development that measure these variables are Peru's national statistical data (INEI), the *Human Development Index* (HDI) from UNDP, the World Bank's *World Development Report*, the *Global Competitiveness Index*, the UN ECLAC, and the OECD. Measures of poverty also can be derived from indicators of low asset endowment, whether in land, education, or health, as well as from other factors such as lack of credit, poor infrastructure, and informality in the job market. The *Human Development Index* provides various social and economic indicators that can be used to determine quality of life.

Poverty is an issue that has been widely discussed in the development literature. This issue is most often framed in terms of a phenomenon known as the *poverty trap*. The poor have no savings, there is demographic growth, and there are increasing returns to capital at low initial capital per person. Sachs (2005) argues that foreign aid can increase the capital stock, which can have positive effects on growth. Easterly (2006) claims that the research on aid has failed to show evidence for this prediction. For example, Africa has received large amounts of aid and has little to show for it. More aid has also resulted in lower rates of growth. The plea for more aid also overlooks the growing literature on bad governance, weak institutions, and inadequate policy implementation.

Sachs is an advocate for a *Big Push* (large increase in foreign aid) to end world poverty. The idea was to double foreign aid to about $100 billion a year, doubling it again by 2015. These ideas were initially proposed when Sachs led the UN Millennium Project, which was launched in at the UN in 2000. The project had a long list of items considered as obstacles to development that needed to be overcome and also hundreds of interventions it recommended in order to end world poverty. The millennium development goals (MDG), a set of objectives to be met by 2015, were to eradicate poverty and hunger; to achieve universal primary education; to promote greater equality and empowerment of women; to reduce child mortality by two-thirds; to improve maternal health; to combat HIV, malaria, and other diseases; and to ensure environmental sustainability.

The project was initially criticized for its ambition and largesse in carrying out one big reform rather than aiming for marginal or piecemeal improvements where aid could be most effective. At the conclusion of the MDG in 2015, notable progress had been made in various areas. Many LDCs in Asia, Africa, and Latin America had experienced a reduction in poverty, even if the promise to substantially reduce hunger was not met. School enrollment rose, gender disparity in primary education substantially improved, and the number of people without access to safe drinking water was cut in half. Child mortality rates also fell. Even though not all targets were met, some progress was made. To follow up on this development initiative, the UN organized a post-2015 development agenda (United Nations 2015).

What has propelled these improvements, even if some of the targets were not met? One crucial factor is GDP growth, meaning that the economic pie had expanded in the global economy. Hence it has been effective in reducing by nearly one billion the number of people in extreme poverty. China and India opened up, and they alone succeeded in lifting hundreds of millions out of extreme poverty, even if many were unaffected (Bhagwati and Panagariya 2013). Some pockets of extreme poverty, particularly in Africa, have not been touched by globalization. While growth has been important in reducing extreme poverty, it has not been sufficient. Some countries remain vulnerable to shocks in food production due to climate change, or policy failures because of their weak economy and/or lack of political will. Achieving sustainable growth requires good governance, acceptable levels of investment, and in some cases an effective use of foreign development assistance. It is this reassurance that can lead to economic stability.

As mentioned, poverty is multi-dimensional. One way to measure poverty is through either income or consumption. Another way is to set a threshold—the poverty line. This might be understood as not having the monetary resources to purchase a minimal basket of goods. A household might have the means to purchase the minimal basket of goods but not have access to clean water, sewage, and electricity, and might have precarious housing. World Bank data show that the main vehicle for poverty reduction was GDP growth. China grew fast and was able to move some 600 million people out of extreme poverty in just three decades. The same can be said of other East Asian countries such as South Korea, Taiwan, and Singapore that rank high in the UN Human Development Index.

Even though growth can improve welfare, there are instances in which it has generated or worsened inequality. Arguments in favor of lowering inequality with growth advocate increasing access to education, generating more employment in the formal sector, providing access to credit, and encouraging investment. However, when there is rising inequality, growth might create a regressive redistribution that benefits only the selected few. The World Bank (2006) insists that there can be a positive relationship between growth and equity if growth is done right.

Since the concept of development can cast a wide net, there is increasingly broad agreement that some aspects of development might matter more than others. For instance, Sen (1983) argues that development must deliver income growth and poverty reduction, meeting basic needs and reducing vulnerability to shocks. While there might be trade-offs, in practice development is desirable if we are to live in a more secure and stable world.

Some countries have been able to achieve considerable prosperity in a relatively short period of time. Davis (2004) argues that a key factor in development is the middle class, which is more consensual and inclusive than high income strata. For instance, South Korea achieved unparalleled success due to a more educated middle class and a meritocracy. Davis (2004) attributes some of its success to the role of Confucian tradition that fueled an ethic of hard work and a belief in the value of education. Davis notes that the years of authoritarianism in South Korea fostered a disciplinary ethos. It was initially a country of low wages, but there was a commitment to national progress and support for the government's economic policies. There were distinct values of thriftiness and industriousness that are uncommon in other LDCs. These values can also help explain the higher rates of saving found in East Asia.

Technology and development are closely interconnected. Technology is at the center of an unequal international division of labor. The accelerated pace of technological change has contributed to widening the gap between industrialized and non-industrialized countries. This has become more apparent in recent years as new information technology has become a primary vehicle for change in different sectors. A country cannot grow at high rates without technological development. The overall process is called *catch-up growth*. An LDC does not have to invest in or create goods that are already available. This is the positive case of a late industrializer. But a country has to move the productive potential forward by investing in human capital and industry. Foreign investment is a channel to boost growth, and foreign aid also helps, but the country itself needs to generate enough savings and investment. Hence, the development of technological capabilities to assist industry in the transformation of its capital goods is essential. As Sagasti (1979) notes, this requires the ability to select, evaluate, and adjust foreign know-how to local conditions. Fu, Pietrobelli, and Soete (2012) also stress that developing technological capabilities "requires learning through increased exposure to more advanced technologies," which can lead to incremental innovation.

A key issue in an economy such as Peru's, with its large informal sector, is the need to allow people in the informal labor market to enter and compete in the formal economy in order to improve productivity. More people working legally would generate more tax revenue and encourage entrepreneurship. Informality, understood as workers, firms, and activities that operate outside the legal structure, can constrain the size of the domestic market and generate low productivity. The informal sector consists of small firms, low productivity, and no access to credit. Too much informality can be a sign of a rudimentary economy where workers are either "excluded" or they "exit" the formal sector. Informality is associated to unskilled work, and in the words of Loayza (2016b), is a fundamental characteristic of underdevelopment. In Latin America, Chile has been an exception to the growth of the informal sector.

There is universal agreement that capital formation plays a significant role in economic development. Workers are more productive if they have better tools to work with. Thus, one way to raise productivity is to invest more in the production of capital. But this would require that fewer resources be devoted to consumer goods. An equally important determinant of productivity is human capital—the knowledge and skills acquired through education and training. Productivity is intimately linked to growth. Higher levels of productivity predict higher rates of growth, and vice versa. Productivity is also based on good public policy that increases competition.

Finally, appropriate government policy does contribute to economic growth. Policies aimed at increasing a country's savings rate can increase investment, and thereby increase economic growth. Another way to promote investment is through foreign direct investment. Education is a form of investment in human capital, but its unintended consequence may be brain drain—the immigration of a country's most highly educated to countries that are wealthier and more advanced. This situation, which many countries face, can be labeled *reverse foreign aid*. Essentially, LDCs sending their best and brightest to work in rich countries. All they can expect is some remittances sent back but this does not compensate for the amount of human capital lost. Other issues that are important for growth are political stability, control of population growth, the promotion of technology policy, and an outward-oriented policy of free trade.

One important aspect of this study is to examine how the state, the market, and civil society interact and what their relative roles in the development process are. Since its independence from Spain in 1823, Peru has had a mixture of military regimes and civilian governments. Under various policies that have been implemented, the country has experienced market-driven policy failures and state-driven attempts that have also had their shortcomings. These policy shifts at various times have been the subject of major policy debates about the appropriate development strategies to pursue. Some failures were the natural outcome of the boom and bust of commodity prices, or the result of resource exhaustion, or simply of wrong-headed policy decisions that led to failures.

Investment in the form of physical and human capital provides essential capital to help spark the creation of productive enterprises. When a portion of income is saved, and invested it will augment output and income. A sustained increase in investment, both public and private, are beneficial in many areas including infrastructure. When investment is used more effectively and productively it will have better results. The capacity to absorb investment is also significant. This depends on a variety of complementary economic, political, and institutional factors. Investment depends on trust, confidence in the system, reliance on institutional development, and good governance. The data East Asian countries shows that high rates of investment and capital accumulation are associated with rapid economic growth (Chang 2002). Public investment rates fell during the 1980s and 1990s in Peru and in much of Latin America due to fiscal adjustments in the 80s and the lesser role played by the state in the 90s.

Growth strategies have a long-term horizon. In the meantime, Peru is still more than half a century behind the industrialized western countries, and at a rate of 3% to 4% GDP growth rate it is unlikely to catch up if its population is also growing. In 2000, the population grew at 1.75% per year but currently it is about 1%. Given the growth rate of national income, a higher figure for population growth implies a lower growth rate of per capita income. For the economy to grow faster, there needs to be persistence as well as a social and political vision of where the country needs to be heading. A crisis or exogenous shock can reverse improvements that came with higher growth rates. For growth to be raised and maintained, the key ingredients are structural transformation, mobility, and flexibility in labor and capital markets. Equally important are the right policy choices and political stability. There are abundant studies showing that there is a positive relationship between political stability and economic development.

The debt crisis that affected much of Latin America became evident in the 1970s, but it was not until 1982 that Mexico was the first to admit it could not meet its payment obligations. The impact of the debt crisis was particularly severe in Latin America as many countries experienced a contraction of GDP as debt-service obligations increased significantly. Unable to borrow funds in the world's capital markets they had to accept conditions set by international financial institutions. The process led to an overhaul in economic policies as required by the IMF. The reforms encompassed fiscal and monetary policy and included trade liberalization. For many countries, it took a decade to recover. A serious problem that was hard to prevent was capital flight as countries were faced with a downward macroeconomic spiral. Eventually in the 1990s there was a steady improvement as countries "adjusted" their macroeconomic imbalances and adopted economic liberalization (Kuczynski 1988).

The standard assumption in the development literature is that economic reform, openness, and better governance will boost growth. But that is not always the case. According to Ros (2013), in the 1990–2008 period, the average per capita GDP growth rate was 1.8%, well below the 1950–1980 rate of 2.7%. Ross notes that "only a few countries experienced a dramatic growth of productivity at rates above 2% per year since 1990" (2013:383). He says that only four countries—the Dominican Republic, Chile, Peru, and Uruguay—of 19 had better growth performance in the 1990–2008 period than in the 1950–1980 period. This low performance was mainly due to low productivity in informal activities, as the higher-productivity sectors were unable to absorb a larger share of the labor force.

A review of the economic and social evolution of aspects of development reveals that some painful lessons have been learned. Countries such as Peru have reinserted themselves into the world economy, only to face greater competitiveness and volatility in external markets. Domestically, Peru has undergone a process of economic reforms and economic liberalization. Attempts to tackle immediate problems have not always been successful, given its diminished state and lack of political consensus. A development model might work in some countries, but not in all. What is clear up to now is that there are no easy formulas. There is no doubt that greater economic stability and growth are crucial, but to continue the long-term task of development, a better coordinated effort between the state and the private sector is needed.

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THE EFFECTS OF PRESCRIBED EXERCISE CURRICULUM ON ACADEMIC PERFORMANCE

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ABSTRACT

The purpose of this study is to examine the impact of a prescribed exercise curriculum on the academic performance of students enrolled in developmental education classes at the community college level, as well as whether gender introduces a differential result in relation to the following research questions: 1) Do students who participate in a prescribed exercise program concurrently demonstrate higher performance than those who do not participate in a prescribed exercise program, as indicated by their academic grades? 2) Will gender of students participating in a prescribed exercise program have a differential result on their performance as indicated by their academic grades? It has been reported that exercise can have a profound effect on students, helping them achieve their academic potential (Ratey & Hagerman, 2008). Theories such as Ratey and Hagerman, Bailey**,** and others will be investigated to determine if they have a positive impact on students' academic progress.

This program examines Mid-Atlantic USA community college students enrolled in developmental education classes, as well as KINS 170 Fitness and Wellness. Data from 2005 through 2015 is reflected. All students attending community college must be tested in the subject areas of reading, math, and English composition, assessing their ability and readiness for college level work. If the student's deemed unready for college classes they must take developmental classes as per the policy of the college. This study used a causal comparative research methodology/longitudinal study. Students in each group were exposed to similar developmental educational curriculum based upon pre-test results, and an additional physical education/fitness curricular component was prescribed for the experimental group. This evaluation allowed for exploration of the effectiveness of the intervention with regard to prescribed physical exercise behavior and its effect on students grades, and gender.

The results of the research study concluded the that students who participated in a prescribed exercise program concurrently with an academic program demonstrated higher performance than those who did not participate in the prescribed exercise program, as indicated by their academic grades. Specifically female students have higher GPA's than males and math and reading developmental students had higher GPA's when enrolled in the exercise intervention than developmental composition students.

INTRODUCTION

Overview

Community colleges are synonymous with local access to affordable education (DeGenaro, 2001). Despite the allure of affordable education and an open enrollment system, community colleges have struggled to graduate students in their 2 year academic design, regardless of the absence of major requirements required by 4 year schools and no requirement for established test scores. DeGenaro (2001) reported community colleges were created to allow access to higher education and a terminal degree, specifically of a technical scope. Many community college students arrive on their respective campuses unprepared for college-level work, "and often require remediation" for their academic success (Bailey, 2009).

Because community college is perceived as a way to increase skills and prepare students to progress further within the education arena, many courses are developmental in scope. Developmental education has been the subject of considerable debate over its effectiveness, and its place within higher education institutions. Bailey (2009) reported that 58% of community college students take one developmental class, 44% took between one and three**,** and 14 % took more than three developmental education classes. Due to the staggering number of students requiring remediation for academic success, developmental-education classes become the collective "gatekeeper" to higher education, according to Bailey.

The necessity for developmental education lies within the territory of the community college due to the academic goals of community college students. These institutions, charged with the task of educating students are often unprepared to succeed in the core goal of the college-class completion**,** and graduation (Bailey, 2009). Shortly after the turn of the 20th century, many colleges and universities offered developmental classes, the most common of which were remedial reading and study skills (Casazza, 2012, p. 3). Harvard University, known for its educational rigor and prestigious educational programs, was one of the first universities to offer remedial education for freshmen students

(Casazza, 2012, p.3). Following the legacy of preparatory education, developmental education programs and community colleges were created to meet the needs of those students not quite ready for the intense rigor of core college courses.

Developmental Education

The need for the development of remedial and developmental education classes has led researchers such as Bailey and Cho, Casazza, and Tinto, to avoid differentiating between remedial and developmental education, despite differences in definition and the rationale behind college selection between these institution modes. According to Casazza (2012), "Developmental education refers to the holistic development of the student; it is a comprehensive process which focuses on the intellectual, social and emotional growth and development of all learners" (p. 6). Comparatively, remedial education focuses on student weaknesses and their resolution, perpetuating a negative connotation linked to students needing extra help, which universities have worked to eliminate. According to Bailey (2009), "developmental education is one of the most difficult issues confronting community colleges today" (p. 1). An unfortunate shift has occurred within the higher education community. Developmental classes were historically a major part of the curriculum within every university; but are predominately found only within community colleges. Major state colleges lack the developmental classes needed to bring freshmen up to the educational level required to meet college qualifications. Consequently, community colleges bear the heavy responsibility of providing the developmental classes necessary for college success within the context of a 4-year college education model.

Lack of student preparation is not the sole contributing factor for the need and importance of developmental classes. Community colleges offer open enrollment which allows students to attend without scores on the Scholastic Aptitude Test, or other evidence of college-level success. However, opening the educational doors to students ill-prepared to complete their academic programs in a reasonable length of time, hinders community colleges from graduating their students in the allotted 2-year associate's degree program.

When students are admitted to a community college they must take a placement test to determine their readiness for college-level work. Based on their writing, reading, and math assessment scores, students maybe enrolled in developmental classes that lock them into a sequence that is two or three levels below college-level courses (see Appendix A).

Academic Success

A major issue facing community college students is academic success, which is determined by completion of developmental classes, and graduation. Bailey (2009) reported, "Degree completion for remedial students is . . . rare. Less than one quarter of community college students in the National Educational Longitudinal Study who enrolled in developmental education completed a degree or certificate within eight years of enrollment in college" (p. 14). Bailey (2009) noted that the population of the National Educational Longitudinal Study was nationally representative of student respondents, typically used for policy-relevant research on educational process and outcomes. The findings indicate that while students enrolled in developmental classes struggle to complete these courses, they ultimately graduate. Consequently, the results showed that students struggle to complete academic programs; however, factors encouraging them to remain in class, or that help them achieve success remain unknown.

Thomas Baily and Sung-Woo Cho (2009) opined that addressing the problem of poor student achievement within developmental classes and determining which strategies will help them reach academic success, is perhaps the most difficult and daunting problem community colleges face. Within the areas of high expectations with structured academic, social, and financial support, Tinto (2012) noted strategies toward successful developmental education are an important collective factor to the improvement of community colleges.

One such strategy that is less studied is the connection between physical exercise and the academic performance of students. Counseling and support, mandatory assessment, and specialized programs for students enrolled in developmental community college programs have been recommended by Pascarella and Terenzini (2005). These recommendations follow academic underachievement and the inability to transition from developmental education programs to 4-year degree programs. Of interest in the proposed study is whether specialized community college developmental programming inclusive of a physical component could aid in cognitive development, and learning success. According to Ratey (2001), Carmichael (2007), Castelli, Hillman, Erwin and Buck (2007) evidence supports this in K-12 programs across the country.

Gerlaugh, Thompson, Boylan & Davis (2007) commented that access to advanced education is a fundamental right. Community colleges have championed this cause through an open-enrollment policy, and an economically feasible tuition model (Gerlaugh, Thompson, Boylan, & Davis, 2007). The key is determining how to best accomplish this goal given the daunting task of educating a population that is underprepared for college-level work. Providing a balanced, holistic approach to developmental education that includes a rigorous physical-education component, is at the core of the proposed research.

One such program is known as SPARK, The Revolutionary New Science of Exercise and the Brain. Ratey & Hagerman (2008) reported The SPARK approach has been successful in raising academic and cognitive success rates in students attending K-12 classes, thereby increasing their academic progress in reading, math, and English. However, the program has not been implemented within community colleges (Ratey & Hagerman, 2008). The proposed study was designed with an interest in determining whether the SPARK program can be as successful for community college students. The curriculum incorporates prescribed exercise to increase cognitive learning in students; students participate in health, physical education, and exercise 5 days per week, while maintaining Training Target Heart Rate (TTHR) level for 20 to 30 minutes each day.

Ratey & Hagerman (2008) reported there is little debate that exercise has a positive impact on cognitive ability and mental health. As a result of consistent physical exercise, a physiological change occurs within the brain that helps brain cells bind to one another, which facilitates learning. This change is known as brain plasticity and explains how the brain grows, changes, and develops to meet cognitive needs (Ratey, 2001).

The Spark Program

The SPARK program was created by a group of physical educators in the Naperville, Illinois School District in 1999 (Ratey & Hagerman, 2008). The objective of this Zero Hour Program named because it was conducted before school began) was to determine whether working out before school gave students a boost in reading, math, and composition skills, while limiting students incidence of acting out for the rest of their day. (Ratey & Hagerman, 2008). This program was based on observations in the field of cognitive brain studies that found physical activity sparks biological changes that encourage brain cells to bind to one another (Ratey & Hagerman, 2008). As cells bind to one another they forge new connections between cells to help relay information (Ratey & Hagerman, 2008). In other words, people learn to better adapt to their environment, both at the foundational and cellular level.

The SPARK Program (Ratey & Hagerman, 2008) was unique in that it asked students to volunteer to work out before school in hopes of increasing their grades. The initial study was so successful that the school has adopted the program for all its students through the health and physical education curriculum. The proposed research study will include students that have attended KINS 170 class and at least one developmental education class. Students in the fitness class are asked to complete a physical-fitness form that will facilitate assessment of their overall fitness prior to the start of the SPARK Program. The students will also complete basic fitness tests that include BMI, flexibility, muscular strength, muscular endurance, and cardiorespiratory fitness level (see Appendix B). The SPARK Program will follow the parameters established by the college for any physical-education class. SPARK program is designed to promote high levels of physical activity among physical education students during the school day, and to have positive lasting effects long after the initial exercise has been completed. The recommended frequency of physical education classes is three days per week, 30 minutes per session (15 minutes for health-fitness activities and 15 minutes for skill-fitness activities). The self-management component of the curriculum is designed to assist students with time management outside of class. It includes self-monitoring, goal setting, stimulus control, self-reinforcement, self-instruction, and problem-solving techniques. Self-management is taught in 30 minutes sessions on a weekly basis.

PROBLEM STATEMENT AND PURPOSE OF THE STUDY

Tinto (2012), Bailey (2009), and Casazza (2012) reported changes within the realm of higher education drawing attention and concern to the escalating cost of undergraduate education and the alarming number of students who ultimately do not graduate after entering higher education institutions. Increased public pressure and calls for greater accountability have been aimed at community colleges. Tinto (2012) advanced that with this increased scrutiny comes the desire among community college leaders to develop an improved education system to more effectively enhance learning outcomes for all students. Two of the most effective ways of supporting community college students are the creation of better cognitive pathways (Ratey & Hagerman, 2008) and the implementation of more effective solutions within the classroom-the center of student education and life (Tinto, 2012). These two areas of focus are vital to student achievement. Ratey & Hagerman, 2008 posited that exercise can have a positive impact on cognitive ability and mental health, yet minimal research has focused on the relationship between exercise and academic success in community-college students attending developmental classes.

It is important community college leaders discover the strategies that will help students succeed within developmental classes because these students comprise approximately 60% of the student body of the majority of U.S. community colleges (Bailey, 2009). According to Bailey (2009), "Many who complete one remediation course fail to show up for the next course in the sequence. Overall, fewer than half of students who are referred to developmental education complete the recommended sequence" (p. 24). Ultimately, this suggests that researchers and college faculty must seek new methods toward improving student progress within community colleges; the purpose of this proposed study is to examine the impact of a prescribed exercise curriculum on the academic performance of students enrolled in developmental education classes at the community college level**,** as well as whether gender introduces a differential result. If the SPARK program helps community college students participating in developmental education gain greater cognitive skills associated with learning, it may increase the rate of academic success for students within all colleges delivering developmental education. By examining the relationship between prescribed exercise and the academic success of developmental-education students, a significant relationship may be discovered, leading to the development of a continuing developmental education program. The question remains whether community colleges and, more specifically, developmental programs, can engage students toward achieving stated learning outcomes. A correlation exists within existing literature between exercise and academic performance, predominately within the K-12 education arena; however, few, if any, studies have analyzed programs designed specifically for community college students. Carmichael (2007), as well as Castelli, Hillman, Erwin, and Buck (2007) developed a strong case for the connection between exercise and academic achievement.

RESEARCH QUESTIONS AND SIGNIFICANCE OF THE STUDY

The following questions will guide the proposed study:

1. Do students who participate in a prescribed exercise program (SPARK) concurrently demonstrate higher performance than those who did not participate in a prescribed exercise program, as indicated by their academic grades?
2. Will the gender of students participating in a prescribed exercise program (SPARK) have a differential result on their performance as indicated by their academic grades?

Research question 1 is designed to support an examination of the relationship between prescribed exercise and the academic success of students enrolled in developmental-education (i.e., Reading 090, Math 089, Math 090, Math 095, and Comp 090, Comp 107,Comp 108; see Appendix C), as gathered by archived data. Research question 2 is designed to support the investigation of gender as it relates to sufficient activity. Are the stated prescribed exercise levels the same for male and female students, to gain the academic increase proposed in this study? Girls have been found to lag behind boys in physical activity until 8 years of age (Aaron, Dearwater, Anderson, Olsen, Cauley and Laporte, 1993).

Aratani (2007) reported regular physical exercise has been well documented as a behavior inducing improved health outcomes. More than one half of the adult population within the United States is obese and practicing activity that is insufficient to meet the guidelines espoused by the Centers for Disease Control and Prevention, and the American College of Sports Medicine as cited in, Center for Disease Control and Prevention (2006). Ratey and Hagerman (2008) recommended that with the initiation of the SPARK exercise program, positive results can be observed in as little as 30 minutes of moderate physical activity for a minimum of 5 days per week. In 6-10 weeks positive results are observable, and the best results are achieved with continual implementation of the exercise program (Ratey & Hagerman, 2008).

Physical activity during childhood, adolescence, and young adulthood is predictive of a high quality of life (Shaw, 2004). Healthy, active students make better learners because exercise grows new brain cells. Ratey and Hagerman (2008) noted movement creates thought. Thus, exercise has the power to not only increase health outcomes, but also to simply improve cognitive skills. Exercise is much more than simply reducing the statistical possibility of health-related illness;

increasing prescribed exercise can both increase academic success and enhance cognitive ability (Asp, 2013; Buccelli, 2009; Ratey & Hagerman, 2008; Sattelmair & Ratey, 2009). A decline in physical activity during young adulthood may predict sedentary behavior that continues throughout life (Ratey & Hagerman, 2008). Therefore, developing positive exercise habits and knowledge of proper exercise techniques are critical public concerns.

The enhancement of cognitive ability and learning outcomes associated with the implementation of the SPARK program is rationale for the proposed study. Gerlaugh et al. (2007) reported that professionals within the field of developmental education are becoming more aware that students need assistance outside regularly scheduled class time, and this assistance can be provided in the form of cognitive and non-cognitive programs. Such programs are costly not only to community colleges but also to their students, because it is the students who must "shoulder" the majority of costs associated with developmental education programs (Baily & Cho, 2009).

Breneman and Harlow (as cited in Bailey, 2009) found that colleges spend more than $41 billion annually on developmental education. Bailey (2009) reported that the annual cost of remediation is calculated at $1.9 to $2.3 billion dollars for community colleges and another $500 million for 4 year colleges. It is important, particularly during difficult economic times, to maximize classroom instruction, help students improve their academic skills and grades, and reduce the costs of ever-escalating college tuition by helping students to graduate on time (Tinto, 2012). Currently, as stated in the Center for Community College Student Engagement Report (2010), only 45% of entering community-college students earn a credential within 6 years of enrolling (CCCSE, 2010). This slow progress toward degree completion or transfer to a 4-year institution of higher learning equates to students who will not be graduating or completing their certificate programs in a timely fashion. This, in turn, delays entrance into the workforce or a 4-year transfer program, which ultimately translates less earning power. Positive change in this statistic is important, and programs such as SPARK may impact such a reversal.

RESULTS

Introduction

This qualitative/longitudinal study was conducted using existing data stores from the student pool. It consisted of 400 participants representing one community college located in the Mid-Atlantic region of the USA. The sample of students was taken from students who were required to take developmental education classes based upon placement tests required of all students attending the community college. Participants in the study were enrolled in developmental education classes: READ 090, MATH 095, and 089, COMP 090, 107 and 108 who have also completed KINS 170. For statistical analysis the researcher chose developmental education students who were required to take all three developmental education categories, reading, math and composition who also happened to self-select KINS 170 in the same semester. This was the intervention group of students studied. For the control group the researcher randomly selected students who were required to take the three categories of developmental class, reading, math, and composition in the same semester but who did not self-select the KINS 170 class.

A purposeful sample was drawn from the almost 1500 student data sets collected. There were 200 students who had taken all three categories of developmental classes' math, reading, and composition along with the prescribed exercise class – KINS 170, and 200 students randomly selected, who did not self-select the KINS 170 class, but who had taken the three categories of developmental education classes – math, reading and composition. The researcher was looking to determine how predictive the math, reading and composition scores are as they related to GPA. The second statistical question involves gender. Is there any statistical relevance to gender as it relates to GPA?

This chapter is organized as follows: The first section states the data analysis, descriptive statistics, and research questions. The second section discussed research question number one and hypothesis one through six. The third section discussed research question two and hypothesis seven and eight. The fourth section is the summary of findings.

Data Analysis

There is a great concern of the increased number of students who do not graduate after enrolling in higher education institutions. The community colleges are thus pressured to engage in accountability of developing improved education systems which enhance effective learning outcomes of students. The key concern in student learning outcomes is the academic performance which is influenced by the deployment of effective solutions within the classroom and development of better cognitive pathways centered on student education. The community colleges are challenged to develop new learning methods as they prepare students to overcome deficiencies. The strategies will help students on developmental classes improve their performance. The call for improving education system led to research on this examination of the impact of a prescribed exercise curriculum on the academic performance of students enrolled in developmental education classes at the community college level. In addition, this study examined whether performances of students in prescribed exercise programs were different while accounting for gender. The study was guided by the following two research questions.

1. Do students who participate in a prescribed exercise program (SPARK) concurrently demonstrate higher performance than those who did not participate in a prescribed exercise program, as indicated by their academic grades?
2. Do the gender of students participating in a prescribed exercise program (SPARK) have a differential result on their performance as indicated by their academic grades?

Assessing the impact of prescribed exercise programs on student academic performance will help the community college students to improve their rates of academic successes by integrating cognitive methodologies in learning. The Analysis of Variance as well as Analysis of Covariance was used to conduct the analyses.

The second section of this chapter presents the descriptive statistics which describes the students' demographic data. The study involved 400 students who completed the developmental course programs and the prescribed KINS170 course program. The 400 participants made up both the intervention and the control group where the intervention group constituted of 200 participants, and the control group was made up of 200 participants. Under the descriptive statistics, the demographic features of the students are presented by age, gender, and racial background. The third section presents the research questions and the analyses that were conducted to answer each research question. The final section presents the summary of findings.

Descriptive Statistics

The demographics characteristics of the students described in this research study are ages, gender, and race of the students. The table 1 below illustrates the age distribution of the students in the sample population (target). From the demographics, it was evident that a majority (27.75%) of the students were aged between 21 and 25 years followed closely by the students who were aged 26-30 years with 20.75%. A number of the students 13.25% were aged 46 to 50 years, 10% of the students were aged 51 to 55 years whereas 8.75% were aged between 36 to 40 years. A few of the students (2.75%) and (3%) were less than 21 years of age and between 31 to 35 years respectively.

Table 1
Age distribution of students

Age of the Students	N	Percentage
Less than 21	11	2.75
21 – 25	109	27.25
26 – 30	83	20.75
31 – 35	12	3.0
36 – 40	35	8.75
41 – 45	24	6.0
46 – 50	53	13.25
51 – 55	40	10.0
56 – 60	19	4.75
More than 60	14	3.5
Total	400	100

In addition, the researcher sought to explore the proportion of males and females in the study. The Table 2 below clearly shows the gender distribution of the students enrolled in developmental education programs. A majority of the students (51.25%) were male while a few of the students (48.75%) were females. The male students N = 205 of the study participants while the females N = 195 participants in the study.

Table 2
Gender distribution of the students

Gender	N	Percentage
Male	205	51.25
Female	195	48.75
Total	400	100

The researcher also investigated the race of the students who participated in the study. The Table 3 below indicates the different races associated with the students who participated in the research study. The results indicate that most students are white N = 298 (74.5%) while a number of the students N = 52, (13%) and N = 27, (6.75%) are unknown and black respectively. Similarly, a few of the students N = 23, (5.75%) correspond to other races. Table 3 present data regarding the students' racial backgrounds.

Table 3
Frequency distribution of Student's Race

Race	N	Percentage
White	298	74.5
Black	27	6.75
Other	23	5.75
Unknown	52	13
Total	400	100

Research Questions

The research study was designed in a way that would lead to the achievement of research objectives. The appropriate statistical analyses were used to perform data analysis that would help in answering the research questions in order to achieve the study objectives.

Research Question One

The first research objective involved assessing whether the students who participate in a prescribed exercise program concurrently demonstrate higher performance than those who did not participate in a prescribed exercise program, as indicated by their academic grades. An Analysis of Variance (ANOVA) was utilized to measure the research hypothesis developed from the research question. The analysis of variance used the data from the control group and the intervention group to identify whether there were any differences between the two groups. The ANOVA was used to establish the relationship between the prescribed exercise program of developmental education students for both the intervention and control group and their academic performance. The assumption of equal variances is tested based on the hypothesis below.

The results illustrate the tests used to assess the homogeneity of data where the Levene's test was used. The findings show that the value of the test statistic is 0.660 with a p-value of 0.417. The p-value is greater than $\propto = 0.05$ level of significance which leads to the acceptance of the null hypothesis that the data sets of developmental education students manifest homogeneity. The researcher conducted an equal variance assumption test. The results give a go ahead to conduct the analysis of variance.

The hypothesis to be tested using the Analysis of Variance is:

Hypothesis two
H_0: Students who participate in a prescribed exercise program concurrently demonstrate equal performance as those who did not participate in a prescribed exercise program, as indicated by their academic grades.
H_1: Students who participate in a prescribed exercise program concurrently demonstrate higher performance than those who did not participate in a prescribed exercise program, as indicated by their academic grades.

The findings from the Analysis of Variance are presented in Table 4 below. The ANOVA was used to test the differences in means for the intervention and the control group. An F-test was used to assess the validity of the null hypothesis. It is evident from the table that there were equal numbers of students for the intervention and the control group; however, the control group had a higher mean of 2.89 than the intervention group which had a mean of 2.35. In addition, the value of the F-test was 33.938 with a p-value less than 0.001. The p-value of the test was less than $\propto = 0.05$ level of significance where the null hypothesis is rejected. This analysis leads to the conclusion that students who participate in a prescribed exercise program concurrently with developmental education programs demonstrate higher performance than those who did not participate in a prescribed exercise program with developmental education programs, as indicated by their academic grades.

Table 4
Analysis of Variance tests

Variables	**N**		**Mean**		**Tests**	
	Intervention	Control	Intervention	Control	F	p
GPA	200	200	2.35	2.89	33.938	< 0.001

The Analysis of Variance indicates that students who engaged in prescribed exercise programs demonstrate along with higher performances than students who did not engage in prescribed exercise programs. The individual subjects constituting the developmental education programs for the students for both the control and intervention groups were assessed. The descriptive statistics were used to describe the developmental subjects in order to get a meaningful pattern. An Analysis of Variance was used to confirm whether the subjects of developmental education are different for the intervention and control groups.

The Table 5 below illustrates the descriptive statistics for the subjects of developmental education individuals who participated in prescribed exercise programs and those who did not participate in the exercise programs. From the findings, the category which constituted high grades was Comp with a mean of 4.32 followed by Math with a mean of 3.14 while the least was Read with a mean of 2.51. However, most students engaging in Comp subject consisted of non-KINS with a mean of 4.73 while least was KINS students with a mean of 3.91. Similarly, a majority of students taking Read subject were non-KINS students with a mean of 2.76 while the least were KINS students with a mean of 2.26. However, the majority of students taking Math subjects were KINS students with a mean of 3.72 while the least were non-KINS students with a mean of 3.11.

Table 5
Descriptive statistics of developmental education courses

Variables		**N**	**Mean**	**Standard deviations**	**Standard error**
Math	Non-KINS	200	3.11	1.619	0.144
	KINS	200	3.72	2.236	0.158
	Total	400	3.41	1.973	0.099
Read	Non-KINS	200	2.76	0.486	0.034
	KINS	200	2.26	0.752	0.053
	Total	400	2.51	0.679	0.034
Comp	Non- KINS	200	4.73	1.653	0.117
	KINS	200	3.91	1.847	0.131
	Total	400	4.32	1.798	0.090

In order to conduct the analysis of variance, the assumptions of equality of variances of the three developmental three groups are assessed. A hypothesis is developed in order to assess the equality of variances as follows:

The Levene's tests for equality of variance were used to assess the hypothesis. The results indicate that Math as a developmental education program gives the value of Levene's test as 33.130 with a p-value of 0.000, Read has a value of 69.885 with a p-value of 0.000, and Comp has a value of 1.761 with a p-value of 0.185. The results show that Math and Read developmental education programs satisfy the Levene's test for equality of variance since their p-values are less than $\propto = 0.05$ level of significance. Comp developmental education program does not satisfy the Levene's test for equality of variances since its p-value is greater than $\propto = 0.05$ level of significance.

An Analysis of Variance was used to test whether the means of subjects for the KINS and the non-KINS group of students were equal. The results are presented in Table 6 below. The results in Table 5 give descriptive statistics which describe the results in Table 6 based on validity of the ANOVA tests. The findings show that the means for the control group and the intervention groups are not equal for the three subjects (Math, Reading, and Composition) since their p-values are less than $\propto = 0.05$ level of significance. However, based on the descriptive statistics, students learning Math demonstrate that prescribed exercise has an effect on their performances since KINS students have a greater mean of 3.72 compared to non-KINS students who have a mean of 3.11. The results also indicated that non-KINS students engaging in Reading and Composition subjects demonstrated higher academic performances compared to KINS students.

Table 6
Analysis of Variance of developmental education programs

Variable	Intervention	Control	F	P
Math	200	200	9.607	0.002
Reading	200	200	61.151	<0.001
Composition	200	200	21.881	<0.001

Research Question Two

The second research question assessed whether there was a significant difference in student's performances participating in a prescribed exercise program indicated by their academic grades while taking account of gender. The research question was assessed by conducting an Analysis of Variance to establish if any differences existed between the academic performance of male and female students engaging in a prescribed exercise developmental education program. All the students engaging in the developmental education programs, as well as prescribed exercise programs, were included in the analysis. The hypothesis to be tested was:

Hypothesis seven
H_0: There is no significant gender difference of student's performances participating in prescribed exercise program as indicated by GPA
H_1: There is a significant gender difference of student's performances participating in prescribed exercise program as indicated by GPA

An Analysis of Variance was used to quantify the research hypothesis. The assumption of equal variances between the variables was first checked. A hypothesis was developed to validate the assumptions.

Hypothesis eight
H_0: The variances of the study variables are equal
H_1: The variances of the study variables are not equal

The findings show that the value of Levene statistic is 2.168 with a p-value of 0.142 which is greater than $\propto = 0.05$ level of significance. The null hypothesis is accepted which leads to the conclusion that the variances of the study variables are equal. As such, the researcher goes ahead to conduct an Analysis of Variance.

The findings of the Analysis of Variance are indicated in table below. Table 7 below indicates the descriptive statistics of the students where there were 44 females and 156 males. In addition, the mean for female respondents was 2.77

while that of the male students was 2.23. The results of the ANOVA include the F-test with a value of 10.884 and a p-value of 0.001. The p-value is less than $\propto = 0.05$ level of significance which leads to rejection of the null hypothesis. The study concludes that there is a significant difference in the performances of the students participating in a prescribed exercise program as indicated by the GPA while taking account of gender. Specifically, female students perform better than male students since they have high mean values of GPA. Table 7 presents the ANOVA results on gender differences.

Table 7
ANOVA results on gender differences

Variable	**N**		**Mean**		**Tests**	
	Female	Male	Female	Male	F	p
GPA	44	156	2.77	2.23	10.884	0.001

SUMMARY OF FINDINGS

The research study examined the effect of prescribed exercise curriculum on student's academic performance participating in developmental education programs. The research study was developed with an aim of answering the research question regarding whether students who participate in a prescribed exercise program concurrently demonstrate higher performance than those who did not participate in a prescribed exercise program, as indicated by their academic grades. Analysis of Variance was used as the primary tool in analyzing the hypothesis. In addition, the research study sought to understand whether there was a significant difference accounted by gender in the academic performance of the students participating in a prescribed exercise program as measured by their academic grades. The results indicate that the majority of the students were aged between 21 to 25 years (27.25%) and between 26 years to 30 years (20.75%). A majority of the students were males (51.25%). In addition, most of the participants were white (74.5%).

The research results indicated that students who participate in a prescribed exercise program concurrently demonstrate higher performance than those who did not participate in a prescribed exercise program as indicated by F-test of 33.938 and p-value less than 0.001. The research findings indicated that the development education programs of Math, Read, and English significantly contributed to the academic performance of students where students with higher GPA engaged in the Comp development program. The findings indicated that prescribed exercises have an impact on the performance of the students who participate in developmental course programs. The study indicated that only 18% of students' performance is explained by developmental course programs while adjusting on prescribed exercise curriculum. Moreover, the developmental course programs influencing students' academic performances while adjusting for prescribed exercise curriculums were Math and Comp.

The research findings indicated that there existed gender differences in the performance of the students who participated in developmental education programs as indicated by F-test of 10.884 and a p-value of 0.001. Specifically, female students have higher GPAs than males. The study findings lead to the conclusion that prescribed exercise programs have an impact on the academic performances of the students who are enrolled in the developmental education programs especially in mathematics and reading programs. In addition, the study findings lead to the conclusion that female students exhibit a higher academic performance compared to male students.

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EXPLORING HOW SERVICE INDUSTRY LEADERS OPERATIONALIZE DIVERSE BY DESIGN TEAM'S VALUES AND ASSUMPTIONS

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ABSTRACT

Service intense organizations are searching for strategies to propel their organizations to develop service capability, achieve higher levels of performance precision and deliver results with significant return on investment. One identified strategy has been to form multiple disciplinary teams, sometimes referred to as Diverse by Design, comprised of high-level leaders through frontline level staff, challenged to generate specific business outcomes. The purpose of this study was to identify the central values and assumptions necessary to successfully use these teams and identify the influence of participation on participant practice. Structured conversations and observations took place with service managers trained to lead these teams. Managers highlighted several critical competencies and values that impact the success and failure of the team in which they highlighted their responsibility and duty of being a change agent, constantly learning, team work, and communication.

INTRODUCTION

As service intense organizations pursue new business strategies to compete in the market place, the overwhelming solution from researchers and management publications is forming diverse or multidisciplinary teams to develop innovative products and services that reach a wide array of customers' needs (Ely & Thomas, 2001; Jackson, 1996). Proponents of diversity hold that differences among group members promote and enhance individual's critical thinking, problem solving, and creativity that have a positive impact on the team to make robust and appropriate decisions (Polzer, Milton, & Swann, 2002). Accordingly, as a team discusses a course of action and solutions, diverse perspectives will increase the team's ability to foresee all possible costs, benefits, risks, and side effects (Jackson, 1996). The increased popularity of team based functions reflects the belief that teamwork offers the potential to achieve outcomes that could not be achieved in isolation.

Accordingly, some service based organizations utilize a form of multidisciplinary teams, referred to as Diverse by Design teams (DbD)—teams, comprised of leaders representing diverse departments and functions and various leadership roles through frontline competency, in which they are challenged to generate specific business outcomes. This research study examined the function, values, and assumptions of these teams and the team facilitators within the service industry. Additionally, this study focused to understand how acknowledging diversity and its value has helped team members to make better decisions, acquire new and advanced knowledge, and develop skills and attitudes to be successful in their unique, individual disciplines inside their service space. This research has identified how and what DbD values and assumptions are operationalized by team members post participation, defining new return on investment opportunities available to service intense industries.

REVIEW OF THE LITERATURE

There is a growing belief that diversity can provide organizations with tangible, positive competitive advantages because it has important consequences including how individuals feel about themselves, other team members, communication patterns within and across the team, the distribution of resources among the team, team performance, and so on. Diversity also shapes the social dynamics within the team. What organizations often ignore are the possible effects of relationship diversity. Relationship oriented diversity can shape behavior even when there is no association between it and the teams task related attributes because it triggers stereotypes that influence the way team members think and feel about themselves as well as others on the team, also known as interpersonal congruence (Jackson, 1996; Polzer, Milton, & Swann, 2002).

Polzer, Milton, and Swann (2002) define interpersonal congruence as the degree to which group members see others in the group as others see themselves. High interpersonal congruence will foster a high performing, harmonious multidisciplinary team. In addition, they acknowledge two key outcomes: first, team members self-views, the lenses in which he or she perceives reality, are correct and secondly, when team members sense others congruently, they will know how to behave and how team members will react to their action or inaction. This knowledge will facilitate smooth social interaction and enhance the team's ability to achieve results.

Interpersonal congruence and diversity jointly can influence task performance. High interpersonal congruence enables diversity to have a positive effect on task performance as it encourages group members to apply to the task differences in knowledge, experiences, perspectives, and networks associated with their identities (Jehn, Northcraft, & Neale, 1999; Polzer, Milton, & Swann; 2002). As a result, groups that more openly deliberate their perspectives are likely to be more creative and flexible. This high level of interpersonal congruence also forms the foundation for members to challenge other's ideas fully and get to a higher level of critical thinking that can all have a positive impact of service capability.

Effective teams that value the uniqueness and diversity of each contributing team member have the power to transform any service intense organization. A team is a collection of individuals working together, inter-dependently to achieve the shared goals at hand (Saleas, Dickinson, Tannenbaum, & Converse, 1992). Although team structures may vary, the most efficient performing groups, allocate tasks that correspond to each team member based on their individual skills and strengths. The notion of shared goals induces the team to take a vested interest in each other's success beyond self-interest contributing to the overall service organization. Within a team, there is taskwork and teamwork. Taskwork refers to activities individuals do in the course of performing his/her own part of the team's mission more or less independently from others. Teamwork refers to those activities explicitly oriented toward interactions among team members and is required for ensuring collective success. Teamwork processes include communication, synchronization, load balancing, consensus formation, conflict resolution, monitoring and critiquing, confirming, and even interpersonal interactions such as reassurance (Salas, et al., 1992). It is argued that these activities must be practiced to produce a truly effective team.

Members of an effective team look for synergies that can benefit others and contribute to the most efficient overall accomplishment of the team goal. To operate effectively, a team must encourage on-going dialogue to consistently exchange this information, reconcile inconsistencies, and develop a common point of reference. Rouse, Cannon-Bowers, & Salas, (2002) and Cannon-Browers, Salas, & Converse (1993) describe this mutual awareness as a "shared mental model" (p.345) in the team psychology literature and fostering the development and acquisition of a shared mental model among team members is the target of specific training methods such as cross training. These aspects that drive teamwork have important consequences for behavior that makes teams and their performance able to go beyond synergy and coordination. When diversity is managed appropriately, teams generate more robust and innovative solutions to problems.

The identification and characterization of team competencies is critical to managing team diversity (Cannon-Bowers, Tannenbaum, Salas, & Volpe, 1995). Team competencies are those requirements that are needed for effective performance. Team experiences can be powerful in determining the success or failure of a team. For example, team members might make the same choices but for very different reasons. If members make perceptions about what they think it might mean to others, perceptions will become roadblocks in their ability to effectively interact with one another. Often, experiences influence how team members think and develop. Traditionally, team competencies include knowledge, skills, and attitudes, (Jehn, Northcraft, & Neale, 1999). One's knowledge refers to factual information about the domain, mission, and team structure that team members must know in order to interact effectively. For example, they need to know who plays what role, and what the capabilities of their teammates are. Skills refer to the teamwork processes, such as information exchange, load balancing, and conflict resolution. Lastly, attitudes refer to the motivational determinants of team members' choices, such as orientation toward teamwork, leadership, and willingness to accept advice or help. Overall, the concept and focus of building interdisciplinary, diverse teams while focusing on team competencies, provides the foundation for improved overall team dynamic, function, performance, and problem solving.

METHODOLOGY

This was a qualitative study to identify the common meaning of the lived experiences of several individuals that participated in a multidisciplinary team. To understand the experiences of these team members, data was collected using interviews and observations. A criterion sample was used in which participants must have participated in a minimum of one Diverse by Design (DbD) team 30 days from the first scheduled interview and secondly, had been a service oriented manager for a minimum of one year, and assigned the role of facilitator within the team. The facilitator is certified to lead this high performing team. The documented role of this individual is to guide the remainder of the team through the process, as part of the research this was through processes of continuous improvement exercises. This process includes describing the organizational strategy and purpose of building such teams, leveraging the value of diversity within the team, and seeking out-of-the-box solutions. This criterion was developed in an attempt to avoid vivid participant descriptions as well as provide participants time back in their operation to apply DbD values and assumptions. A total of five facilitators participated in the interview process. This was the total amount of certified leaders. Each facilitator averaged 5 operational participants per team, a total of 25 individuals excluding the facilitator.

Structured conversations took place using objective interviewing with concrete questions to search for answers beyond the superficial surface of a first response. This format of interviewing was used to foster a "mean-making experience" and to form a collaborative partnership with participants through a series of three interviews per participant: life history, experience, and meaning (Seidman, 2006). During the first interview, context was established to understand participants past practice, experiences within their service area, and why they want to participate in a DbD team. The second interview focused on eliciting the details: what the participants do in a DbD team, what their relationships are with other team members, and their perception of DbD values. The last interview surrounded reflection on the meaning of their experiences and what participants have or will do after participation in the DbD team.

In addition, observations were conducted over a time period of one week (the standard time a DbD team was in place, to identify interactions and behaviors of participants active in the team and conduct observations on various aspects of the DbD team session such as routines, use of time, participation, strategies, and participant interest.

FINDINGS

Teamwork in its simplest form is a group of individuals working together to achieve a common goal. Facilitators highlighted several critical competencies and values that impact the success or the failure of the team, as well as their role as facilitator. Central values of the team include reliability, transparency, empathy, personal challenge, idea generation, and contribution. Participants elaborated on these central values further define them to include "openness, being sincere, and truly taking the time to understand people. Their challenges, what they value. Also, having the courage to provide feedback. Good leadership is important." In trying to decipher personal and professional values, most facilitators viewed these values as intersecting, placing the most emphasis on "imparting [my] experience and knowledge onto others." Additionally, facilitators described the importance of the impact decisions make on others and the role integrity places when responsible to make large scale organization and operational decisions.

Similarly, facilitators acknowledge the rewarding outcomes from participants in the groups as they describe what they learned and how team process exploration has reshaped their perceptions which will contribute to developing greater growth and service capable within the organization. Facilitators described "cooperation and comprise are big parts of the team." This became especially critical as team members, whether high level leaders or frontline, represent the top performers of their role and discipline. It requires cooperation in order to hear and understand perspectives and evaluate multiple perspectives equitably. As a result, negotiation, skills arise as important; however, can become an item of caution if influence is too strong in some team members based on their role and rank within the organization.

In summary, facilitators' descriptions of DbD values and assumptions form four distinct values and assumptions support by team observations: personal integrity, attitude and optimism, compassion and empathy, and excellence. First, personal integrity. Facilitators described demonstrating the highest standards of personal integrity, commitment, truthfulness, and fortitude in order to inspire trust, and to set an example for others. Facilitators described in their interviews and captured in observations, team members conducted themselves in a fair and impartial manner and avoided significant conflict. Team members were also careful to not compromise their independence.

Second, attitude and optimism. Team members demonstrated a positive demeanor in all observed interactions. Managers, who often took the role of DbD facilitator, took on the responsibility to guide and provide team members with tools and resources to grow. Team members provided support to each other throughout the change process. Members were fully involved in and enthusiastic about participating in the DbD team and acted in a way that furthered the interest of all. Finally, as time in the team progressed, members became open to build relationships and developed trust.

Third, compassion and empathy. Team members demonstrated respect and recognized challenges in others. Team members openly provided support, resources, and attempted to alleviate other's concerns empathically. Together, team members began to foster a sense of team that was visible to others. Lastly, excellence. Managers described the importance of offering insight of their combined knowledge and developed skills in a manner that was offered and received without prejudice, judgment, or predetermined notions of others. Each member had a duty and responsibility to the team. Team members conducted their behavior and actions to fulfill the team's charter and obligations.

Overall, the facilitator became responsible for team results. One manager comments, "If it is a good team that works together verses a team that is quiet or not as inclined to really think outside the box, at the end of the team, there still needs to be the results. The facilitator is ultimately responsible." Despite this unwritten responsibility, this is not a determinant but rather a journey that ends with "a feeling of accomplishment and being part of a bigger movement."

TEAM CHALLENGES

All facilitators shared similar views discussing DbD complexities and challenges of frontline staff comprehension and the time required to provide an elementary level of understanding. Facilitator's inability to simplify and extract core themes of DbD showcased their knowledge of DbD values was also limited. As a result, not all respondent's viewed DbD as being the core of the multidisciplinary team. The question became, what guides the team to achieve superior results? This lack of knowledge breadth also had implications on the group's level of interpersonal congruence. The absence of understanding the core of the team resulted in team member's inability to immediately convey respect and recognize other team member challenges. Yet, interpersonal congruence existed in pockets among members of similar hierarchical status. As the week progressed, so did the teams level of interpersonal congruence.

This dynamic did not prevail throughout all observations. However, at the beginning of the team, it resulted in team members not productively challenging one another and critical thinking was not maximized. Facilitators described their and DbD team member's behavior as being driven by a desire to be accepted by the others and avoiding conflict. Serious issues and feelings were avoided and in some cases team members were split into groups with specific instruction to avoid controversy.

This was observed in several instances where member's interactions and aggressive responses caused other members to shy away from participation. In a specific instance, one team member replied to another team member, "You know what, forget it, just do what you think is right." For the remainder of this session, this participant who was actively involved prior did not offer any contribution for the remainder of the session. In addition, this team member progressed to change their seat the next day.

This highlights the challenge of these multiple teams that consist of varies roles ranks within a unique organization. Despite, having a group with dynamic experience, it is difficult as each participant may contribute at varying levels and it is hard to completely remove the impact of rank on a team. Despite the acknowledgement that the teams are rank neutral, it does not ever disappear as post team participation, all team members return to their perspective roles and ranks. Additionally, this becomes hard to provide transparency and lower level participants to think that there may not be repercussions. Although the goal of these teams is to leverage and extract the value of participant diversity, rank and the inability to remove its existence is a barrier.

Consequently, the facilitator became responsible for making the connections and bridging interpersonal gaps. Additionally, this role placed this leader as a referee to facilitate the team through the cycle of change and keep them focused on the team goals. This reliance on the facilitator is not effective in developing interpersonal congruence. Accordingly, team members used more non-verbal communication to demonstrate their level of dissatisfaction and annoyance.

CONCLUSION

Facilitators that participated in the interviews, lead the role of facilitator in the DbD teams. As a facilitator, these mangers harnessed the energy and passion of team members to excel. They were the catalyst for success of the whole team, not just their own goals. They armed team members with specific and useful feedback while demonstrating integrity, authenticity, and candor. As a facilitator, these mangers embraced inclusion and created a welcoming and energetic environment engaging all to succeed together. The value of DbD teams extends beyond a group setting. However, key values such as dependability, knowledge transfer, openness, and others described above are not the only attributes at the forefront of what influences team members operational practices.

Participant responses highlighted DbD values and assumptions surrounding the responsibility and duty of being a change agent, constantly learning, team work, and communication. As a result of participating in DbD teams, team members have developed several leadership competencies. Team members personalize their interactions with other team members to drive perseverance. Members focus on inspiring and driving their teams to go beyond what is expected. They have mastered a genuine coaching style to continuously improve their personal, team, and department performance. These leaders focus on creating and seizing opportunities to improve even when faced with ambiguity. Lastly, past team members have a true passion for results by generating new perspectives and inspiring fresh ideas. Understanding and recognizing the value of diversity, opens the door to improved communication, leadership, management, problem solving, decision making, and other aspects of personal and interpersonal development for service intense industries.

Although there is an overwhelming need for an intervention to increase team development, data collected supports that DbD values and assumptions transfer into the operational practices of leaders. As a result, leaders transfer their knowledge and learning to their team members and develop operational member's values and skills and provide resources necessary to facilitate superior team results. Yet, there is opportunity to maximize this influence by providing the tools and resources for team members to understand core DbD values and assumptions. This will assist teams and operators to recognize the necessity to manage the value of diversity in order to fully enjoy the competitive advantage and achieve expediential results. This will also foster higher levels of interpersonal congruence necessary for team members to know one another, such as learning about others' differences and sharing one's own self-relevant thoughts and feelings.

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THE EFFICIENCY EFFECTS OF LOCAL TAXES AND ZONING IN A MODEL WITH LABOR-LEISURE CHOICE

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ABSTRACT

Zoning laws designed to protect neighborhood characters play major roles in modern economies. Early work on zoning includes Hamilton (1975) and Oates (1977). They constructed models containing the Tiebout (1956) assumptions of ever-moving households who search for localities that provide packages of public goods, services and taxes that maximize their utilities. In order to eliminate potential fiscal and environmental externalities associated with incoming households, zoning ordinances which stipulate minimum quantities of housing or minimum lot sizes serve as a tool to create homogeneous communities. Models with labor-leisure choice following the tradition of Becker (1965) have appeared in some areas of public finance. Some models including Atkinson and Stiglitz (1980) examine how taxes affect household behavior with respect to time allocation. None, however, has considered the effects of local income taxes or property taxes plus zoning. While there is a general conclusion in the literature that taxes are distortionary, this paper finds that taxes and zoning are non-distortionary and household utility is enhanced when taxes are combined with zoning.

INTRODUCTION

Zoning ordinances may stipulate lot size, floor space, road frontage, height, set back distances, side and rear yard size, fencing and other similar minimum quality standards, and could go as far as stating the color of a house Fischel (1985, 2015). These requirements are designed to promote community health and eliminate interpersonal externalities. As per Hamilton (1975) and Oates (1977), zoning could eliminate fiscal and environmental externalities. Since property taxes are major source of financing local public goods and services, lot sizes are correlated with the quality of local public goods, Oates (1977), Henderson (1985), Pasha (1996), Thorson (1997), and Bucovetsky and Glazer (2014). A number of authors examine related questions. These include Lenon, et. al. (1996), De Bartolome and Rosenthal (1997), Hoyt and Rosenthal (1997), and Konishi et.al. (1998), Bayer and McMillan (2012) and Hanushek and Yilmaz (2015).

In contrast to the papers mentioned above, models with labor-leisure choice, (following the tradition of Becker (1965) have appeared in some areas of public finance, such as the tax competition papers of Gordon (1986) and Bucovetsky and Wilson (1991). A related paper is Wilson (1995), who considers the choices of local governments between property taxes (levied at the same rate on capital and land), head taxes, and labor taxes, and how this relates to the level of provision of local public goods. He uses a model with both labor mobility and labor-leisure choice. Braid (1996) examines a similar set of issues in a model with a different kind of labor mobility (commuting rather than migration), but without labor-leisure choice.

In this paper, I use a model of labor-leisure choice to examine the efficiency effects of zoning and various local taxes. This allows me to consider the interaction of zoning with different types of taxes, in terms of their effect on household choice among market goods, housing, and leisure time, and the resultant level of household utility. I assume that zoning constrains the amount of housing consumed by each household. This is the simple form of zoning assumed by Hamilton (1975) but one variable in this model is leisure. I will use local property tax, and local income (or wage) tax along with lump-sum tax with the later as a benchmark of efficiency since it is non-distortionary. It is found that households would always supply more labor in the presence of fiscal zoning.

Local property taxes are widespread in the United States and in some other countries. Local income or wage taxes are used by local governments in 14 states in the United States (see Braid, 1996). And are important in many other countries (see International Monetary Fund, 1996). Local income taxes differ from lump-sum taxes (which are unusual in the real world) because of the labor-leisure choice.

In section 2, a household’s “full income” is allocated between market goods and leisure time (foregone earnings). Household utility depends on two commodities: a single market good (housing) and leisure time. Here, household utility could also depend on the level of a local public good, but to simplify the model the level of the local public good is viewed as fixed, and financed by per-household tax revenue collections of a fixed amount, *R*.

This model is essentially isomorphic to the basic Hamilton (1975) model. A household's "full income" is allocated between housing and leisure time, whereas in Hamilton, a household's fixed money income is divided between housing and a composite good. One basic result of section 2 is that a property tax on housing with zoning is equivalent to a lump-sum tax, could have been predicted from Hamilton (1975). Section 2 makes the implications clear in terms of leisure time and work hours. More importantly, the use of an explicit labor-leisure model allows the demonstration, in the simple model of this section, of equivalence between property taxes and income taxes (if both are without zoning, or if both are with zoning). Section 3 applied a specific Cobb-Douglas utility function using a linearly homogeneous function in housing and leisure time. Maclaurin Series Test is applied. Section 4 gives a brief conclusion.

TWO GOODS – GENERAL UTILITY FUNCTIONS

The model in this section is the simplified version where the utility of a household is a function of housing, *h*, and leisure time, *x*. The price of housing is normalized to 1. Utility also depends on the level of a local public good, but to simplify the model I assume that its level is fixed so that the per-capita tax revenue needs of the local government are fixed at a level denoted by *R*. The household's wage rate is *w*, and the total time available is *T*.

The no-taxation situation is considered in subsection 2a below. Then five different combinations of taxation and zoning, each of which must generate per-capita tax revenues of R, are considered in subsections 2b-2f, followed by a comparison in subsection 2g.

2a. No Taxation

Suppose there is no taxation. The household's problem is to maximize the utility function, $U(h, x)$, subject to the budget constraint

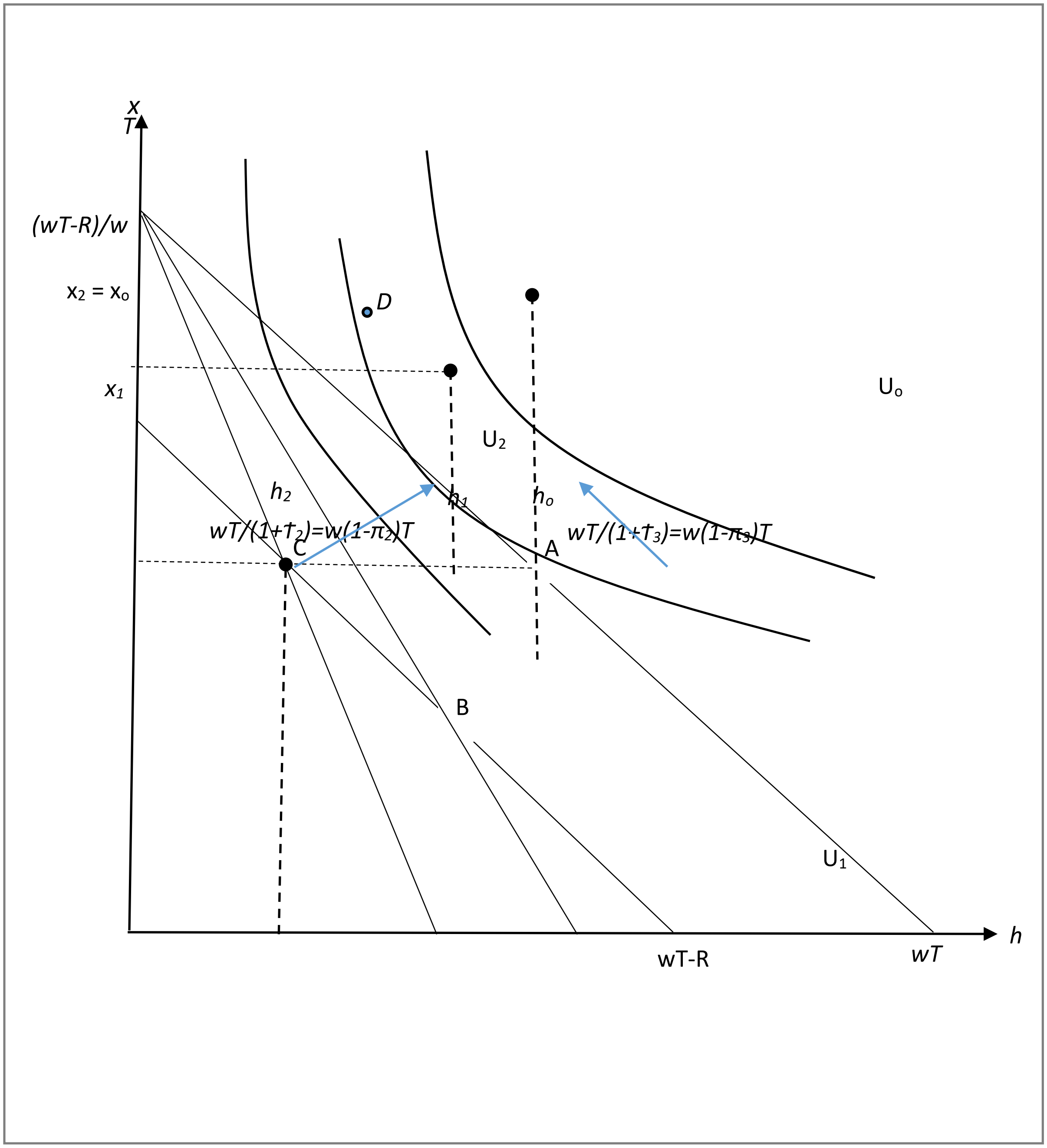
$$wT = h + wx \qquad (1)$$

Maximizing the appropriate Lagrange with respect to *h* and *x*, it is found that

$$U_h/U_x = 1/w \qquad (2)$$

Equation (2) is the usual household equilibrium condition that the marginal rate of substitution of housing for leisure time should equal their price ratio. The household chooses point A in Figure 1, with coordinates (h_o, x_o), at the point of tangency between the budget line defined by (1) and the highest indifference curve shown in the diagram.

Figure 1


x
T
(wT-R)/w
x2 = xo
D
x1
Uo
U2
h2
h1
ho
wT/(1+τ2)=w(1-π2)T
wT/(1+τ3)=w(1-π3)T
C
A
B
U1
h
wT-R
wT

2b. Lump-Sum Tax

Now I consider a lump-sum tax, denoted R, chosen so that it raises the required amount of revenue (R). The household's problem is to maximize $U(h, x)$ subject to budget constraint

$$wT - R = h + wx \tag{3}$$

Maximizing the appropriate Lagrange with respect to h and x, it is found that

$$U_h/U_x = 1/w \tag{4}$$

Equation (4) is the same as (2), but the household is on a lower budget line than in subsection 2a. The household chooses point B in Figure 1, with coordinates $(h_1\ x_1)$, at the point of tangency between an indifference curve and the budget line defined by (3) that is parallel to but lower than the one defined by equation (1) that passes through point A. In fact, the horizontal distance between the two parallel budget lines represents tax revenues, R, since the price of h is normalized to 1. It is clear from the figure that point B is efficient since, it leaves the consumer with the highest utility attainable for any type of tax that collects revenues R (since point B yields the highest level of utility for any point that is horizontally to the left of the budget line (1) by exactly R, which is just the budget line (3)). It will be shown in Sections 2e and 2f that a property tax or income tax together with zoning on housing also attains this point. Assuming that h and x are both normal goods, the values of both h and x are smaller at point B than at point A (so that $h_1 < h_o$ and $x_1 < x_o$).

2c. Property Tax on Housing

Considering a property tax on housing, denoted τ, with no zoning, the household maximizes $U(h, x)$ subject to the budget constraint.

$$wT = (1 + \tau)h + wx \tag{5}$$

Maximizing the appropriate Lagrange with respect to h and x, the household consumption choice must satisfy

$$U_h/U_x = (1+ \tau)(1/w) \tag{6}$$

Equation (6) differs from (2) and (4), and indicates that the household chooses a point on an indifference curve that is steeper than at points A and B (as long as $\tau > 0$). Let C indicate the consumption point, with coordinates (h_2, x_2). If τ is chosen so as to raise the necessary amount of revenues, R, then C must lie on the budget line defined by (3) (but this budget line will not be tangent to an indifference curve at point (C). I will denote this value of τ by τ_2. Thus C will be a point such as the one indicated in Figure 1, where an indifference curve is tangent to the budget line defined by (5) with $\tau = \tau_2$ (and this tangency point is also on the budget line defined by (3)). The value of x at point C is equal to the value of x at point A if the utility function is Cobb-Douglas (so in this $x_2 = x_o$). More generally, the value of x at point C could be greater or less than at point A, but there would still be a tangency between an indifference curve and the budget line defined by (5) at point C, and point C would still be at the point of intersection between the budget line defined by (3) and the budget line defined by (5) with $\tau = \tau_2$.

It is important to note that the household is on a lower indifference curve at point C than at point B, and that the value of h is lower and the value of x is higher than at point B (so that $h_2 < h_1$ *and* $x_2 > x_1$).

2d. Income Tax

Next, I consider an income tax at rate π with no zoning. The household's problem is to maximize $U(h, x)$, subject to the budget constraint $w(1-\pi)(T-x) = h$, since $T - x$ is hours spent working. Rearranging this budget constraint, it is seen that

$$wT = [h/(1-\pi)] + wx \tag{7}$$

Maximizing the appropriate Lagrange with respect to h and x, the household chooses a consumption bundle where

$$U_h/U_x = 1/[w(1-\pi)] \tag{8}$$

Comparing equations (5) and (6) to (7) and (8), property and income taxes have equivalent effects on the household if

$$(1 + \tau) = 1/(1 - \pi) \qquad (9)$$

If π is chosen so as to raise the necessary amount of revenues, R, then the necessary value of π, denoted by π_2, must be chosen to satisfy (9) with subscripts of 1 on both tax rates, so that

$$(1+ \tau_2) = 1/(1 - \pi_2) \qquad (10)$$

The consumer chooses the same point C (in Figure 1), with coordinates (h_2, x_2), in this subsection as in subsection 2c.

2e. Property Tax plus Zoning

Let's present a property tax plus zoning requirements on housing. The household maximizes $U(h, x)$ subject to the budget constraint

$$wT = (1 + \tau)h + wx \qquad (11)$$

and subject to the zoning constraint

$$h \geq h_1 \qquad (12)$$

It can be seen diagrammatically that the government maximizes the utility attained by the representative household in the jurisdiction, subject to raising revenues R, by choosing a property tax rate, τ_3, which leads the budget line (11) of the consumer to pass through point B, and by choosing h_1 to be the value of h that corresponds to point B. This property tax rate is smaller than the one from subsection 2c ($\tau_3 < \tau_2$), and in the absence of the zoning constraint the consumer would choose a point on the budget line on the segment between points D and B (and even though the consumer's utility would be greater than at point B, this would not be acceptable since the government would obtain revenues less than R). However, by imposing the zoning constraint (12), the consumer must choose a point on the budget line at point B or below and to the right of point B. It is easily seen diagrammatically that the zoning constraint is binding, so that the consumer would choose point B, which is exactly the same point as with the lump-sum tax in subsection 2b. Of course, this also means that (4) is applicable in this case.

The graphical argument above is the best way to analyze the problem, but I present a mathematical argument for the sake of comparison. Letting h_1 be anything at the outset, assuming the zoning constraint (12) is binding (note that a graphical argument above showed that it was binding at point B when $\tau = \tau_3$, and substituting (12) with equality into (11), and solving for x yields

$$x = [wT - (1 + \tau)h_1](1/w) \qquad (13)$$

The revenue from the property tax is $R = \tau h_1$. Thus,

$$\tau = R/h_1. \qquad (14)$$

Substituting (14) into (13)

$$x = (wT - h_1 - R)(1/w) \qquad (15)$$

Equation (15) expresses leisure time as a function of zoned housing. Therefore, the larger the housing requirements, the lower is leisure time. Substituting (15) into the household's utility function shows that

$$U = U[h_1, (wT - h_1 - R)(1/w)] \qquad (16)$$

The local government can choose h_1 to maximize household's utility for a given value of R. (By comparison, if there is no zoning constraint, the household chooses h to maximize utility for a given value of T'). The first order conditions are

$$dU/d_{h1} = U_{h1} - U_x(1/w) = 0; \tag{17}$$

From equation (17),

$$U_{h1}/U_x = 1/w \tag{18}$$

Comparing (4) and (18), the household equilibrium conditions from a lump-sum tax and from property tax plus zoning are equal.

Using either method above, the consumer ends up at point B, which is the same as with a lump-sum tax, and thus reaches a higher level of utility than with a property tax and no zoning (point C). This makes sense, since lump-sum taxes are more efficient than taxes on a particular good, so the household is at a higher utility with a property tax plus zoning than a property tax without zoning constraints (compare points B and C on the diagram).

The analysis of this case produces results that basically isomorphic to well-known results since the usual analysis where consumer utility depends on housing and a composite good is basically just being replaced by an analysis where consumer utility depends on housing and leisure time (and the tax and the zoning are both on housing in either case).

2f. Income Tax plus Zoning

Finally, I present an income tax plus zoning. In this case, unlike subsection 2e, the tax and the zoning are on different goods, since the zoning is till on housing. The household maximizes $U(h, x)$ subject to

$$h = w(1 - \pi)(T - x) \tag{19}$$

and subject to the zoning constraint

$$h \geq h_1 \tag{20}$$

The graphical analysis is almost the same as that of subsection 2e. The government maximizes the utility attained by the representative household in the jurisdiction, subject to raising revenues R, by choosing an income tax rate, π_3, which leads the budget line (19) of the consumer to pass through point B, and by choosing h_1 to be the value of h that corresponds to point B. This income tax rate is smaller than the one from subsection 2d ($\pi_3 < \pi_2$), and in the absence of zoning constraint the consumer would choose a point on the budget line on the segment between points D and B (and once again this would not be acceptable since the government would obtain revenues less than R). However, by imposing the zoning constraint (20), the consumer must choose a point on the budget line at point B or below and to the right of point B. Once again, it is easily seen diagrammatically that the zoning constraint is binding, so that the consumer would choose point B, which is exactly the same point as with the lump-sum tax in subsection 2b. This also means that (4) is applicable in this case.

Letting h_1 be anything at the outset, assuming the zoning constraint (20) is binding (as in subsection 2e), and substituting (20) into (19), and solving for x yields

$$wT = h_1/(1 - \pi) + wx \tag{21}$$

where w is the wage rate and π is the income tax rate. From equation (21),

$$x = T - h_1/[w(1 - \pi)] \tag{22}$$

The revenue from income tax is $R = \pi w(T - x)$. Thus

$$\pi = R/[w(T - x)] \tag{23}$$

Substitute for π in equation (22),

$$x = T - h_1/\{w[1 - R/w(T - x)]\} \qquad (24)$$

Rearranging (24), it is found that

$$x = (wT - h_1 - R)(1/w) \qquad (25)$$

which is identical to equation (15), (property tax plus zoning). Therefore the household utility is given by

$$U = U[h_1, (wT - h_1 - R)(1/w)] \qquad (26)$$

Which is identical to (16). The remaining equations are also the same as in subsection 2e, so an income tax with zoning is also equivalent to a lump-sum tax.

Using either method above, the consumer ends up at a point B, which is the same as with a lump-sum tax (see subsection 2b), and the same as with a property tax together with zoning (see subsection 2e) and thus reaches a higher level of utility than with an income tax and no zoning (point C, as shown in subsection 2d). Analogously to subsection 2e, the household is at a higher utility with an income tax plus zoning than an income tax without zoning constraints (once again compare points B and C on the diagram).

The analysis of this case produces results that are somewhat different than the usual results and the results of subsection 2e, at least to the extent that in the case here, the zoning is on one good (housing), whereas the tax is on something else (income).

2g. Comparisons and Conclusion for Section 2

The comparison between the various cases presented above can be made graphically (see Figure 1). Point A, with coordinates (h_o, x_o) is the household's equilibrium choice without taxes. Point B, with coordinates (h_1, x_1) is the household's equilibrium choice with a lump-sum tax that collects revenues R, and this point is efficient since it leaves the consumer with the highest utility attainable for any tax that collects revenues R. Point C, with coordinates (h_2, x_2), where $x_2 = x_0$ for Cobb-Douglas utility (but not in general), is the household's equilibrium point with either a property tax on housing or an income tax that collects the same revenue R from the consumer. The efficient point, which is point B, is also attained if instead of a lump-sum tax, the government uses either a property tax on housing or an income tax together with zoning on housing (that limits the consumer to $h \geq h_1$) that collects the same revenue R. These results illustrate the equivalence between a property tax and an income tax that was pointed out above.

Point B is on a higher indifference curve than point C. In other words, if two communities operate with equal property or income tax revenues, the zoned community would assess a lower property tax rate than the un-zoned community and leave its consumers with higher level of utility (U_1 is higher than U_2 in Figures 1). It is clear, from comparing points B and C, that under a system of a property or income tax together with zoning, housing consumption is greater $(h_1 > h_2)$, and leisure time is less $(x_1 < x_2)$, and thus working time is more) than under a property tax or income tax without zoning.

A COBB-DOUGLAS EQUIVALENCE

The household utility depends on only market good, housing and mon-market good leisure time. I assume that the household utility is given by the following Cobb-Douglas form: $U(h, x) = h^{\alpha}x^{(1-\alpha)}$ subject to different constraints as in Table 1, column 1.

Table 1

Households maximize = $U(h, x) = h^{\alpha}x^{(1-\alpha)}$ subject to models in column 1

Model	Housing, h	Leisure, x	Tax rate	Utility
Property tax, τ, no zoning	$\alpha wT - R\tau$	$(1-\alpha)T$	$R_{\square}/(awT - R_{\tau})$	$[\alpha wT - R\tau]^{\alpha}[(1-\alpha)T]^{1-\alpha}$ (27)
Income tax, π, no	$\alpha wT - R_{\square}$	$(1-\alpha)T$	$R_{\square}/(\quad \square wT)$	$[\alpha wT - R_{\square}]^{\alpha}[(1-\alpha)T]^{1-\alpha}$

zoning				
Lump-sum tax, I	$\square\square wT - R_I)$	$[(1-\square)(wT-R_I)]/w$	R_I	$\square^{\square}[(1-\square)/w]^{1-\square}\square wT-R_I]$
Property tax, τ, plus zoning	$\square\square wT - R_\tau)$	$[(1-\square)(wT-R_\tau)]/w$	$R_{\square}/(awT-\square R_\tau)$	$\square^{\square}[(1-\square)/w]^{1-\square}\square wT-R_\tau]$ (28)

While housing is a complete market good, leisure is non-market good. Table 1 shows housing, *h*, leisure, *x*; level of utility under property tax, τ, no zoning; income tax, π, no zoning; lump-sum tax, *I*; and property tax, τ, plus zoning. Table 1 shows Cobb-Douglas equivalence to general utility function results found in sub-section 2b, 2c, 2d and 2e.

From Table 1, we could see that the utilities for property and income taxes without zoning are equal. Theoretically, households would seem to be indifferent between financing government spending with local income or property taxes in the absence of zoning. The utilities for a lump-sum tax and a property tax with zoning are greater than for a property and income taxes without zoning. With equal property tax revenues, zoned communities have lower property tax rates and higher utilities.

Table 2 – Maclaurin Series Tests

Utility	Without Zoning		With Zoning	
$U(R_{\square})$	$(\alpha wT-R\tau)^{\alpha}[(1-\alpha)T]^{(1-\alpha)}$		$\alpha^{\alpha}[(1-\alpha)/w]^{(1-\alpha)}(wT-R\tau)$	
$U(0)$	$\alpha^{\alpha}w^{\alpha}(1-\alpha)^{(1-\alpha)}T$	(29)	$\alpha^{\alpha}w^{\alpha}(1-\alpha)^{(1-\alpha)}T$	(30)
$U'(R_{\square})$	$-\alpha(\alpha wT-R\tau)^{(\alpha-1)}[(1-\alpha)T]^{(1-\alpha)}$		$-\square^{\square}w^{(\square-1)}(1-\alpha)^{(1-\alpha)}$	
$U'(0)$	$-\square^{\square}w^{(\square-1)}(1-\alpha)^{(1-\alpha)}$	(31)	$-\square^{\square}w^{(\square-1)}(1-\alpha)^{(1-\alpha)}$	(32)
$U''(R_{\square})$	$-\alpha(1-\alpha)(\alpha wT-R_{\square})^{(\alpha-2)}[(1-\alpha)T]^{(1-\alpha)}$		0	
$U''(0)$	$--\alpha^{(\alpha-1)}(1-\alpha)^{(2-\alpha)}w^{(\alpha-2)}T^{(-1)}$	*(33)*	0	*(34)*

Society in general approaches a more efficient equilibrium with zoning ordinances than without. This could be proven algebraically for any parameter values by expanding (27) and (28) in Maclaurin series as a function of per capita tax revenue, R (see table 2). Note that (29) and (30) are equal, that (31) and (32) are also equal. However, (33) is negative and (34) is zero. The household utility as a function of zoned housing and taxes is maximized, stationary and stable.

CONCLUSION

In the presence of taxes, the government raises household utility by zoning laws. The local government chooses housing level to maximize household's utility for a given value of tax revenue. By comparison, without zoning constraint, the household chooses the level of housing to maximize utility for a given value of tax rate. Applying the household time allocation model, households may engage in the optimal utilization of time if required to consume more good intensive products such as zoned housing and its complementary public goods and services. Households have more market goods in their commodity preferences with zoning laws and work more hours (less foregone earnings) than without zoning ordinances. Moreover, income and property taxes with zoning are equivalent to a lump-sum tax. Lump-sum tax is a benchmark of efficiency because it is non-distortionary. Above all, with equal property tax or income tax revenues, taxes are lower under the system of zoning than without.

Whether or not households who live in more strictly zoned communities put in more work efforts than their counterparts in less strictly zoned localities, is an empirical question. Households are, however, better off in perfectly zoned communities than without zoning as such there is an incentive to work more hours. This could open up further public policy implications.

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PROPERTY-LIABILITY INSURERS' DISCRETIONARY AND NON-DISCRETIONARY LOSS RESERVE ERROR: RELATION WITH INVESTOR SENTIMENT

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ABSTRACT

We examine whether investor sentiment is associated with loss reserve estimates of property-liability (P/L) insurers. Using the Michigan Consumer Confidence Index as a proxy for sentiment, we find that the level of investor sentiment is negatively associated with discretionary component of loss reserve error. In contrast, our evidence does not suggest a similar relationship holds for investor sentiment and non-discretionary loss reserve error. Further analysis indicates that stock insurers are more sensitive to investor sentiment than mutual insurers, in terms of discretionary component of loss reserves. The results are consistent with our hypothesis that P/L insurers cater to investors' optimism (pessimism), driven by investor sentiment, via discretionary loss reserve claims. Our study discovers a new rationale for why insurers may use discretion over their loss reserves.

INTRODUCTION

We investigate whether investor sentiment is associated with the two components of loss reserve errors of property-liability (P/L) insurers: the discretionary component and the nondiscretionary component. Loss reserves are collectively the largest liability on an insurance company's balance sheet (Gaver and Paterson 2004), therefore, could significantly affect the reported earnings and financial strength of an insurance company. In principle, the purpose of loss reserve is to reflect expected losses claims on operations in the period they are incurred and the related premium revenue is recognized. Although some claims are settled in the year incurred, the majority will remain outstanding for several years. The complexity surrounding the estimation of the cost to settle this incurred but unpaid claims provides insurers opportunities to manipulate loss reserves. For example, Petroni (1992) suggests that financially weak firms understate their reserve estimates to avoid regulatory attention. Petroni and Beasley (1996) find that insurers manage loss reserve to deceive regulators and investors about a firm's true financial condition. Petroni and Shackelford (1999) finds that insurers use loss reserves to smooth tax liability. Beaver, McNichols, and Nelson (2003) document that property-casualty insurers manage loss reserve to influence accounting results such as earnings. Using a methodology similar to Beaver et al (2003), Gaver and Paterson (2004) find that insurance firms manipulate loss reserves to avoid violating certain test ratio bounds that are used by regulators for solvency assessment. More recently, Eckles and Halek (2010) suggest that managers of insurance firms manipulate loss reserves in order to increase their compensation. In this paper, we extend the literature by examining the relationship between investor sentiment and a P/L insurer's loss reserve estimation practices. Specifically, we investigate whether P/L insurers use their discretion over loss reserves to cater investor sentiment.

Investor sentiment, defined as optimism or pessimism about market in general is an important part in the literature of behavioral finance (Baker and Wurgler, 2006, 2007). Previous research suggests that managers tend to make financing and investment decisions that cater to investor preference. For example, Baker et al. (2003) propose a catering theory of investment and suggest that managers make investment decisions according to stock price movements. Baker and Wurgler (2004a, 2004b) develop a catering theory of dividends, finding that managers cater to investors demand for dividends when make dividend payments decisions. Rajgopal and Simpson (2007) present a catering theory of earning management and find that earnings management is partially driven by the prevailing investor demand for earnings surprises. Aghion and Stein (2008) present a model in which managers cater to the market by focusing on a firm's growth (or profit margins) performance when the stock market rewards strong growth (or profit margins) performance more heavily. Baker et al. (2009) proposes a catering theory of nominal stock prices and predicts that managers cater to investors' valuations.

While there is a substantial literature investigating managers' use of accounting discretion to manipulate loss reserve, and a substantial literature investigating catering theory to investor sentiment, there has been little research linking these two literatures. The only paper, to our best knowledge, in this area is Sun, Wei & Xu (2017). Our study differs from Sun et al. (2017) in that while they investigate the impact of investor sentiment on P/L insurers' total loss reserves, we decompose property-liability insurers' loss reserve errors into two parts: discretionary vs. nondiscretionary components and examine the relation between investor sentiment and the two components of loss reserve errors separately. The use of different revision components of loss reserve enables us to develop directional and distinct hypotheses about the relations between discretionary and non-discretionary revisions and investor sentiments.

Using the Michigan Consumer Confidence Index as the proxy of investor sentiment, we find a negative and significant relation between the level of investor sentiment and discretionary loss reserve error. The result indicates that during high sentiment periods, P&L insurers intend to under-estimate discretionary loss reserves. In contrast, during periods of low sentiment, P&L insurers intend to over-estimate discretionary loss reserves. We fail to find such a relation exists between investor sentiment and nondiscretionary component of loss reserves. The negative and significant relation between investor sentiment and discretionary loss reserve error are consistent with catering theory supported by the opportunistic view and the managerial sentiment view. The opportunistic views presume that managers are able to identify instances of sentiment for their own firm and disclose a pro forma figure in an attempt to opportunistically affect investors' sentiment-driven beliefs of firm performance. The managerial sentiment view presumes that managers may be susceptible to the same market-wide sentiment as investors and disclose a pro forma figure that reflects their own sentiment-driven beliefs. On the contrary, our nondiscretionary loss reserves reflect the insurer's economic conditions and strategic choices, such as different lines of business. Therefore, the nondiscretionary component tends to be more in line with economic cycles. Accordingly, no negative relation exists between investor sentiment and nondiscretionary loss reserves.

To further examine the catering behavior of insurers in loss reserve estimation, we also test how ownership structures affect the relation between investor sentiment and discretionary vs nondiscretionary loss reserve errors. We find that, stock insurers are more sensitive to investor sentiment than mutual insurers, in terms of discretionary loss reserves. Specifically, stock insurers tend to under- (over-)estimate their discretionary loss reserves in higher degree and over- (under-) estimate their nondiscretionary loss reserves in lower degree, responding to high (low) investor sentiment. The relation does not hold for mutual insurers. The results are consistent with agency theory stating that management in stock firms tends to pursue maximization of share value, profitability, etc. (Jensen and Meckling, 1994). Mutual insurers' managers tend to focus on price control and customer services (Laux and Muermann, 2009).

Our study makes three important contributions to the literature:
First, we identify investor sentiment as a new incentive of loss reserve manipulation. While there is a substantial academic literature on the manipulation of loss reserve estimation by insurance firms, to our best knowledge, the literature has almost no analysis, either theoretical or empirical, on how investor sentiment is associated with loss reserve errors of property-liability (P/L) insurers in the heavily regulated insurance industry. Given the important role that loss reserve plays in insurance industry, the result of this study will be of interest to investors, creditors, standard setters, auditors, and regulators.

Second, we decompose loss reserve into two components: discretionary and nondiscretionary and investigate which (if any) of these two types of loss reserve are related to investor sentiment. The use of different revision components of loss reserve enables us to develop directional and distinct hypotheses about the relations between discretionary and non-discretionary revisions and investor sentiments.

Third, we extend the existing research on catering theories by looking at insurance industry. Catering theory have important implications on corporate governance and financial policy choices, which allegedly played an important role in the recent financial crisis of 2007 to 2009. Although less involved in than banks, insurers, especially those active in risk taking, are not free of criticism. For this reason, we are interested in examining catering theory in insurance industry.

The outline of the paper is as follows. Section 2 provides a background analysis on loss reserves and investor sentiments. Section 3 develops hypotheses. Section 4 describes the data and research methodology. Section 5 presents empirical findings. Section 6 concludes.

BACKGROUND

Loss Reserves Errors

Loss reserves are insurers' estimated liability for unpaid claims on all losses that occurred prior to the balance sheet date. Loss reserves are collectively the largest liability on a property-liability insurance company's balance sheet and so could significantly affect the reported earnings and financial strength of an insurance company.

The loss reserve errors may mainly come from two aspects. (1) One is in the modeling process, mainly related with non-discretionary loss reserve component. It is difficult for actuaries to estimate all potential losses accurately. Because not all claims for current period losses are filed by the balance sheet date, especially for long-tail lines of business; even for claims filed in the current period, the ultimate cash settlement could be delayed for several years. (2) The other aspect is about senior managers' discretion, mainly related with discretionary loss reserve component. Managers may choose to report loss reserves opportunistically, probably due to taxes, income smoothing, financial weakness and price regulation. Since the costs of an insurance company include claims resolution and incurred losses, the insurer can reduce its earnings before taxes by overestimating reserves and incurred losses.

Investor Sentiment

The behavioral finance literature defines investor sentiment as "a belief about future cash flows and investment risks that is not justified by the facts at hand" (Baker and Wurgler, 2007). In the spirit of Shiller (2000), investor sentiment arises from a mix of rational and irrational cognitive and emotional bias and affects investors' expectations about firms' future performance. So investor sentiment can cause the deviation of stock prices away from the fundamental values as the standard model suggests. Generally speaking, during low sentiment periods, it is more likely for market participants to be pessimistic and underestimate firm values. On the contrary, market participants would be more optimistic during high sentiment periods and so overestimate firm values. In addition, Shleifer and Vishny (1997) emphasizes that it is costly and risky to bet against sentimental investors. As a result, rational market participants would not aggressively force prices back to fundamental values.

Part of prior research investigates the association of investor sentiment and different corporate decisions such as capital investment, dividend policy, acquisition and stock splits, and finds significant correlations (e.g. Shleifer and Vishny 2003, Baker and Wurgler, 2000, Baker et al., 2003). Some other part of the literature examines how managers respond to investor sentiment via strategic corporate disclosure. For example, Bergman and Roychowdhury (2008) finds that "managers increase their forecasts to walk up current estimates of future earnings over long horizons" during low-sentiment periods. Brown et al (2012) finds that investors tend to evaluate managers' pro forma disclosures less rigorously and so managers are more likely to disclose an adjusted earnings metric during high-sentiment periods.

Hypotheses development

As discussed in previous sections, while there is a plethora of prior literature providing evidence that insurers exercise discretion on loss reserve, and a substantial literature investigating catering theory to investor sentiment, there has been little research bridging these two literatures. The only paper, to our best knowledge, in this area is Sun et al. (2017). Our study differs from Sun et al. (2017) in that while they investigate the impact of investor sentiment on P/L insurers' total loss reserves, we decompose property-liability insurers' loss reserve errors into two parts: discretionary vs. nondiscretionary components and investigate the relation between investor sentiment and the two components of loss reserve errors separately. We expect that the level of investor sentiment is negatively associated with discretionary component of loss reserve error. The statement that insurers cater to investor sentiment can be explained from four aspects: First, managers may care more about current firm value, instead of long run value. Rajgopal, et al. (2007) suggests several reasons. Managers may not be able to stay in their companies for a long period. In short run, they may hope to maximize the current value of firm. In addition, usually managerial compensation and promotion opportunities are closely correlated with current prices. Second, the cost for managers to adjust downward loss reserve levels during high sentiment period may be relatively low. Research in social cognition finds that, with optimistic belief, investors may be easier to accept information reported by companies (Taylor, 1991, Bless, et al., 1996). Therefore, investors evaluate companies' information with less scrutiny during high sentiment period. Third, managers also have their own sentiment, which may be consistent with the whole market's sentiment. Brown, et al. (2012) state that, during high (low) sentiment periods, sentiment-driven managers may perform to reflect their own optimistic

(pessimistic) perceptions. Therefore, it is easy for managers to under- (over-) estimate loss reserves to signal their optimism (pessimism) during high (low) sentiment periods. Fourth, low sentiment periods may be a good time to managers to adjust back their previously under-estimated loss reserves. In some periods (such as high sentiment periods), managers may under-estimate loss reserves. As the development of claim losses, when reporting loss reserve errors, managers need to reverse previously undervalued loss reserves. Bergman and Roychowdhury (2008) state that analysts tend to be pessimistic in low sentiment periods. Managers can meet their forecast easily. Therefore, it is low sentiment periods that managers can relatively easily reverse under-estimate loss reserves or "save" some extra for future high-sentiment periods. The above analyses mainly reflect manager's discretion. Therefore, we propose our first hypothesis:
H1a: *During high (low) sentiment period, discretionary component of loss reserves tend to be under- (over-) estimated.*

As a function of the types of insurance written, nondiscretionary component of loss reserves mainly reflects the insurer's economic conditions and strategic choices, such as different lines of business, and therefore tends to be more in line with economic cycles. Accordingly, we do not expect a negative relation between sentiment and nondiscretionary component of loss reserves. This discussion leads to hypothesis below:
H1b: During *high (low) sentiment period, nondiscretionary component of loss reserves tend not to be under- (over-) estimated.*

Two major ownership types among the US property-liability insurers are stock and mutual. Agency theory states that senior managers have incentives to pursue ownership's interests, based on the firm's ownership. Jensen and Meckling (1994) demonstrate that management in stock firms tends to pursue maximization of share value, profitability, etc. Laux and Muermann (2009) find that, since mutual insurers are owned by policyholders, the managers tend to focus on price control and customer services. Therefore, stock insurers should be more sensitive to investor sentiment, in terms of loss reserve estimates, especially discretionary component of loss reserves. We propose that stock insurers tend to under- (over-)estimate their discretionary loss reserves in higher degree, responding to high (low) investor sentiment. Stock insurers may also try harder to reduce the impacts of economic cycle on share value and profitability, and so under- (over-) estimate their nondiscretionary loss reserves in lower degree, responding to low (high) investor sentiment. This discussion leads to our second set of hypothesis.
H2a: S*tock insurers tend to under- (over-)estimate their discretionary loss reserves in higher degree than mutual insurers*, responding *to high (low) investor sentiment.*
H2b: *stock insurers tend to under- (over-) estimate their nondiscretionary loss reserves in lower degree than mutual insurers, responding to low (high) investor sentiment.*

DATA AND RESEARCH METHODOLOGY

Loss Reserve Error Estimation

In the literature, loss reserve error is calculated as the difference between insurers' originally reported estimate of cumulative claim loss reserves at the end of year t. As in Petroni (1992), we calculate loss reserve error as follows:

$$Dev_{i,t} = \left(IncurredLosses_{i,t} - IncurredLosses_{i,t+j}\right) / TotalAssets_{i,t} \quad (1)$$

where $Dev_{i,t}$ is the loss reserve error of firm *i* in year *t*, $IncurredLosses_{i,t}$ is the loss reserve for insurer *i* reported in year *t*, and $IncurredLosses_{i,t+j}$ is the revised estimate of the year *t* loss reserve reported in year *t+j*. We scale loss reserve errors by total admitted assets in year *t*. Following the previous literature (e.g. Petroni, 1992; Beaver, et al., 2003; Gaver and Paterson, 2004; and Grace and Leverty, 2012), we set *j* as five. For a given calendar year, we examine the difference between total losses incurred and revised total losses incurred 5 years later.
A positive loss reserve error means an overestimated original reported reserve, while a negative loss reserve error means the underestimated original reported reserve.

DISCRETIONARY AND NON-DISCRETIONARY LOSS RESERVE ERROR

We follow Petroni, *et al* (2000) to model the loss reserve error components:

$$Dev_{i,t} = \alpha + \beta_1 \times nol_{i,t} + \beta_2 \times cap_{i,t} + \beta_3 \times roa_{i,t}$$
$$+ \gamma_1 \times tail_{i,t} + \gamma_2 \times longtail_{i,t} + \gamma_3 \times wkcomp_{i,t} + \gamma_4 \times auto_{i,t} + e \qquad (2)$$

The discretionary component loss reserve error is predicted by nol, cap, roa and reflects insurers' incentive to intentionally adjust loss reserve estimates. The variables are defined as follows:

nol is a dummy variable which equals to 1 if the firm has net operating loss carryforwards. According to Grace (1990) and Penalva (1998), in order to shelter earnings and reduce tax payments for some period, a firm overestimates loss reserves. Insurers with net operating loss (NOL) carryforwards have the potential to pay lower taxes during the first few years that they generate positive earnings. Then insurers may not have incentives to overestimate loss reserves. Therefore, according to our definition, nol is expected to be negatively associated with loss reserve error. (-)

Cap is a dummy variable which equals to one if the ratio of statutory surplus to net premiums earned is in the lowest quartile, representing a financial weak insurer. Petroni (1992), Penalva (1998), and Petroni *et al* (2000) state that financial weak insurers tend to underestimate loss reserve in order to appear more solvent. So *cap* is expected to be negatively related with our loss reserve error. (-)

Roa is the percentage return on assets. Grace (1990) argues that property and casualty insurers have the incentive to smooth. According to Beaver, *et al.* (2003), insurers with small positive earnings report the most income-increasing reserve levels, so their loss reserves tend to be under-estimated; while firms with the highest earnings report the most income-decreasing reserves, and so tend to over-estimate their loss reserves. Hence, *roa* is expected to be positively related with the loss reserve error. (+)

The non-discretionary component is obtained from four proxies from different lines of business ($tail$, $longtail$, $wkcomp$, and $auto$) and reflects the *ex post* shocks of claim payments.

auto represents auto property and liability insurance. This line of business is usually regarded as low risk and short-tailed coverage.

wkcomp captures worker's compensation, which is supposed to be low-risk and long-tailed due to the claim payments in the form of annuities.

longtail includes some high-risk long-tailed lines of business, such as product liability and medical malpractice.

tail is one minus the ratio of loss incurred this year for prior business to loss reserve at the beginning of the year. Petroni, et al (2000) defines higher *tail* value as cash payment made over a longer period.

DATA

The primary data source is the NAIC Property-Casualty annual statement database from 1993 until 2010. Specifically, the primary data source for loss reserve error is the annual statements Schedule P. Schedule P contains each insurer's gradual settlement of claims over time and records all revisions of the loss reserve estimate. Given a 5-year resolution period, the reserve error sample years are 1993 to 2005. To be included in the sample, firms must have positive reserves, losses incurred, net income and total assets. Each firm must have 13 years data. As a result, our sample includes 941 companies and 12,233 firm-year observations.

Following Qiu and Welch (2005) and Bergman and Roychowdhury (2008), we use the Michigan Consumer Confidence Index as a proxy of investor sentiment, SENT. This index is based on a survey of five index questions and calculated from a linear combination of the relative scores for the five questions. The detailed information can be obtained from the website of University of Michigan.

Regressions

To test the relationships between investor sentiments and discretionary or non-discretionary loss reserve adjustments, we estimate the following model:

$$DisDev_{it} = \alpha + \beta * SENT_{t-1} + \lambda * X_{t-1} + \gamma * Z_{it} + \varepsilon_{it} \quad (3)$$

$$NDisDev_{it} = \alpha + \beta * SENT_{t-1} + \lambda * X_{t-1} + \gamma * Z_{it} + \varepsilon_{it} \quad (4)$$

where $DisDev_{it}$ and $NDisDev_{it}$ refer to discretionary and non-discretionary reserve error components respectively, $SENT_{t-1}$ is the Michigan Consumer Confidence Index during year *t-1*. X_{t-1} represents annually control variable, which is the seasonally adjusted growth rate of gross domestic product (GDP) in year *t-1*. GDP data are from the Bureau of Labor Statistics. Z_{it} represents firm characteristic variables, including the ratio of net premium earned over total asset (*PremRate*) and the natural log of firms' total assets (*Assetlog*).
We regard that there exists some time delay for firms to get data outside firms, such as the Consumer Confidence Index and GDP. Firms should be able to get information on contemporary firm characteristic variables.
In addition, we check the different impacts of investor sentiments on mutual vs. stock Property-Liability insurers:

$$DisDev_{it} = \alpha + \beta * SENT_{t-1} + \lambda * X_{t-1} + \gamma * Z_{it} + P_M + P_S + P_M * SENT_{t-1} + P_S * SENT_{t-1} + \varepsilon_{it}$$

$$NDisDev_{it} = \alpha + \beta * SENT_{t-1} + \lambda * X_{t-1} + \gamma * Z_{it} + P_M + P_S + P_M * SENT_{t-1} + P_S * SENT_{t-1} + \varepsilon_{it}$$

where P_S and P_M are dummy variables, which refer to stock and mutual Property_Liability insurers, respectively.[2]
$P_S * SENT_{t-1}$ and $P_M * SENT_{t-1}$ are the interaction items.

EMPIRICAL RESULTS

Estimating Discretionary and Non-Discretionary Loss Reserve Errors

Table 1 summarizes the descriptive statistics for variables used in the decomposition of loss reserve errors. All the variables are winsorized at the 1st and the 99th percentile to remove the effect of outliers. Consistent with prior research, the average insurer tends to overestimate reserves. The mean (median) loss reserve error is 0.014 (0.016) percent of total assets during the sample period. Table 1 Panel B presents the Pearson (above the diagonal) and Spearman (below the diagonal). There is no large correlation coefficient between independent variables. Therefore, the inclusion of all the independent variables in the multivariate models is feasible and accurate. (See Table 1, below)

Table 2 reports the regression results of loss reserve errors on discretionary and non-discretionary proxies. The coefficients of discretionary proxies, nol, cap, and roa, are consistent with our expectation and statistically significant. As for the non-discretionary proxies, the coefficient of $wkcomp$ is significantly negative, as expected. The coefficients of $tail$, $longtail$, and $auto$ do not have the same sign as our expectation and are insignificant statistically. The reason may be that the non-discretionary component should mainly reflect *ex post* shocks, such as the industry trends and changes of regulations, instead of managers' own discretion. (See Table 2, below)

Valuation Implications of Discretionary and Non-Discretionary Loss Reserve Errors

Table 3 summarizes the descriptive statistics for variables used in the regressions of discretionary and non-discretionary loss reserve errors on investor sentiments. In order to make investor sentiments in the same scale with other variables, we divide them by 100. The mean (median) investor sentiment is 0.94 (0.92), showing that during the sample period, investors were slightly pessimistic. The seasonally adjusted growth rate of gross domestic product (GDP) has a mean (median) of about 5 percent. The mean (median) ratio of net premiums earned over total assets (PremRate) is 0.39 (0.38) in the sample. The mean or median total assets (Assetlog) are approximately about $100 million, indicating that the size distribution of the sample is not skewed by some particularly large insurers. (See Table 3, below)

[2] In the data set, besides stock and mutual, some insurers have other ownership structures.

Discretionary vs. Non-Discretionary Loss Reserve Errors and Investor Sentiment

Table 4 reports the regression results of discretionary vs. non-discretionary loss reserve error on investor sentiment. When the dependent variable is discretionary loss reserve errors, the coefficient on investor sentiment is negative and statistically significant at 1% level, indicating under- (over-) estimated discretionary component of loss reserves during high (low) sentiment period. In the regression of non-discretionary loss reserve errors, the coefficient on investor sentiment is positive and statistically significant at 1% level, indicating that there no under- (over-) estimation on nondiscretionary component of loss reserves during high (low) sentiment period.

The relation between discretionary component of loss reserve errors and investor sentiment is the same as the relation between total loss reserve errors and investor sentiment demonstrated in Sun et al. (2017). It means that the catering impact is dominant. (See Table 4, below)

Impacts of insurers' ownership on the relationships between Loss Reserve Error and Investor Sentiment

Table 5 reports the regression results of discretionary vs. non-discretionary loss reserve errors on investor sentiment with identification of stock and mutual insurers. In Table 5 panel A with discretionary loss reserve errors as the dependent variable, the coefficients on the interaction items $PS * SENT$ and $PM * SENT$ are both negative, which have the same sign as the coefficient on investor sentiment item $SENT$. In addition, the coefficient on $PS * SENT$ has higher absolute values. We conduct F test to check whether the coefficients on the two interaction items are equal and find that we can reject the null hypothesis at 1% significance level. Therefore, stock insurers are more sensitive to investor sentiment than mutual insurers, in terms of discretionary component of loss reserves. Stock insurers tend to under- (over-)estimate their discretionary loss reserves in higher degree, responding to high (low) investor sentiment.

In Table 5 panel B with nondiscretionary loss reserve errors as the dependent variable, the coefficients on the interaction items $PS * SENT$ and $PM * SENT$ are both negative, which have the opposite sign to the coefficient on investor sentiment item $SENT$. In addition, the coefficient on $PS * SENT$ has higher absolute values. We also conduct F test to check whether the coefficients on the two interaction items are equal and find that we can reject the null hypothesis at 1% significance level. Therefore, stock insurers under- (over-) estimate their nondiscretionary loss reserves in lower degree than mutual insurers, responding to low (high) investor sentiment. (See Table 5, below)

CONCLUSION

We examine whether investor sentiment is associated with loss reserve estimates of property-liability (P/L) insurers. The research design for our multivariate analyses includes measures for both discretionary loss reserve and nondiscretionary estimates. The use of different components of loss reserve enables us to develop directional and distinct hypotheses about the relations between discretionary and non-discretionary revisions and investor sentiments. Our findings suggest that the level of investor sentiment is negatively associated with discretionary component of loss reserve error. In contrast, our findings do not support a similar relationship for investor sentiment and non-discretionary loss reserve error. Further analysis indicates that stock insurers are more sensitive to investor sentiment than mutual insurers, in terms of discretionary component of loss reserves. The results are consistent with our hypothesis that P/L insurers cater to investors' optimism (pessimism), driven by investor sentiment, via discretionary loss reserve claims. We caution readers that our findings must be interpreted with due regard to the potential endogeneity. While we include control variables and conducted sensitivity tests to minimize this issue, it nevertheless remains a limitation of our study. It is our hope that future research can help fix this issue.

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Table 1: Descriptive Statistics of Variables in Equation (2)

Panel A

Variable	Mean	Median	Std Dev
DevA	0.014	0.016	0.093
nol	0.466	0.000	0.499
cap	0.250	0.000	0.433
roa	0.029	0.029	0.044
auto	0.342	0.231	0.353
wkcomp	0.089	0.000	0.209
longtail	0.251	0.104	0.318
tail	0.518	0.536	0.391

Panel B

	DevA	nol	cap	roa	auto	wkcomp	longtail	tail
DevA		-0.094*	-0.060*	0.160*	-0.019*	-0.047*	0.093*	0.000
nol	-0.115*		0.046*	-0.164*	-0.002	0.013	-0.002	0.013
cap	-0.052*	0.046*		-0.122*	0.231*	-0.012	-0.182*	-0.050*
roa	0.195*	-0.197*	-0.122*		0.011	-0.042*	0.007	-0.019*
auto	-0.042*	0.015	0.233*	0.010		-0.226*	-0.504*	-0.079*
wkcomp	-0.099*	0.057*	-0.003	-0.117*	-0.003		-0.194*	0.041*
longtail	0.024*	0.014	-0.184*	-0.046*	-0.488*	-0.061*		0.264*
tail	0.102*	-0.005	-0.144*	-0.019*	-0.219*	0.170*	0.251*	

This table summarizes for the descriptive statistics for variables used in the decomposition of loss reserve errors, *DevA*. Reserve error is scaled by total assets.

The proxies for discretionary component are nol , cap , roa .

nol equals to 1 if the firm has net operating loss carryforwards.

cap takes a value of one if the ratio of statutory surplus to net premiums earned is in the lowest quartile and zero otherwise.

roa is the percentage return on assets.

The proxies for non-discretionary component are $tail$, $longtail$, $wkcomp$, and $auto$.

auto represents auto property and liability insurance.

wkcomp captures worker's compensation.

longtail includes some high-risk long-tailed line of business, such as product liability and medical malpractice.

tail is one minus the ratio of loss incurred this year for prior business to loss reserve at the beginning of the year.

Panel B presents the Pearson correlation matrix (above the diagonal) and Spearman correlation matrix (below the diagonal). The correlations marked with * are significant at least at the 5% level.

Table 2: Regressions of Loss Reserve Errors on Discretionary and Non-discretionary Proxies

	Variable	Coef.		t value	p-value
proxies for discretionary loss reserve errors	nol	-0.005	***	-3.22	0.001
	cap	-0.003	*	-1.7	0.089
	roa	0.122	***	7.17	<.0001
proxies for non-discretionary loss reserve errors	auto	0.007		1.03	0.303
	wkcomp	-0.023	***	-3.45	0.001
	longtail	-0.010		-1.59	0.111
	tail	-0.003		-1.32	0.186
R2	0.497				

Note: The dependent variable is loss reserve error scaled by total assets. All remaining variables are defined in Table 1. *** indicates significance at 1% levels. * indicates significance at 10% levels.

The coefficients of discretionary proxies, nol , cap , and roa , are consistent with our expectation and statistically significant. As for the non-discretionary proxies, the coefficient of $wkcomp$ is significantly negative, as expected. The coefficients of $tail$, $longtail$, and $auto$ do not have the same sign as our expectation and are insignificant statistically.

Table 3: Descriptive Statistics of Some Variables in Equation (3) and (4)

Panel A

Variable	Mean	Median	Std Dev
DevA	0.014	0.016	0.093
SENT	0.939	0.923	0.088
GDP	0.054	0.057	0.012
PremRate	0.389	0.376	0.218
Assetlog	18.602	18.568	1.974

Panel B(1): Annual variables

	SENT	GDP
SENT		0.456*
GDP	0.592*	

Panel B(2): Firm annual variables

	DevA	PremRate	Assetlog
DevA		-0.050*	-0.090*
PremRate	-0.045*		-0.111*
Assetlog	-0.072*	-0.088*	

This table summarizes for the descriptive statistics for some variables used in Equation (3) and (4). All the variables are presented after winsorizing all the variables at the 1st and the 99th percentile to remove the effect of outliers. DevA refers to reserve error scaled by total assets. Positive reserve errors are associated with over-reserving and negative reserve errors with under-reserving. The average insurer tends to overestimate reserves. We divide investor sentiment (SENT) by 100 to make it in the same scale with other variables. The mean (median) investor sentiment shows that, during the sample period, investors were slightly pessimistic. GDP represents the seasonally adjusted growth rate of gross domestic product. PremRate is the ratio of net premium earned over total asset. Assetlog means the natural log of firms' total assets.

Panel B presents the Pearson (above the diagonal) and Spearman (below the diagonal). The correlations marked with * are significant at least at the 5% level.

Table 4: Regressions of Discretionary vs. Non-discretionary Loss Reserve Error on Investor Sentiment
The regressions are based on the following equations:

$$DisDev_{it} = \alpha + \beta * SENT_{t-1} + \lambda * X_{t-1} + \gamma * Z_{it} + \varepsilon_{it}$$

$$NDisDev_{it} = \alpha + \beta * SENT_{t-1} + \lambda * X_{t-1} + \gamma * Z_{it} + \varepsilon_{it}$$

Panel A			
Dependent Variable: *DisDev*			
Variable	Coef.	t value	p-value
SENT	-0.0086***	-12.72	<.0001
GDP	0.0014***	24.06	<.0001
PremRate	-0.0047***	-10.47	<.0001
Assetlog	-0.0006***	-4.54	<.0001
R-Square	0.3407		

Panel B			
Dependent Variable: *NDisDev*			
Variable	Coef.	t value	p-value
SENT	0.0020***	5.96	<.0001
GDP	-0.0001***	-4.67	<.0001
PremRate	-0.0004*	-1.72	0.0854
Assetlog	-0.0005***	-8.09	<.0001
R-Square	0.7646		

Note: Table 4 reports the regression results of discretionary vs. non-discretionary loss reserve error on investor sentiment. In Panel A, the dependent variable is discretionary component of loss reserve errors. In Panel B, the dependent variable is non-discretionary component of loss reserve errors. All remaining variables are defined in Table 3. *** indicates significance at 1% levels. * indicates significance at 10% levels.

When the dependent variable is discretionary loss reserve errors, the coefficient on investor sentiment is negative and statistically significant at 1% level, indicating under- (over-) estimated nondiscretionary component of loss reserves during high (low) sentiment period. In the regression of non-discretionary loss reserve errors, the coefficient on investor sentiment is positive and statistically significant at 1% level, indicating no under- (over-) estimation on nondiscretionary component of loss reserves during high (low) sentiment period.

Table 5: Regressions of Discretionary vs. Non-discretionary Loss Reserve Error on Investor Sentiment
The regressions are based on the following equations:

$$DisDev_{it} = \alpha + \beta * SENT_{t-1} + \lambda * X_{t-1} + \gamma * Z_{it} + P_M + P_S + P_M * SENT_{t-1} + P_S * SENT_{t-1} + \varepsilon_{it}$$

$$NDisDev_{it} = \alpha + \beta * SENT_{t-1} + \lambda * X_{t-1} + \gamma * Z_{it} + P_M + P_S + P_M * SENT_{t-1} + P_S * SENT_{t-1} + \varepsilon_{it}$$

Panel A

Dependent Variable: *DisDev*

Variable	Coef.	t value	p-value
SENT	-0.0079***	-4.9	<.0001
GDP	0.0016***	25.9	<.0001
PremRate	-0.0047***	-10.56	<.0001
Assetlog	-0.0007***	-5.61	<.0001
PMl	0.0040**	2.21	0.0272
PM*SENT	-0.0027	-1.32	0.1859
PS	0.0091***	5.98	<.0001
PS*SENT	-0.0080***	-4.46	<.0001
R-Square	0.3466		

Panel B

Dependent Variable: *NDisDev*

Variable	Coef.	t value	p-value
SENT	0.0036***	4.51	<.0001
GDP	-0.0001***	-4.5	<.0001
PremRate	-0.0004*	-1.69	0.0911
Assetlog	-0.0005***	-7.94	<.0001
PM	0.0005	0.52	0.6052
PM*SENT	-0.0009	-0.9	0.3702
PS	0.0015**	1.98	0.0479
PS*SENT	-0.0019**	-2.19	0.0289
R-Square	0.7647		

Note: Table 5 reports the regression results of discretionary vs. non-discretionary loss reserve errors on investor sentiment with identification of stock and mutual insurers. In Panel A, the dependent variable is discretionary component of loss reserve errors. In Panel B, the dependent variable is non-discretionary component of loss reserve errors. *PS* and *PM* are dummy variables, which refer to stock and mutual property-liability insurers, respectively. *PS*SENT* and *PM*SENT* are the interaction items. All remaining variables are defined in Table 3. ***, **, and * indicate significance at 1%, 5%, and 10% levels, respectively.

SUCCESSFULLY TRANSITION INTO THE ERA OF TRANSIENT COMPETITIVE ADVANTAGES

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ABSTRACT

This paper establishes a practical procedure for a firm to transit smoothly into the era of fast strategic changes while its once sustainable competitive advantages have become transient. To accomplish this goal, this work first establishes two theoretical results by employing systemic thinking and traditional logic of microeconomic reasoning. The first result shows under what market conditions new competitions will naturally appear within an established market; the second result demonstrates why competitions within any business organization always exist inevitably. By combining previously published conclusions derived by using anecdotes and inductively reasoning and these theoretical results, this paper advances the systemic reasons for why a list of time-honored steps would practically work so that firms could successfully surf through waves of transient competitive advantages.

INTRODUCTION

In theory change is good. However, to most people change is difficult to cope with. Generally, change means and brings forward uncertainty, with which challenges to status quo could easily appear and do occur. Nevertheless, the modern world of business is changing fast, and evolving faster than ever before. And competition is intensifying due to the globalization of international economies and unification of international finances. With these accelerating change and development, once-sustainable competitive advantages have become transient, short-lived (McGrath, 2013). In other words, if a business organization does not or cannot transform itself along with the shifting landscape of the business world, it will be obsolete and become history in no time.

In the 1980s, Michael Porter (1998) defined competitive advantage as a function of either providing comparable buyer value more efficiently than competitors (low cost), or performing activities at comparable cost but in unique ways that create more buyer value than competitors and, therefore, command a premium price (differentiation). His theory has been one of the most commonly used by managers over the past few decades to assist business professionals in finding "a way to conceptualize the firm that would expose the underpinnings of competitive advantage and its sustainability." Has the growth of using technology created a business environment where competitive advantages have become transient and short-lived?

Looking at the long list of once-storied business organizations that are either gone or no longer relevant, a natural question arises: Are there necessary steps that a firm should go through in order for the firm to potentially ready itself for successfully riding waves of transient competitive advantages? To address this question, this paper establishes the following results by employing the intuition of systemic thinking and the rigor of game theory: (1) In an oligopoly market that satisfies certain conditions (see Section 3 for details), a sufficient and necessary condition for at least one firm to enter the market profitably, as a competitor of the incumbent firms, is that the consumer surplus $\beta = 1 - \alpha > 0$; and (2) competitions always exist within any organizational system that has at least two employees.

By applying these theoretical results and by relying on what has been derived inductively by McGrath (2013), this paper discusses four conditions that are necessary for a firm to meet in order to ready itself for successfully riding waves of transient competitive advantages. After establishing the underlying connections among the four conditions by employing systemic thinking, one case of success is analyzed to validate the established theory of this paper.

In terms of the literature, Duez (2012) derives a new paradigm for strategic management thought from the school of economic proximity. Saeidi, et al., (2015) consider sustainable competitive advantage, reputation, and customer satisfaction as three probable mediators in the relationship between corporate social responsibility and firm performance. These authors find that corporate social responsibility indirectly promotes firm performance through enhancing reputation and competitive advantage while improving the level of customer satisfaction. In the context of Chinese-like emerging economies, from a strategic process perspective, Li and Liu (2014) define the concept of a firm's dynamic capability as the firm's potential to systematically solve problems, formed by its propensity to sense opportunities and threats, to make timely decisions, and to implement strategic decisions and changes efficiently to ensure the right direction. Then they explore the relationship between dynamic capabilities and competitive advantage and the role environmental dynamism plays based on a sample of 217 enterprises from China.

Moustaghfir (2012) explains how knowledge assets provide firms with a competitive advantage and shows how organizational capabilities have the potential to produce long-term superior performance. Makadok (2010) predicts a negative interaction effect on profits of simultaneously restraining firms' rivalry and increasing competitive advantage. Carpenter, et al., (2014) use of the video games industry as an ideal laboratory to investigate the consequences of hyper-competition and implications of either maintaining competitive advantage or developing temporary advantages. By realizing the fact that our understanding of competitive advantage draws mostly upon the experience of Western firms, Peng, et al. (2001) uses the massive Japanese investment in an effort to replicate *keiretsu* (interfirm) networks in Asia since the 1980s to shed new light on the sources of competitive advantages. These authors develop a multilevel perspective by focusing on how competitive advantage is preserved and strengthened for firms, networks, and nations involved.

By developing a preliminary theory based on the literature of corporate innovation, social innovation, and corporate social innovation, Herrera (2015) uses case studies to build a framework that describes factors leading to successful corporate social innovation, which in turn creates opportunities for co-creation, thereby leading to shared value and enhancing competitive advantage if it is integrated into strategy and operations. Fronmueller (1996) builds a theory and uses a sample of large firms to test the relationship between backward vertical integration and low cost and that between forward vertical integration with differentiation-based competitive advantage. Peterson (2013) addresses the question of whether deploying compliance and ethics programs would assist U.S. organizations in implementing internal mechanisms necessary to achieve a competitive advantage from the law. By looking at exporting manufacturers, Leonidou, et al., (2015) examine the external and internal determinants of green export business strategy and its effects on export competitive advantage and performance. Their result confirms the instrumental role of both external forces (i.e., foreign environmental public concern and competitive intensity) and internal factors (i.e., top management green sensitivity and organizational green culture) in crafting an environmentally friendly export business strategy.

Hence, comparing what this paper develops and what has been established in the literature, it can be readily seen that this work enriches the relevant knowledge with new conclusions at the height of theoretical abstraction and a potential of much wider range of practical applications.

The rest of the paper is organized as follows. The following section introduces the basics of systems thinking and systemic intuition needed for the rest of the paper. The next section establishes two main theoretical results and their systemic intuition that lay down the foundation for the discussions of the following sections. The main section of this paper details the steps needed for a firm to adapt to the era of transient competitive advantages, which is followed by a section that looks at a case of success by focusing on a nearly two-century old firm, known as W. R. Grace. The final section concludes the presentation of this work.

SYSTEMS SCIENCE AND SYSTEMIC THINKING

To make this paper self-contained, this section introduces the basic ideas and a brief development history of systems science, how this science complements the conventional science to form a two-dimensional spectrum of knowledge, and the systemic yoyo model as the playground and intuition of systems science and applications. Because business scholars are quite familiar with game theory, the less relevant details of game theory are omitted.

Historically, von Bertalanffy (1924) pointed out that because the fundamental character of living things is their organization, the customary investigation of individual parts and processes cannot provide a complete explanation of the phenomenon of life. Since then, this holistic view of nature and social events has permeated the spectrum of science and technology (Lin, Y., 2009). And in the past 90 some years, studies in systems science and systems thinking have brought forward brand new understandings and discoveries to some of the major unsettled problems in science (Klir, 1985; Lin, Y., 1999). Because of the proliferation of studies of wholes, parts, and their relationships, a forest of interdisciplinary studies has appeared, revealing the development trend in modern science and technology of synthesizing all areas of knowledge into a few major blocks, and the boundaries of conventional disciplines have become blurred ("Mathematical Sciences," 1985). Underlying this trend, one can see the united effort of studying similar problems in different scientific fields on the basis of wholeness and parts, and of understanding the world in which we live by employing the point of view of interconnectedness. As tested in the past 90 plus years, the concept of systems and results of systems research have been widely accepted (Blauberg, et al., 1977; Klir, 2001).

Systems thinking is different from traditional thinking as it examines the linkages and interactions between the components that comprise the entirety of that defined system (Aronson, 1996; Lin, 1988). Each whole system consists of a basic unit, which in turn contains components, such as policies, processes, procedures and people, and may be divided into subsystems. Some consider systems as having clear external boundaries—closed systems—or connecting to its environment as an open system, which is the more common and realistic (Tate, 2009; Lin, 1999). This thinking methodology models the components of a system while connecting "the inputs and outputs among those components into a sensible whole that reflects the structure and dynamics of the phenomenon observed" (Kroenke and Boyle, 2016; Lin and Ma, 1987).

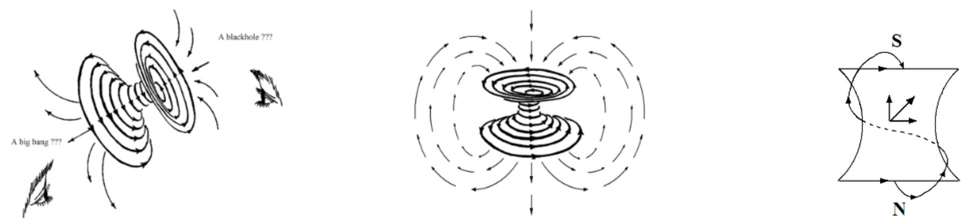
As a result of the technological revolution and increasing globalization, many business professionals say that systems thinking is one of the core competencies of 21st century leaders. Because of this, individuals need to become "system wise" in order to start applying systems thinking principles and practices to the firm. Individuals should understand that all parts of a system are interrelated and interdependent in some respect and without the interdependencies, the system would just be a collection of parts (Kim, 2016).

In terms of the concept of systems, similar to how numbers and algebraic variables are theoretically abstracted, systems can also be proposed out of any and every object, event, and process. For instance, behind collections of objects, say, apples, there is a set of numbers such as 0 (apples), 1 (apple), 2 (apples), 3 (apples), …; and behind each organization, such as a business firm, a regional economy, etc., there is an abstract, theoretical system within which the relevant whole, component parts, and their interconnectedness are emphasized. As a matter of fact, it is because of these interconnected whole and parts, the totality is known as a firm, market, industry, economy, etc. In other words, when internal structures can be ignored, numbers and algebraic variables can be very useful; otherwise the world consists of dominantly systems (or structures or organizations). In other words, systems thinking is different from traditional thinking as it examines the linkages and interactions between the components that comprise the entirety of that defined system (Aronson, 1996; Lin, 1999). Each whole system consists of components such as policies, processes, procedures and people, and may be divided into subsystems. Some consider systems as having clear external boundaries—closed systems—or connecting to its environment as an open system, which is the more common and realistic (Tate, 2009; Lin 1999).

When the traditional science is joined with systems science that investigates systemhood, that collectively gives rise of a 2-dimensional spectrum of knowledge, where the traditional science, which is classified by the thinghood it studies, constitutes the first dimension, and the systems science, which investigates structures and organizations, forms the genuine second dimension (Klir, 2001). In other words, systems research focuses on those properties of systems and associated problems that emanate from the general notion of structures and organizations, while the division of the traditional science has been done largely on properties of particular objects. Therefore, the former naturally transcends all the disciplines of the classical science and becomes a force making the existing disciplinary boundaries irrelevant and superficial.

The importance of this second dimension of knowledge cannot be in any way over-emphasized. By making use of this extra dimension, the exploration of knowledge has gained additional strength in terms of the capability of solving more problems that have been challenging the very survival of the mankind since the beginning of time. Such strong promise that systems research holds relies materialistically on the particular speaking language and thinking logic – the systemic yoyo model (Lin, Y., 2007), Figure 1, similar to how the Cartesian coordinate system plays its role in the development of modern science (Kline, 1972).

Specifically, on the basis of the blown-up theory (Wu and Lin, 2002) and the discussion on whether or not the world can be seen from the viewpoint of systems (Lin, Y., 1988; Lin, et al., 1990), the concepts of black holes, big bangs, and converging and diverging eddy motions are coined together in the model shown in Figure 1 for each object and every system imaginable. That is, each system is a multi-dimensional entity that spins about its axis. If we fathom such a spinning entity in our 3-dimensional space, we will have a structure as artistically shown in Figure 1(a). The black hole side pulls in all things, such as materials, information, energy, profit, etc. After funneling through the "neck", all things are spit out in the form of a big bang. Some of the materials, spit out from the end of big bang, never return to the other side and some will (Figure 1(b)). For the sake of convenience of communication, such a structure as shown in Figure 1(a), is referred to as a (Chinese) yoyo due to its general shape.



(a) (b) (c)

Figure 1. (a) Eddy motion model of the general system; (b) The meridian field of the yoyo model; (c) The typical trajectory of how matters return

What this systemic model says is that each physical or intellectual entity in the universe, be it a tangible or intangible object, a living being, an organization, a culture, a civilization, etc., can all be seen as a kind of realization of a certain multi-dimensional spinning yoyo with an eddy field around. It stays in a constant spinning motion as depicted in Figure 1(a). If it does stop its spinning, it will no longer exist as an identifiable system. What Figure 1(c) shows is that due to the interaction between the eddy field, which spins perpendicularly to the axis of spin, of the model, and the meridian field, which rotates parallel to axis of spin, all the materials that actually return to the black-hole side travel along a spiral trajectory.

As expected, this yoyo model has successfully played the role of intuition and playground for scholars who investigate the world and explore new knowledge holistically, just as what the Cartesian coordinate system did for the traditional science (Lin, Y., 2009; Lin and Forrest 2011; Forrest 2013; 2014; Forrest and Tao, 2014; Ying and Forrest, 2015). In particular, this yoyo model of general systems has been successfully applied in the investigation of Newtonian physics of motion, the concept of energy, economics, finance, history, foundations of mathematics, small-probability disastrous weather forecasting, civilization, business organizations, the mind, among others. Along this same line of logic, in this paper we will use this model as our intuition to establish our conclusions.

COMPETITIONS BOTH INTERNAL AND EXTERNAL TO A BUSINESS ORGANIZATION

To lay down the theoretical foundation for the rest of this paper, this section establishes two theorems on the basis of the systemic intuition of the yoyo model and on the rigor of game theory.

First, let us look at market competitions that are external to any incumbent firm of an established market. To this end, assume that the oligopoly market of our concern consists of m firms, m = 1, 2, …, providing consumers with mutually substitutable products, with their respective shares of loyal consumers. To protect their turfs while potentially increase their consumer bases, they compete over the switchers with adjustable prices charged to their customers in order to deter the potential entrance of new competitions (Forrest, et al., 2017). So, assume that these firms produce their horizontally differentiated products at constant marginal costs, which is set to zero without loss of generality. Assume consequently the managements of these m firms are well aware of the pricing strategies of the other firms and have established their best responses by playing the Nash equilibrium through pure self-analyses.

Speaking differently, the market is in a state of mutual forbearance, where incumbent firms mitigate rivalry by dividing markets in proportion to firm strength (Bernheim and Whinston, 1990). They cede dominance to their stronger competitors in those market segments where they are less efficient, while in exchange the latter do the same in segments where the former are more efficient (Li and Greenwood, 2004). The firms' codependence gradually motivates them to de-escalate rivalry (Yu and Cannella, 2012). Eventually, the rates of entry and exit in the market decrease (Fuentelsaz and Gómez, 2006), and interfirm hostility declines (Haveman and Nonnemaker, 2000). So, without loss of generality, let us consider the aggregate of the incumbent firms as one firm, whose share of occupancy of the market is α so that $\beta = 1 - \alpha$ represents the size of the market segment of switchers who base their purchase decision on which price is lower. Then, the following result holds true:

Theorem 1. In the afore-described oligopoly market, at least one firm profitably enters the market to compete with the incumbent firms, if and only if the size of the market segment of switchers is greater than zero.

The previously assumed market condition generally means that the technology involved and the relevant business operations have been standardized. So, for a new small firm to enter such a market with profit potential, it is reasonable to assume that this firm has come up with a more efficient technology and/or operation that can greatly reduce the overall business expenditure. Further assume that this small entrant uniformly randomizes its price P over the interval [0,1] as long as the firm could make profits on the average. Again, the constant marginal costs of this small entrant are set to zero without loss of generality.

Before we provide a detailed proof for this theorem, let us first see intuitively why such a result holds true. To this end, let us fathom the market place is as an abstract yoyo field, and we look at the multi-dimensional yoyo body at a distance from above either the convergent side or the divergent side, while imagine that everything here takes place in our 3-dimensional space. That is, we are looking at a pool of spinning fluid, where the word "fluid" is an abstraction of movement of all kinds of media, such as goods, information, money, credit, etc., that appear and exist in business activities. In other words, graphically one is looking at the market of concern as the pool of spinning fluid shown in Figure 2.

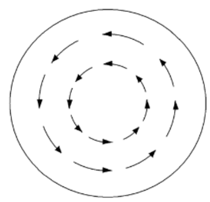


Figure 2. The systemic birds-eye view of our marketplace of a previously prosperous market

Associated with this end of intuition, the well-known dishpan experiment, which was initially conducted successfully by Raymond Hide (1953) of Cambridge University, England, and then by Dave Fultz and his colleagues of University of Chicago (1959) independently, shows that when the movement of the fluid within the rotational dish is under enough pressure created by either the sufficient speed of rotation or sufficient difference in the temperature between the center and the periphery of the dish, the pattern of uniform movement, as shown in Figure 2, will develop into the chaos, as shown in Figure 3. The number of local eddy leaves is determined either by the rotational speed or by the temperature difference or both and increases with the speed and the temperature difference.

Now, the systemic modeling and laboratory experiment suggest that the fluid nowhere within this spinning dish could avoid being disturbed by the flows, either orderly or chaotically, of the pan. And being disturbed regionally means that a local flow pattern will appear inevitably.

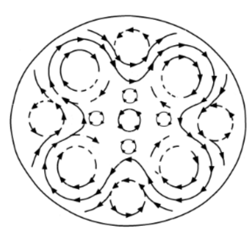


Figure 3. Asymmetric flow observed in Fultz's dishpan experiment

Proof of Theorem 1. (⇒) Suppose that by randomizing its price over the interval [0,1] a small firm enters into the oligopoly market of m firms, which are collectively seen as one aggregate firm, because these m firms are in a state of mutual forbearance. So, the consumer surplus must satisfy $\beta = 1 - \alpha > 0$.

(⇐) Assume that the consumer surplus satisfies $\beta = 1 - \alpha > 0$. Firstly, let α_0 be a real number so that $\beta = 1 - \alpha > \alpha_0 > 0$, and $\alpha = \ell\alpha_0$, where ℓ is a large natural number, indicating that the market has been largely taken by the incumbent firms.

Secondly, let us imagine that the aggregate firm is divided into ℓ many identical "firms", named i, i = 1, 2, …, ℓ. Each of them provides consumers with identical products and enjoys the market share $\alpha_0 = \alpha/\ell$ of loyal consumers. These imaginary firms compete over the switchers with adjustable prices. Because these imaginary firms are really equal partitions of the same aggregate firm, they have the same constant marginal cost, which is set to zero without loss of generality, the managements of these firms are fully aware of the pricing strategies used by all the firms (because the firms are managed by the same administrative unit), and they establish their best, identical responses by playing the Nash equilibrium through their unified self-analyses.

Thirdly, these ℓ imaginary firms do not have any symmetric pure strategy Nash equilibrium. (For the setup here, there is no need to consider asymmetric pure strategy Nash equilibrium, because all these imaginary firms take identical actions). In fact, for any symmetric pure strategy portfolio $(x_1, x_2, \dots, x_\ell)$, where $x_i = x_j$, for i, j = 1, 2, …, ℓ, a randomly chosen Firm j ($\in \{1, 2, \dots, \ell\}$) can slightly lower its price from x_j to x_j' to produce additional profits for all the firms as long as $x_j'\beta > (x_j - x_j')\alpha$, which is possible to do by adjusting x_j' sufficiently close to x_j. So, $(x_1, x_2, \dots, x_\ell)$ is not an Nash equilibrium. Even so, (Forrest, et al., 2017) shows that these ℓ firms do have a symmetric mixed-strategy Nash equilibrium.

For the rest of this proof, it suffices to show that there is one small firm that will be expected to profit by entering this market through uniformly randomizing its price strategy over the interval [0,1].

Let $F(P)$ be the price distribution of Firm j, one of the imaginary firms of the aggregate firm. The aggregate firm or equivalently each of the ℓ imaginary forms sets its price after taking into account the price of the new firm and those of all other imaginary firms. Hence, the profits for Firm j from its loyal consumers is $\alpha_0 P$ and those from its share of the switchers is $\sum_{i\neq j}^{\ell}(1-P)[1-F(P)]\beta P = \beta P(1-P)[1-F(P)]^{\ell-1}$. Hence, the profits Π Firm j generates when the firm sells its product at price P are $\alpha_0 P + \beta P(1-P)[1-F(P)]^{\ell-1}$ and the objective function of Firm j is

$$max_{F(P)} E(\Pi) = \int_{-\infty}^{+\infty} \{\alpha_0 P + \beta P(1-P)[1-F(P)]^{\ell-1}\} dF(P)$$
$$= \int_{0}^{1} \{\alpha_0 P + \beta P(1-P)[1-F(P)]^{\ell-1}\} dF(P)$$

where $E(\Pi)$ stands for Firm j's expected profits for all possible prices, and the objective for Firm j is to maximize its expected profits by choosing its price distribution $F(P)$. The reason why the upper and lower limits of the integral are changed respectively from $+\infty$ and $-\infty$ to 1 and 0 is because when $P < 0$ or when $P > 1$, the profits are zero.

The equilibrium indifference condition of Firm j is

$$\alpha_0 \times P + \beta \times P(1-P)[1-F(P)]^{\ell-1} = \alpha_0 \times 1 \qquad (1)$$

So, for the ℓ imaginary firms, solving equation (1) leads to their symmetric equilibrium pricing strategy as follows:

$$F(P) = 1 - \left(\frac{\alpha_0}{\beta P}\right)^{\frac{1}{\ell-1}} \qquad (2)$$

From $\beta > \alpha_0$, it follows that $\alpha_0/\beta < 1$. So, for any Price P, satisfying $1 \geq P \geq \alpha_0/\beta$, equation (2) is a well-defined probability distribution. This end implies that for the ℓ imaginary firms, or equivalently, the aggregate firm, the lowest allowed price is α_0/β.

This proof is complete from the fact that the profits of the small entrant

$$E(\Pi) = \int_0^{\alpha_0/\beta} \beta P dP + \int_{\alpha_0/\beta}^{+\infty} \beta P[1-F(P)]^{\ell} dP \qquad (3a)$$
$$= \int_0^{\alpha_0/\beta} \beta P dP + \int_{\alpha_0/\beta}^{1} \beta P[1-F(P)]^{\ell} dP + \beta\left(\frac{\alpha_0}{\beta}\right)^{\ell/(\ell-1)} \qquad (3b)$$

is positive, where the first term in the right-hand side of equation (3a) stands for the expected profits of the small entrant when it charges the lowest price in the marketplace and captures the entire segment of the switchers, the second term is the small entrant's expected profits when it is in direct competition with the ℓ incumbent firms, and the third term in equation (3b) comes from the mass point of size $(\alpha_0/\beta)^{1/(\ell-1)}$ of $F(P)$ at the reservation price $P = 1$. This end implies that if the consumer surplus $\beta = 1 - \alpha > 0$, there will be at least one small entrant that will enter the market to compete with the incumbent firms. QED

The result in Theorem 1 indicates that although the m incumbent firms are risk neutral and want to continuously reap in their respective profits by securely defending their established turfs, they still have to fight over the switchers of the marketplace in order to eliminate the switcher segment. Otherwise, new competition(s) will inevitably enter the market with potential of making good profits.

Next, let us look at competitions that materially exist within any organizational entity with at least two employees as reflected by the individual value systems of employees. Generally, no matter which business entity is concerned with, there are competitions in terms of how the organization should be managed, how the detailed operations should be carried out, and how employees' efforts and devotions should be directed. And each stakeholder of the organization always seems to have ideas about how things could improve.

One reason why we discover abundant competitive situations is because each person, as a living being that is severely limited by its sensing organs, looks at the world with a pair of colored eyes. The word "color" in the literature is also known by such terms as personal values and/or philosophical assumptions about the world (Lin and Forrest, 2011; Villalobos and Vargas, 2015; Terán, et al., 2015). In other words, because philosophical assumptions and value systems vary from one person to another, from one people to another, from one culture to another, …, the same physical world becomes extremely beautiful and multi-colored when people individually try to describe what they see and what the world is really about.

By underlying assumptions and values of philosophy, we mean the value system of a person that consists of his/her beliefs about how the world functions and his/her moral codes with which he/she is recognized with his/her particular identity and integrity (Lin and Forrest, 2011). From the systemic yoyo model, it follows that each human being lives in a vast ocean of spinning yoyo fields, which consists of the fields of other people, physical objects, abstract thoughts, and myriad of other things and matters. Soon after a person is born, he/she starts to interact with the world. It is these interactions with people, physical objects, abstract thoughts, and the myriad of other things and matter that shape the person's philosophical assumptions and values, similar to how a civilization formulates its value system (Lin and Forrest, 2011). Because of the subtle differences between the interactions experienced by one person from those by another person, each person has his/her own set of very specific philosophical assumptions and values, which dictate the behaviors and decision making of the person for the rest of his/her life. Although the differences might be "subtle" when seen from the angle of the magnificent scale of the entire ocean of spin fields, they are generally major to the individuals involved, causing important differences in the relevant personal value systems. That actually explains why children who grow up in the same household may have quite different personalities, characteristics, and thinking processes. And that explains why different people have different underlying philosophical assumptions and values (the value systems), because firstly no two people grow up within a perfectly identical environment, and secondly with age people's philosophical assumptions and values evolve according to their respectively changing environments. For a more in-depth discussion, see (Forrest and Orvis, 2016).

Proposition 1. Competitions always exist within any organizational system that has at least two employees.

In fact, because no two employees share the same system of values, any two employees will look at many aspects of the organizational system differently. That difference between their value systems leads to competitive consequences of the two employees.

MAKING THE FIRM ADAPT TO THE ERA OF TRANSIENT ADVANTAGES

Based on the systemic thinking, as presented in Section 2, and the theoretical results in Section 3, this section is the main theory of this work that develops a detailed procedure of particular steps necessary for the firm to acclimate to and succeed in the era of transient competitive advantages.

To lay down the common ground as our reference point for discussion, the first subsection describes the elementary characteristics of the firm that operates within the old strategic framework of sustainable competitive advantages. Then we look at the steps necessary for the firm to successfully ride the waves of ephemeral advantages in the following subsections by emphasizing on the critical significance of having a long-term, unwavering ambition, the importance of having stable relationships both internally and externally, the absolute need to stay strategically agile, and the necessity of making innovation the norm.

Characteristics of the Firm

Historically, the firm was initially a family workshop that produced whatever the family needed and then some additional products desired by the neighbors. With increasing demand from outside the family, some unskilled and uneducated labors of the neighborhood families were hired during their idling times and off seasons from their land works. Over time, the family-based workshop evolved into a factory with the original raw labors becoming skilled, organized, full-time factory workers. As the average income of the population grew, the increasing purchasing power of the market gradually transformed the family-controlled factory of primitive technologies into a prospering, powerful modern industrial organization. For an excellent presentation on how business firms evolve over time, see (Wen, 2016).

In its successful evolution, the firm has excelled in every stage of development in terms of its organizational structure and culture, and its competition with other players within the same industry. The firm recognizes that its success has been heavily relied on finding a favorable position in a defined industry and then exploiting its long-term competitive advantages, while using innovations, although they are separate from the firm's core activities, to create new business opportunities. Since advantages are long-term and sustainable, as soon as the firm has achieved a solid position within its industry, it optimizes its people, assets, and systems around its advantages, while promotes people who are good at running big businesses, operates with greater efficiency, and minimizes costs. The management structure directs resources and talent to strong core businesses, which are associated with high performance. In other words, the firm optimizes its systems and processes around a set of sustainable advantages.

For decades, due to various barriers of entry, such as colossal expenses, technological sophistication, regulatory limitations, etc., this business model has been working wonders; and the firm has dominated the market. That further ratifies the firm's beliefs that each industry consists of enduring and stable competitive forces and the interactive pattern of these forces could be extrapolated into the future with sustainable benefits.

However, in recent years, the constraints that held this business model in place have eroded. Boundaries between industries have become blurred, the mass market fragmented, ample varieties of the same product introduced. Additionally, the advent of internet has facilitated an explosion of seemingly infinite possibilities for meeting the demand of consumers. This relaxation of constraints has fundamentally undermined the established business mode. Furthermore, many firms' advantages have become standards in the industry, such as online package tracking, making it difficult for the firm to maintain a competitive advantage for any length of time. And, the most important dynamic the firm experiences is no longer intra-industrial competition but rather regular invasions of players from other industries. So, the firm realizes that traditional approaches to strategy and innovation are no longer keeping pace with the speed of change of the markets in which it is competing. Nonetheless, the advantages' past sustainability has led to the build-up of inertia and power along the lines of the existing business model. It has allowed people to fall into routines and habits of mind, resulting in the conditions for turf wars and organizational rigidity. While innovation has become more restricted, the firm has fostered denial reactions rather than proactive designs of strategic next steps. Because of its preference for equilibrium and stability, many shifts in the marketplace have met by the firm's leaders denying that these shifts mean anything negative for them.

The accelerating speed of the new economy has made the firm face situations in which advantages are copied quickly, technology changes rapidly, while customers seek other alternatives. Such new market dynamics make the firm believe that it doesn't have time to implement management tools, and feels understaffed so that it consequently is sticking increasingly to tools it has already had experience with. Ironically, at the same time, despite a lot of innovations in management tools and approaches, the firm is increasing its reliance on strategy tools that it had inherited from the past. As the sustainable competitive advantages of the past are replaced with transient ones, the deeply ingrained structures and systems designed to extract maximum value from a competitive advantage have turned out to be liabilities when the environment requires instead the capability to surf through waves of short-lived opportunities. Evidently, to compete in such more volatile and uncertain environments, the firm needs to do things and conduct its business differently.

Because of the digital revolution, instead of within-industry competition being the most significant competitive threat, the firm faces competitions from other industries, and even from different business models. So, in order to adequately analyze what is really going on at the level that decisions need to be made, the firm has to conduct its analysis at a more granular level of arenas (McGrath, 2013) that reflects the connection between market segment, offer, and geographic location and connects customers and solutions beyond the conventional description of offerings that are near substitutes for one another. In other words, the firm needs to analyze how to meet the challenge of particular rivals in specific geographic locations with certain technology.

The firm faces with the necessity to produce the outcomes that particular customers seek and alternative ways those outcomes might be met in order to continue its success. It is because the most substantial threats to the firm's advantages could potentially appear in nonobvious locations. In other words, the firm has to learn to leverage such ephemeral matters as deep customer relationships and the capability to design irreplaceable experiences across multiple arenas, because advantages based on product features, new technologies, the "better mousetrap", etc., are shown to be less durable than once believed. In fact, short-term advantages only provide a snapshot of a firm's strengths and weaknesses, as well as the competitive "battlefield" they are moving toward (Maxwell, 2010). The firm will have to focus on creating capabilities and skills that will be relevant to whatever arenas it happens to find itself operating in. And it may even have to be more relaxed about traditional protections and barriers to entry, because competition will devolve around highly intangible and emotional factors.

Instead of focusing on its relative position with respect to other players in the same industry, its market share, and traditional kinds of competitive threats, such as product introduction, pricing, promotions, and so on, the firm has to spend additional time and energy to think about creating products and services in multiple industries in order to succeed with the concept of arenas. For example, the firm should consider establishing a cash management account, as Merrill Lunch did in the 1980s when no money-center bank realized what was going on, or move into telephone operating systems and online video, as Google did recently, or edge into health care, as retailers, such as Walmart, are doing. The idea is that the firm should aim at producing outcomes that are arena based instead of industry based.

Steps Needed for the Successful Transition

When companies' competitive advantages were sustainable in the past, the emphasis of strategic decision making was to invest in capabilities to spot industry trends and design the corresponding strategy so that decent payoffs could be obtained. The underlying assumptions behind this practice, which had been taken as gospel, were that each industry is relatively stable, consists of relatively enduring and stable competitive forces, and that the interactive pattern of these forces could be extrapolated into the future. From that derived were the beliefs that industry matters most and that when the existing forces are deeply understood, one can create a road map for other decisions that would last for at least some time. In other words, the major assumption was that the world of the near future, such as five years from now, was, to some extent, comprehensible today.

However, with the world economy increasingly globalized, the sustainable competitive advantages of the past have become transient, market conditions evolve much, much faster, and customers become less and less patient than ever before. So, a real challenge all successful companies face today is how to adjust themselves to effectively ride evolutionary waves of competitive advantages, where each wave consists of the following phases: launch, ramp-up, exploitation, and disengagement. In particular, during the launch phase, new opportunities are identified, resources re-allocated, and a team of people with different expertise is assembled to create something new. This phase emphasizes on innovation and consequent discovery of new development directions. During the ramp-up phase, if an opportunity gets traction, then the newly developed advantage starts to expand from the initial few segments into more and more market areas. The business gains ground; systems and processes for getting the business to scale are implemented; the initial experiments become full-scaled market introductions. If the ramp-up phase is successful, the company will enjoy a period of exploitation when the business is doing well and generating good profits. During this phase, the firm establishes a clear, advantageous differentiation from competitors, its market share and profitability expand with attractive prices and profit margins. When an advantage is exhausted, the profitable opportunity will undergo a process of erosion. By disengaging, the firm disposes of its assets and other capabilities that are no longer relevant to its future. Here, disengagement is not the same as business failure. As a matter of fact, disengagement starts to take place when the business is still profitable (McGrath, 2013).

McGrath (2013) looks at every publicly traded company globally with a market capitalization of over $1 billion U.S. dollars as of the end of 2009, which totals 4,793 firms. Then she examines the number of these firms that had been able to grow revenues by at least 5% annually for the proceeding five years from 2004 – 2009, where 5% was the least whole percentage number above the global gross domestic product growth ($\approx$ 4%) during this time period (Mahanta, 2012). As the result, she identifies ten growth outliers. Based on what is summarized by McGrath from studying these ten growth outliers and based on what is established in the previous section, one can see that to prepare a firm effectively riding evolutionary waves of transient competitive advantages, the following steps need to be followed:

- Aim at realizing a long-term, unwavering ambition;
- Stabilize relationships;
- Foster strategic agility; and
- Make innovation the norm.

We will next dive into details of these steps in the following subsections.

A Long-Term, Unwavering Ambition

The first and foremost step for the firm to become successful in riding waves of transient competitive advantages is to establish a long-term, unwavering public commitment to the ambition of becoming world class, the best of the world; and such ambition is embraced, endorsed, and sought after by the leadership of the firm. With such an outsized ambition (relative to competitors) in place, the leadership will have to naturally set the bar high while have a clear sense of strategic direction in every endeavor. It will also promote common key themes that are the results of compelling strategy diagnoses in its attempt to steer the firm's development in the desired direction.

Here, the leadership commitment is the key. As a matter of fact, leadership is one of the most salient aspects of the organizational context. It is the process of social influence in which one person or a small group of people can enlist the aid and support of others in the accomplishment of a common task (Chemers, 2001), or ultimately it is about creating a way for people to work together and to make something extraordinary happen (Kouzes and Posner, 2007). When the firm desires to be the best, its selected leaders would most likely possess the following key traits and demonstrate a pattern of motives (Kirkpatrick and Locke 1991; McClelland, 1975): drive (a broad term which includes achievement, motivation, ambition, energy, tenacity, and initiative), motivation (the desire to lead but not to seek power as an end in itself), honesty, integrity, self-confidence (which is associated with emotional stability), cognitive ability, and knowledge of the business. For a systematic analysis on the concept of leadership, see (Lin and Forrest, 2011).

As for why leadership is important in terms of the systemic yoyo model, it is because leadership stands for one's capability to adjust his underlying field structure so that many other neighboring fields would spin in similar fashions without much difficult readjustment. In particular, if one can utilize a process of social influence to obtain aids and supports of others in accomplishing a common task (Chemers, 2001), it implies that there has appeared a big whirlpool (the ambition). This pool might initially be conceptual and physically invisible. However it does cover a large territory, within which many smaller fields (individual people) are located. Now, the leader is the person who can realign all the individual eddy fields in such a way that the conceptual large field becomes a visible reality. In this systemic modelling, the initially invisible large field is the expected something extraordinary (Lin and Forrest, 2011).

To showcase the firm's achievements to the world, not surprisingly, references to awards and recognitions need to be literally festooned on its corporate website. The key here is that whatever venture the firm is engaged in and whichever strategy the firm employs are grounded in a compelling ambition. That provides an aiming point for the employees within the firm to work towards and a comforting point for customers outside the firm to buy the products and use the service the firm produces and provides.

Notice that the ultimate ambition of the firm needs to be stretch so that its attainment and maintenance cannot be easily accomplished. For example, being the "world class, the best" represents a dynamic state that can only be attained and maintained through continuous effort and trying. This end is important to long-term reconfiguration of the firm, and will help prevent the firm from becoming complacent and content to pursue yesterday's advantages. At the same time, what are important are particular mechanisms that will keep complacency at bay, such as moving people around within the company in order to facilitate their looking at the business in different ways from different vantage points.

Accompanying the stretch ambition, the firm needs to invest in creating an organizational identity, culture, and commitment to leadership development by paying considerable attention to values, codes, and alignment (Proposition 1). The ambition plays the role of the conceptual starting point for all activities, while the investment aims at establishing a practically useful foundation for materializing the goal by providing trainings, because the necessary cultural foundation would allow the firm to make changes when it needs to. A desirable culture is the foundation of success for the firm, represents a very important process to the long-term health and success of the company.

As implied by Proposition 1, in order for the firm to move from one set of advantages to another, the firm has to consciously set out to educate and up-kill its people. To make this end practically possible, the firm has to hire employees based on their ability to learn new things, or their learnability. And to avoid having to fire people when competitive conditions shift, the firm must continuously train and develop its people. In other words, when the firm is ambitious with the goal of becoming the best, it has to prepare itself to ride with the tide of market waves. To make this possible, training people to be able to move from one advantage to another becomes a cost of doing business. It is just as important a bill to pay as the one the firm pays to keep the lights on and computers running. Investing in employees' capacity to move around eliminates a tremendous barrier to change and emphasizes the creation of transition capability.

Stable Relationships

The second most important step for the firm to successfully ride waves of transient competitive advantages is to maintain an endogenous stability in terms of the firm's ambition and relevant strategy statements no matter how chaotic the external world could be or how the firm is in the midst of major change. In other words, the firm needs to be so sufficiently stable endogenously that it does not internalize any chaos from its environment, and does not alter its predetermined, conceptual path of development even when the internal affairs are difficult due to either changes in adopted strategies, or disengaging from old advantages and launching new advantages.

In terms of systemic thinking, the yoyo field of the firm is always located within the conflicts of much large yoyo fields (of other entities in the environment). If we model the field of the firm as *m* in Figure 4, then for the scenario in Figure 4(a), small yoyo *m* will be pushed upward by the meridian fields of *N* and *M* along the direction of $X \rightarrow Y$. If the meridian field Y of *N* is much stronger than that of *M*, then the majority of the yoyo structure of *m* will be pulled into the field of *N*. On the other hand, if the meridian field of *M* is much stronger, then the majority of the yoyo structure of *m* will be pulled into the field of *M*. If the meridian fields Y of both *N* and *M* are roughly the same strength, then the existing yoyo structure *m* will be torn apart into pieces, some of which will be absorbed by either *N* or *M*. For the situation in Figure 4(b), the meridian field u of *m* is pushed upward by the meridian field X of *N*, and the meridian field v of *m* is attracted downward due to the fact that the same polarities repel and opposite attract. So, yoyo *m* will spin clockwise in order to reposition itself as in that of Figure 4(a). If when it reaches the top of the combined meridian field of *N* and *M*, it is still in a position as shown in Figure 4(b), then it will be absorbed by *N*; if at that moment, it is positioned like in Figure 4(a), then it will be destroyed as described in the analysis of Figure 4(a).

For the scenario in Figure 4(c), once again due to the property that the like polarities repel and opposite attract, the small yoyo *m* will experience counterclockwise spin in its general upward movement. If at the top of the combined meridian field of *N* and *M*, yoyo *m* is still in its position as in Figure 4(c), then it will be absorbed into *M*; if it is poisoned as in Figure 4(a), it then will be destroyed by the meridian fields of *N* and *M*. For the situation in Figure 4(d), yoyo *m* experiences an extreme instability due to its positioning of the polarities. If the field intensity of *N* and *M* working on *m* are the same, the general upward movement of *m* will be sped up. If one of meridian fields of *N* and *M* is stronger, then yoyo *m* will be lifted further upward on that side, causing *m* to spin either clockwise (if the meridian field of *N* is stronger) or counterclockwise (if the meridian field of *M* is stronger). In either case, *m* will be repositioned in one of the situation as in Figure 4(b) or (c).

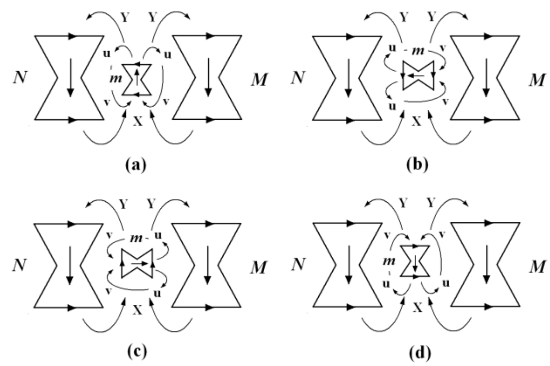


Figure 4. The fate of yoyo *m* within the conflict between *N* and *M*, whose meridian and eddy fields spin harmonically. Cases (a) – (d) provide respectively different positions of *m* within the meridian fields of *N* and *M*

Similarly, the survival of the much smaller yoyo field *m* within the interaction between two relatively greater yoyos *N* and *M* as shown in Figures 5 and 6 can be analyzed. These figures depict the three most general scenarios of how the much greater yoyos *N* and *M* can be interacting with each other.

To materialize the established stretch ambition, the firm has to first stay viable as a system (or endogenous stability). So, these systemic analyses imply that to achieve the needed endogenous stability, which is fundamental for the firm to stay as a viable system, the executive team of the firm needs to create a tremendous force for stability by sticking to the pre-determined simple strategic priorities, by building culture and developing talent, and by leveraging a few core capabilities. And to maintain the operational consistency and stability in the leadership, the most senior executive of the firm should be promoted from an internal position. Otherwise the needed consistency and stability in leadership will be most likely interrupted by white knights and outside-the-industry saviors. And because achievements of the firm could only be consequences of collectively works of all stakeholders, the most senior leaders should generally be kept in low profiles instead of being high-profile public figures, although they need to be respected, acknowledged for their contributions, and somewhat visible in the press.

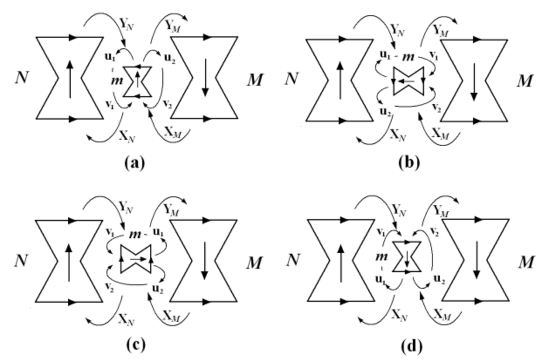


Figure 5. The fate of yoyo *m* within the conflict between *N* and *M*, whose meridian fields spin in opposite directions while eddy fields harmonically. Cases (a) – (d) provide respectively different positions of *m* within the meridian fields of *N* and *M*

The analyses of Figures 4 – 6 also indicate that to stay viable within the turbulent conflicts of *N* and *M*, the firm *m* has to keep its input-output flows stable. That implies that the firm has to maintain extremely stable relationships with its clients and ecosystem partners, otherwise these relationships would be difficult to re-establish as indicated by Theorem 1. In other words, the firm changes in an evolutionary manner as its customers' preferences and needs change; and that in fact aligns the interests of the firm's clients and service firms rather than pitting their against one another. The fact that some outputs in Figure 1(a) do not return back into the system as inputs means that when it becomes obviously clear that some employees can no longer be redeployed or retrained, then a parting of the ways is necessary. And when this is the only option, the firm should well manage these separations so that those, who are either fired or laid off, maintain good relationships with the firm.

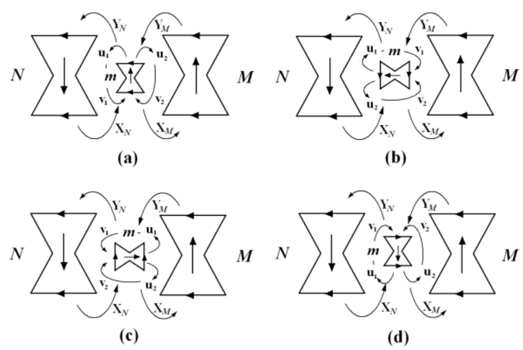


Figure 6. The fate of yoyo *m* within the conflict between *N* and *M*, whose meridian fields spin in opposite directions while eddy fields harmonically. Cases (a) – (d) provide respectively different positions of *m* within the meridian fields of *N* and *M*

Strategic Agility

In the previous subsection, we discussed the important step of creating internal stability over time in terms of the firm's vision, management strategy, organizational culture, and leadership. However, equally important to these established internal systems and structures are well-developed and sophisticated approaches to fostering strategic agility to sparking change routinely and consistently in order to avoid as much downsizing, restructuring, or sell-offs as possible.

Instead of having processes for major downsizing, dramatic restructuring, and otherwise getting out of declining areas in a big way in the face of ephemeral competitive advantages, the firm should embed changes in its normal routines, reallocate resources flexibly and on an ongoing basis. The firm should redeploy resources and shift emphases by accepting industry evolution, especially regarding technology, and by embracing the changes in order to enter new markets instead of cutting costs, divesting, and taking sudden, wrenching exits. In particular, the firm should use industry changes as opportunities to disengage and exit old businesses and enter new market segments with higher growth potential, and to integrate their old technologies into new waves instead of divesting completely. By accepting the evolution of its industries, the firm should choose to upgrade for the purpose of moving up the value chain.

When exiting an area, the firm should follow an evolutionary path by slowing down the allocation of resources to the area. So, instead of chopping off the area, it lives its life and the related activities find their way to insignificance in a period of time. At the same time, the relevant leadership and talent are repurposed for other efforts and people are assigned to other responsibilities. To achieve such desirable outcome, the budgeting and the allocation of major resources need to be fast, flexible, and have to be managed centrally in order not to be held hostage by powerful executives. (In many companies resources are trapped (or held "hostage") at the divisional or business unit level. When one area of the business is under pressure or an opportunity falls between units, it is generally difficult for a company to respond effectively because incumbent executives regard change as a threat.) To successfully ride waves of transient competitive advantages, the firm has to centrally coordinate its decision making with respect to major strategic challenges, while giving considerable latitude for action at the business unit level.

In terms of the systemic yoyo model, what previous subsection discussed is how to keep the yoyo field of the firm as solid as possible so that it can readily change its orientations and positions with the evolving environment. And in this subsection, we look at how the yoyo field of the firm *N* should be managed so that a profitable, but eroding, business area should be disengaged with resources reallocated. Figure 7 shows how the process of disengagement takes place. In particular, the firm is the yoyo field *N* in the scenario in Figure 7, where the competitive advantage of business area d_2 is eroding although it is still profitable. By isolating d_2 out from the rest of the operation, d_2 is split out from the yoyo field of the original yoyo field *N* of the firm into the independent yoyo field *E*, while the firm's allocation of resources is divided into two portions labelled by u. One of these portions represents resources available for exploring new opportunities.

The evolution from the original yoyo field *N* into *P* + *E* can be detailed as follows. One of the d-quarks in *N* is split off and becomes *E* (Lin and He, 2010). Without loss of generality, assume that d_2-quark is split off from *N*. When d_2-quark leaves *N*, it takes a piece of the u-quark with it. Right before the piece of the u-quark leaves *N* (Figure 8(a)), the original even flow of materials in the black-hole side of *N* is greatly affected. In particular, into area A in Figure 8(a) no more material is supplied so that a relative vacuum is created, while due to conflicts in spinning directions, area B is jammed with extra materials. At the same time, when the original spinning flows plus the accumulated strength of pushing in area B throws the newly formed regional u-quark out of the eddy field of *N* along the direction of the arrow T, the congestion in area B and the vacuum in area A establish a new u-quark on the left hand side to these areas. So, the flow pattern in Figure 8(b), as shown from above the black-hole side of the original yoyo *N*, is formed, where the local eddy motion on the right hand side is the residual pool left behind by the departed u-quark in Figure 8(a).

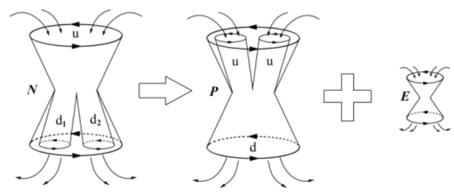


Figure 7. A profitable business area is disengaged

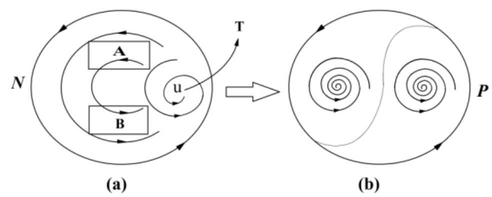


Figure 8. The mechanism for the formation of two converging sub-eddies

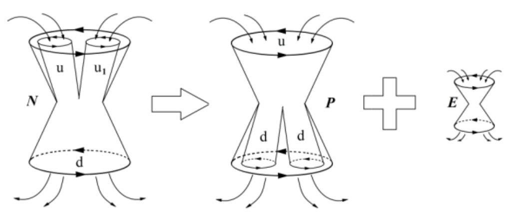


Figure 9. A non-profitable resource allocation is disengaged

Similarly, we can analyze the scenario that an opportunity during a ramp-up phase gets some traction, but not sufficient enough for the firm to bring the newly developed opportunity up to scale. In this case, the firm could conveniently spin off the opportunity into an independent entity, while still use its outputs as those of the firm.

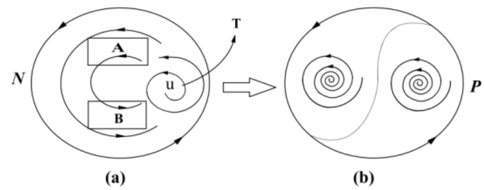


Figure 10. The mechanism for the formation of two diverging sub-eddies

In particular, Figure 9 shows the process of the split of the firm *N* into *P* and *E*, where the u_1-quark is split off to become *E*, while the original d-quark in *N* evolves into the structure of 2 d-quarks in *P*. The appearance of the 2 d-quarks in P is analyzed in Figure 10 similar to that is done with Figure 8 above. All the details are omitted here.

Making Innovation the Norm

As discussed in Subsection 4.2.1, having the stretch ambition of becoming "world class and the best of the world" means that the firm has to keep up with the most recent developments in the industries it competes in and find ways to lead in at least some of the developments. In other words, the firm needs to make considerable investments in flexibility and innovation.

In terms of flexibility, it means the capability for the firm to readily adopt new procedures and systems that will increase the situation at hands. For example, if the traditional annual budgeting processes and efficiency-oriented values no longer work efficiently, then the firm needs to enthusiastically modify the processes and values, even if this might lead to a small degree of sub-optimization. To reflect the unwavering commitment to the established ambition, the firm should go as far as to create a corresponding award system in which the employees who best exemplify the firm's values are rewarded.

The key principle behind flexibility is that the adjusted pace of operations allows the firm to be extremely responsive to changes in the environment, and to catch the need to make changes and adapt earlier than other companies. To practically implement this principle, of course, the firm has to deal with a major barrier to effective change, the fear and sense of career risk that often lead managers to cling onto eroding businesses long after they should have moved on.

In terms of innovation, it represents the firm's attempt to lead in at least some of the developments in the industries it competes in. So, rather than being an episodic, on-again, off-again endeavor, innovation has to be continuous, mainstream, and part of everyone's job. To candidly echo the culture of innovative spirits, innovation and opportunity recognition processes should appear unequivocally and unendingly on the firm's website, be featured in its recruitment materials, and reinforced by investment. In particular, the firm should proudly list how much it is investing in new activities, such as R&D, international expansion, etc.

Because the connotation of innovation in our context stands for creating new ways to lead industrial developments, the effort has to be companywide; and the firm should correspondingly have well-establish processes for managing the entire innovation pipeline that cut across business units. For example, if the firm decides to pursue growth strategies, it could introduce firstly ways for users to have easy access from everywhere; secondly a media platform for user interactions that adds information from users to other data that can be found on the firm's site to make the site and the firm's products and services more valuable; thirdly, individualized information that focuses on developing offerings for specific individuals and parties based on their interests and needs; and finally, open network partnerships, which seek to offer businesses solutions to their problems. Within each of these areas, managers need to regularly identify where they think the next set of promising opportunities will be and how resources could be dedicated to the opportunities that appear most compelling. At the same time, the firm's leaders need to continually monitor the usage of key services and their impact on relations with key partners to determine when a service should no longer be offered.

For example, the senior executive team of the firm could task each division every year to articulate one or two big things they are going to do that will dramatically and in real time move their business forward, and then go public with that declaration. That is, the firm is continuously thinking of new things as part of everybody's day job.

To summarize, what is discussed in this subsection is really natural consequences of the theory developed in the previous subsections. It ties different aspects of the firm into practical details in terms of flexibility and innovation.

A CASE OF SUCCESS

In this section, let us look at a case of success where the company of our focus has stood the test of time for nearly two hundred years. Although the chosen company does not satisfy the criteria used in McGrath's (2013) study when she selected her outlier companies, it does present us a perfect business organization that repeatedly went through all the necessary steps for it to be successful in riding the waves of transient competitive advantages, as listed in the previous section, even when other named companies still treated competitive advantages as sustainable.

By clicking the internet link https://grace.com/en-us/Pages/About-Grace.aspx (accessed on July 22, 2017), we see the following message: A Global Leader in Specialty Chemicals and Materials. Under this title, we read: "Grace Catalysts Technologies and Grace Materials Technologies provide innovative products, technologies and services that improve the products and processes of our customer partners around the world." That is then followed with vision, purpose, and values as follows.

- Vision: Grace strives to be a premier specialty chemical and materials company. We provide innovative technologies and value-added products and services around the world to enhance the quality of life.
- Purpose: We are dedicated to our customers. They trust us to provide products, knowledge, technologies, services, and the people to make their products work better.
- Values: (1) Teamwork**:** Treat each other with respect. Work safely and effectively with each other to win in the marketplace. Communicate openly and candidly; (2) Performance**:** Provide products and services that will make our customers successful; (3) Integrity**:** Maintain and expect the highest level of ethical behavior; (4) Speed**:** Work with a sense of urgency to meet our customers' needs. Move quickly to seize opportunities in the marketplace. Anticipate market shifts and respond before our competitors; and (5) Innovation**:** Encourage people to constantly look for new ways to create value.

By clicking the link entitled "Our History," we find that the past of the company can be traced back to as far as 1832, nearly two hundred years ago. During the past two centuries, this business entity has taken different forms, gone through many evolutionary vicissitudes, and successfully ridden the tidal waves of shifting competitive advantages. That is, this business entity, among very few of similar business organizations, has splendidly stood the test of time.

In the rest of this section, let us look at the development history starting with William Russell Grace who founded W. R. Grace & Co. in Peru in 1854. Although the history of our focus organization traces back to Davison, Kettlewell & Co. in Baltimore, Maryland, of 1832, it is W. R. Grace that eventually took over the business of the former in W. R. Grace's business evolution.

The Start of W. R. Grace

William Russell Grace left Ireland during the potato famine of the 1840s and bounced around the world as a sailor. In 1851 he shipped out to Calleo, Peru, then in the midst of a boom in the guano trade, and after a brief apprenticeship W. R. entered that business. However, harvesting and sale of bird droppings for fertilizer was only one of his many interests. He was bold in vision and daring in execution. He would go wherever profits were to be made purchasing or founding projects and then discarding them when they lost their glow. In 1854, when it suited his needs, he organized W. R. Grace & Co. as the vehicle through which most of his efforts would be channeled.

W. R. owned and ran Peruvian textile mills and sugar estates, a rubber industry in a Brazilian jungle, and a nitrate business in the Chilean desert. There were Grace constructed railroads in the Andes, and he introduced American agricultural and electrical equipment to the west coast of South America. He was involved in a scheme to dig a canal across Nicaragua that preceded the Panama Canal. When Peruvian finance was in shambles, W. R. and his brother, Michael, were asked to help reorganize it and put the country back on its feet.

Although deeply involved in South America, W. R. pursued holdings in other parts of the world. He founded Grace Brothers & Co. of London and then went on to the Far East. Within two decades, he had accumulated trading interests that stretched from Peru to Tokyo, from the Baring Sea to the Straits of Magellan. In 1865, W. R. relocated to New York to become the mayor of the city. Afterwards, he returned to the business world and started some companies in the United States.

The Second Generation at W. R. Grace

W. R. suffered a stroke in 1898 and died in 1904 when his nephew Edward Eyre was serving as the president of the business organization. In 1936, W. R. Grace was still heavily involved in South America trade and in a wide variety of businesses. It owned and operated sugar plantations in Peru, refineries, a paper plant, and a facility that produced caustic soda, chlorine, and muriatic acid. The company made rum from molasses at Cartavio in Peru. There were tin, wolfram, lead, zinc mines, and textile mills in Colombia, Peru, and Chile. And oilseed operation, a coffee plantation in Guatemala. A trading business in East Indian Coffee and cocoa. The ship agency operations in 30 or so ports. Cotton mills. Woolen mills. And much more.

Other than handling the company's business, the Grace bank was known as the savviest financial institution in its special niche. The Grace Line was one of America's most renowned carriers, taking cargoes and passengers to and from the United States to ports along the west coast of Latin America. Panagra was the major air carrier from the United States to points south. A popular radio program of the time, *Nights in Latin America*, spun visions of the exotic southern continent, along with playing native music. In 1936 there were several coffee roasters near Hanover Square, where W. R. moved his New York Headquarters in 1885, which provided the district with an aroma.

The Grace offices were populated mostly by men who had served for many years in one or more of the Grace casas in Peru, Ecuador, Chile, and Bolivia. As was the case with all new hires, after graduating from Yale, Peter Grace began in the mail room. With the obligation of following the company's rigorous training regimen, Peter moved from one division to another, from New York to Peru, Chile, and beyond in order for him to become a generalist and develop the necessary commitment to business. In 1940, as Peter was involved with the company's burgeoning South American trade, he travelled to Chile and met Raul Simon, who headed the company's Chilean operations. Before working for the Grace, Simon had served in government, worked as a journalist, and authored a few books. In other words, Simon was one of the very few Grace executives who could be considered an intellectual. In his conversations with Peter, Simon predicted that the United States would enter the European war then raging. Latin American countries would sell a great deal of raw materials to the United States and come out of war quite prosperous, which would prove their undoing. Simon believed that demagogues would come to power throughout Latin America, promising the people endless prosperity. In time all foreign investments would be taken over, while inflation would destroy values. He convinced Peter that the company would have to leave South America before this happened.

As predicted by Simon, the South American trade was enormously profitable. In 1938, the last full prewar year, W. R. Grace had revenues of $1.7 million; in 1941, they came to $9.1 million and reached just under $12 million in 1945. That year, Peter became the president of W. R. Grace.

Peter Grace: The Leader of the Third Generation

During the war Peter Grace developed a three-part plan. In addition to taking the company out of South America, he needed to unearth other businesses for it to enter. Instead of starting companies, it made more sense to make purchases, because the company lacked requisite expertise and knowledge to operate anything but those Latin American enterprises and would need managers and technicians from the acquired companies. The third part of the strategy was to transform W. R. Grace into a public company in order to ease the task of raising funds, and have stock options to keep and attract talents for managing the acquired businesses.

The implementation of the plan had to be slow because the board still didn't take Peter seriously, see him as a menace to their dividend payments, and consider W. R. Grace as the family preserve. Additionally, the program had to be carried out carefully so as not to upset the existing operations. As board members retired or died, Peter would replace them with new people who agreed with his vision for the company. In 1952, just before the diversification started and when Peter got into a car accident and spent three months in the hospital, Andrew Shea, the number two man of the company, went after Peter and tried to get him fired. Shea was one of the Latin American hands, and felt he had to save the old company. After surviving the challenge, Peter got W. R. Grace listed on the New York Stock Exchange in early 1953, while perfecting his plans for diversification.

From three promising areas, petroleum, chemicals, and electronics, chemicals was chosen because of the scale of the area and the existence of many niches, some of which resembled several of W. R. Grace's old businesses. Through using his connections, Peter acquired the proper talent, although he had to make some bright young men without much experience in chemicals to be executives. Because petrochemicals were considered most promising, Peter acquired Davison Chemical by late 1953, then Dewey & Almy, and then on to more deals in chemicals. By 1957, chemicals grew to 55% of the company's assets from 3% in 1950, making W. R. Grace one of the ten largest chemical companies in America. At the same time period, revenues rose from $265 million to $460 million and earnings from $8.5 million to $15.5 million.

Starting in early 1960s, Peter started to lose his sense of direction, while by then he had accumulated sufficient power to do anything he wanted to do. Other than notoriously shortened attention span, Peter attempted to micromanage and displayed a compulsive concern with information.

In terms of disengagement, the Grace Bank was sold in 1965; Panagra sold in 1967; the Grace Line in 1969. Then in that year, a Peruvian military junta started expropriating foreign properties. Disgusted, Peter ordered the wholesale divestiture of all South American companies often at prices below what they should have fetched.

By then Peter was more secure in his position and was prepared to act boldly and to purchase companies in industries he found interesting. From this period onwards to 1990, Peter purchased massively in food industry, restaurants, specialty department stores, petroleum firms and drilling companies, health care industry, etc. Because many of these purchases mandated borrowing, by the end of 1985, the company's long-term debt reached $1.6 billion. The need to cut back on the debt and failures of several aspects of the new W. R. Grace motivated Peter to exit from the failed ventures smoothly. By the year of 1991, specialty retailers and restaurants were sold off. For a more detailed account on what had gone wrong with Peter Grace's later career, see (Sobel, 1999).

Leadership at Grace beyond Grace Family

In 1992, due to Peter's illness, J. P. Bolduc became the president and chief operating officer of the company. After relocating to Boca Raton, Bolduc restructured the company, sold off additional properties, and gave W. R. Grace a more focused appearance than it had before. And as of this writing this focused appearance has continued.

In the following, let us fast forward from 1995 to 2016 and focus on major events of business expansions only.

After J. Peter Grace died in 1995, Albert J. Costello became the next leader of the Grace organization. In this year, Grace acquired Cormix Construction Chemicals, and expanded market penetration in the United Kingdom, Middle East, and Asia Pacific. In 1996, while disposing several noncore businesses, Grace built its first packaging and silica products plant in Malaysia and expanded construction products business into India and Vietnam. In 1997, Grace introduced Procor™ fluid-applied waterproofing, a liquid alternative to sheet membrane waterproofing. In 1998, Grace merged its Cryovac packaging business with Sealed Air Corporation, making the business organization a global specialty chemicals company, focusing on catalysts and silica products, specialty construction chemicals and building materials, and container protection products. And in this year, Paul J. Norris became the CEO. In 1999, Grace formed the Performance Chemicals unit, comprising construction chemicals and materials, and Darex Container Products. In 2000, Grace continued successful bolt-on acquisition strategy with the Crosfield Groups' hydro-processing business, the International Protective Coatings firestop products and systems business, the LUDOX® colloidal silicas business, and the Hampshire Polymers business. In 2001, Grace Performance Chemicals acquired Pieri SA's construction chemicals business, while Grace Davison Catalysts entered into a joint venture, Advanced Refining Technologies, for hydro-processing catalysts with Chevron Products Company. And Grace Davison Silicas acquired The Separations Group, as well as the precipitated silicas business of Akzo-PQ Silica. In 2002, Grace Davison Catalysts acquired the catalyst manufacturing assets of Borealis A/S, while Advanced Refining Technologies acquired an exclusive license for the hydro-processing catalyst technology of Japan Energy Corporation. Grace Performance Chemicals acquired Addiment, Inc., a leading supplier of specialty chemicals to the concrete paver and masonry industries. In 2003, Grace Davison Silica Products acquired MODcol Corporation, a manufacturer of preparative chromatography columns and provider of custom column packing services. Silica Products strengthened its European presence with its acquisition of the high performance liquid chromatography business of Argonaut Technologies. And Grace Performance Chemicals acquired certain assets of Tricosal Beton-Chemie GmbH & Co., a leading supplier of specialty chemicals and materials to the European construction industry. In November, Fred Festa became the President and Chief Operating Officer of W. R. Grace & Co.

In 2005, Grace acquired Midland Dexter Venezuela, S. A., a supplier of coatings and sealants for rigid packaging in the local and export markets of Latin America; Perstorp Peramin Ab, a concrete admixture business in Sweden; The assets of Single-Site Catalysts, LLC, a supplier of organometallic catalysts; and Flexit Laboratories Pvt. Ltd., an Indian chromatography company, through Grace subsidiary, Alltech Associates Applied Science Limited (UK). It opened a new office in Shanghai and a technical service center in Beijing and reached an agreement for the Kuwait Catalyst Company to manufacture Advanced Refining Technologies catalysts for the petroleum refining industry in the Arabian Gulf region. In 2006, Grace opened a manufacturing facility in Tennessee to produce products for residential and commercial construction, a new Discovery Sciences technical center in Shanghai and a marketing office in Moscow. The company acquired a catalyst components business and custom catalyst assets in order to expand existing polyolefin catalysts manufacturing capabilities. In 2007, Grace Davison opened a new facility in Surat, India, focused on manufacturing columns and cartridges for chromatography applications. Grace expanded its R&D capabilities in Europe with the official opening of an innovation center in Poznan, Poland, and opened a new facility manufacturing cement processing additives and concrete admixtures in the Hoc Mon District of Ho Chi Minh City, Vietnam. In 2009, Grace opened a Customer Centre of Excellence near Barcelona, Spain and a manufacturing facility in Chennai, India for the production of specialty chemicals used in commercial, infrastructure and residential construction. In 2010, Grace acquired Wuhan Meilixin New Building Materials Co., Ltd., a manufacturer of waterproofing products located in China, and Synthetech, Inc., a manufacturer of fine chemicals specializing in organic synthesis, biocatalysis and chiral technologies.

In 2011, Grace opened a cement additives and concrete admixtures facility near Delhi, India, received a three-year, $3 million grant from the U.S. Department of Energy to develop advanced post-combustion technologies for capturing carbon dioxide (CO_2) from coal-fired power plants. Gregory E. Poling became Grace's President and Chief Operating Officer. In 2012, Grace succeeded (jointly with Formac Pharmaceuticals) with human clinical trial demonstrating the novel use of silica for drug delivery. It acquired the assets of Noblestar Catalysts Co., Ltd., a manufacturer of fluid catalytic cracking (FCC) catalysts, catalyst intermediates and related products used in the petroleum refining industry and located in Qingdao, China, and signed a multi-year agreement with Braskem to develop process technologies and catalyst solutions to produce green chemicals. In 2013, Advanced Refining Technologies LLC® (ART) signed an agreement with Chevron Lummus Global (CLG) for the exclusive right to sell CLG's hydrocracking and lubes hydroprocessing catalysts to CLG's licensees and other petroleum refiners for unit refills. Grace acquired Chemind Construction Products, located in Brisbane, Australia, and the assets of the Polypropylene Licensing and Catalysts business of The Dow Chemical Company, and entered into a joint venture with Al Dahra Agricultural Company to build and operate the first fluid catalytic cracking (FCC) catalysts and additives plant in the Middle East. In 2016, Grace separated into two independent public companies, where Catalysts Technologies and Materials Technologies remained in Grace while a new entity, named GCP Applied Technologies, Inc., focusing on Construction Products and Darex Packaging Technologies businesses. On July 1, Grace acquired the BASF Polyolefin Catalysts business with production facilities in Pasadena, Texas and Tarragona, Spain, making Grace the #1 worldwide in polyolefin catalysts.

CONCLUSION

Through employing the rigor of game theory and the intuition of systems science, this paper establishes a general theory on how a firm could successfully transit into the new era of transient competitive advantages. Beyond listing the necessary steps for the desired transition, this work institutes the systemic reason to explain why these steps are practically important and how they are fundamentally connected.

Beyond using anecdotes and data mining this paper attempts to rely on theoretical reasoning and systemic logic to derive conclusions and provide guidelines. Such effort and its consequent effect cannot be overemphasized considering the fact that with the globalization of the world economy, the once sustainable competitive advantages of the business world have become transient so that new decisions are made under ever increasingly tight and high pressures (McGrath, 2013).

We hope that this work will play the role of a flying pebble that will attract many theoretical and empirical gem stones in the years to come.

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FAST CHANGING MARKETS, TRANSIENT COMPETITIVE ADVANTAGE AND KEY ORGANIZATIONAL ELEMENT FOR FIRMS

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ABSTRACT

By combining systemic thinking and traditional logic of reasoning of microeconomics, this paper establishes a main result on how the base of loyal customers diminishes with increase in the number of competing firms. On top of this result, the rest of the paper provides deductive explanations by using the systemic yoyo model for why markets change faster and customers are less patient than ever before, and what the most important organizational element is for firms to successfully surf through waves of transient competitive advantages one after another. Other than what is illustrated in this paper, this work provides a practically useful intuition for making sound and quick managerial decisions.

INTRODUCTION

With online retail business blossoming, traditional, storefront-based retail businesses get hit big time. Currently, a massive number of retail stores are closing and a huge number of employees are laid off from the retail industry..., as the news goes. That is only a snapshot of avalanche changes in the business world, where markets change faster, competitive advantages of companies become much shorter lived, and business entities are organized as more cohesive wholes.

Looking at the dramatic development in the business world, other than mustering comprehensive conjectures about what is underneath the fast changing practices behind magnificent successes and devastating failures based on anecdotes and data mining, a natural question arises: Can a general theory be developed, from which we can plausibly and deductively explain what is happening with reliability?

To possibly address this question, this paper establishes the following result by employing the intuition of systemic thinking and the rigor of game theory: Within an oligopoly market, in the Nash equilibrium, when the competition of the market grows with an increasing number of firms entering the market, the base of loyal customers for each incumbent firm will gradually diminish. Based on this result, derived deductively is a natural explanation on why markets have been changing faster and customers become less patient than ever before. To understand why the idea of sustainable competitive advantages is a concept of the past, Bjerknes' Circulation Theorem is employed to develop a systemic view of how local, regional, and then world economies evolve with time. That naturally explains deductively what makes present competitive advantages feel like transient. As for what is the most important organizational characteristic for a firm to have in order to successfully ride waves of transient competitive advantages, this paper shows by using systemic thinking and reasoning that it is internal stability of the firm in terms of a long-term stretch ambition and major investment in creating a common identity, culture, and commitment to leadership development in individual employees. So, a necessary organizational cultural foundation is cultivated and ready for necessary organizational changes to take place.

In terms of the related literature, Chan and Chan (2010) maintain that in the fast-changing fashion market, being flexible and adaptive is a key to survival. So, they study supplier selection to support supply chain strategies with quick responses through presenting an example of solving the problem in the apparel industry by using the Analytical Hierarchy Process, while taking the operational performance, such as flexibility, cost, and delivery, into account. Based on their previous conclusions that technology strategy variables tend to predominate as predictors of survival in the fast-changing rigid disk drive industry, Christensen et al (1998) test the hypothesis that the technological and market strategies of a new entrant are highly interrelated and that their joint effect plays an important role in a firm's probability of survival. In particular, these authors propose that firms that target new market segments with an architectural innovation will tend to be more successful than those that target existing markets or innovate in component technology, even after controlling for all the competing predictors of survival.

Because organizations evolve through periods of incremental or evolutionary change punctuated by discontinuous or revolutionary change, Tushman and O'Reilly III (1996) consider it a challenge for managers to adapt the culture and strategy of their organizations to its current environment, while not undermining the companies' ability to adjust to radical changes in that environment. They conclude that the managers must create an ambidextrous organization that is capable of simultaneously pursuing both incremental and discontinuous innovation. Day (1994) studies how market-driven orientation of businesses can be achieved and sustained. It is found that the emerging capabilities approach to strategic management, coupled with total quality management, offers a rich array of ways to design change programs that will enhance a market orientation with increased capabilities in market sensing and customer linking. By contrasting two distinct business cases Day and Schoemaker (2016) assess the managerial implications of sensing, seizing and transforming, critical capabilities for successful organizational adaptation. Among other results, these authors develop an embryonic contingency model to illustrate why the relative importance of dynamic capabilities varies across firms.

Kaharuddin et al (2017) investigate and measure the transient competitive advantage readiness among hotels, cafes, and fashion retail industry in Bandung, Indonesia, and find based on a total of 60 managers that most managers of hotels, cafes, and fashion retails in Bandung do not have enough readiness and proper strategy to create the transient competitive advantage. Contradicting Porter's views, Bashir and Verma (2017) highlight how business model innovation can serve as a competitive advantage by reviewing and analyzing the literature on competitive advantage, because imitating an entire novel system is quite difficult compared to imitating a product or a service. Leavy (2016) considers what dynamic capabilities will be needed to compete in a world of transient advantage, like modern China, with its complicated and quickly changing demand pattern, hyper-competition, shifting industry boundaries, and discontinuities in the regulatory context. He believes that China is the business management laboratory within which these skills are already being honed, and that it would be wise for foreign multi-nationals to consider what capabilities will have to be developed in China, for China, learn from their Chinese rivals and ask where it might be possible to use these new China' capabilities to enhance performance globally.

By reviewing the literature on adaptability, Koller (2016) introduces the concept of adaptive advantage and addresses the problem of its implementation in an organization by looking at innovation culture, decision-making style, and accumulated experience of a sample of "old" and innovative firms. He finds that these firms' cultures promote innovation, are analytic and adaptive in their decision making and have relatively high levels of accumulated experience. Purkayastha and Sharma (2016) inductively analyze the unique decisions of three firms that develop a competitive advantage by shaping their business model. The authors emphasize on the criticality of the business model as a higher level construct formed from multiple structural and strategic decisions that, eventually, become a source of competitive advantage.

So, comparing what we develop in this paper and what has been established in the literature, this work enriches the relevant knowledge at the height of theoretical abstraction with a much wider range of applicability. And, beyond these contributions, the general question this paper attempts to address is to show that other than inductive reasoning, deductive reasoning should be employed to produce scientifically sound theories and conclusions. Here, inductive reasoning is the exclusively used logic of thinking in the literature in areas related to this work, where anecdotes and data mining are employed to draw general conclusions. However, such conclusions are known in science to be generally not reliable. To this end, this paper establishes a theoretical model for how a marketplace should develop and evolve by using concepts, theories, and laboratory observations of systems science, and a theoretical result by employing game theory. After that, this paper shows how empirical conclusions, drawn previously and inductively on anecdotes and data mining by various scholars, can be deductively established or improved. Scientifically speaking, such theoretical conclusions are more reliable than those conjectured on the basis of anecdotes and data mining.

Although written statements in daily language, mathematical equations, and systemic reasoning are essentially articulations of logic, the difference is this: On their own, even the most logical and precise written arguments in daily language are often inconclusive because they are linear and sequential, they cannot quite control for the simultaneous effect of several arguments in combination; and they are generally unable to pinpoint one optimal outcome – "equilibrium" – out of many. On the other hand, mathematics and systems science are languages, too, but they are precise languages because they feature complex "claims" or "arguments" in their totalities – both mathematics and systems science do control for the simultaneous effect of multiple variables; and they pinpoint the optimal equilibrium. Like others before us, then, in this paper we use both mathematics and systems science to rigorously derive our main results. So, in terms of methodology and the reliability of conclusions, this end is the main contribution of this paper to the existing literature.

The rest of the paper is organized as follows: In the following section, necessary concepts, models, and history of systems science are introduced in order to make this presentation self-contained. The next section addresses the question of why markets have been changing faster and customers become less patient than ever before. Then considered is what makes the sustainable competitive advantages of the past grow into transient advantages, which is followed with a discussion on the key organizational element that makes firms successful in their ride from one wave of transient competitive advantages to the next. The last section concludes the presentation of this paper.

SYSTEMS SCIENCE AND SYSTEMIC INTUITION

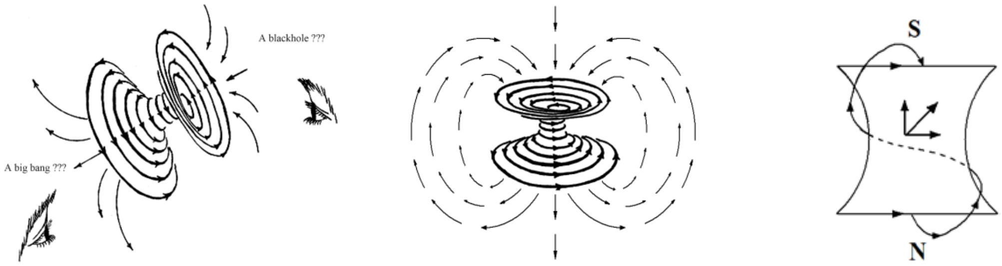
To make this paper self-contained, this section introduces the basic ideas and a brief development history of systems science, how this science complements the conventional science to form a two dimensional spectrum of knowledge and the systemic yoyo model as the playground and intuition of systems science and applications. Because scholars in business areas are more familiar with game theory, the relevant details are omitted.

Von Bertalanffy (1924) pointed out that the fundamental character of living things is their organization, the customary investigation of individual parts and processes cannot provide a complete explanation of the phenomenon of life. Since then, this holistic view of nature and social events has permeated the entire spectrum of science and technology (Lin, 2009). And in the past 90 some years, studies in systems science and systems thinking have brought forward brand new understandings and discoveries to some of the major unsettled problems in science (Klir, 1985; Lin, 1999). Because of these studies of wholes, parts, and their relationships, a forest of interdisciplinary studies has appeared, revealing the development trend in modern science and technology of synthesizing all areas of knowledge into a few major blocks, and the boundaries of conventional disciplines have become blurred ("Mathematical Sciences," 1985). Underlying this trend, one can see the united effort of studying similar problems in different scientific fields on the basis of wholeness and parts, and of understanding the world in which we live by employing the point of view of interconnectedness. As tested in the past 90 plus years, the concept of systems and results of systems research have been widely accepted (Blauberg, et al., 1977; Klir, 2001).

Similar to how numbers and algebraic variables are theoretically abstracted, systems can also be proposed out of any and every object, event, and process. For instance, behind collections of objects, say, apples, there is a set of numbers such as 0 (apples), 1 (apple), 2 (apples), 3 (apples), …; and behind each organization, such as a business firm, a regional economy, etc., there is an abstract, theoretical system within which the relevant whole, component parts, and their interconnectedness are emphasized. As a matter of fact, it is because of these interconnected whole and parts, the totality is known as a firm, an economy, etc. In other words, when internal structures can be ignored, numbers and algebraic variables can be very useful; otherwise the world consists of dominantly systems (or structures or organizations).

When the traditional science is joined with systems science that investigates systemhood, that collectively gives rise of a 2-dimensional spectrum of knowledge, where the traditional science, which is classified by the thinghood it studies, constitutes the first dimension, and the systems science, which investigates structures and organizations, forms the genuine second dimension (Klir, 2001). In other words, systems research focuses on those properties of systems and associated problems that emanate from the general notion of structures and organizations, while the division of the traditional science has been done largely on properties of particular objects. Therefore, the former naturally transcends all the disciplines of the classical science and becomes a force making the existing disciplinary boundaries totally irrelevant and superficial.

The importance of this second dimension of knowledge cannot be in any way over-emphasized. By making use of this extra dimension, the exploration of knowledge has gained additional strength in terms of the capability of solving more problems that have been challenging the very survival of the mankind since the beginning of time. Such strong promise that systems research holds relies materialistically on the particular speaking language and thinking logic – the systemic yoyo model (Lin, 2007), Figure 1, similar to how the Cartesian coordinate system plays its role in the development of modern science (Kline, 1972).



(a) (b) (c)

Figure 1. (a) Eddy motion model of the general system; (b) The meridian field of the yoyo model; (c) The typical trajectory of how matters return

What this systemic model says is that each physical or intellectual entity in the universe, be it a tangible or intangible object, a living being, an organization, a culture, a civilization, etc., can all be seen as a kind of realization of a certain multi-dimensional spinning yoyo with an eddy field around. It stays in a constant spinning motion as depicted in Figure 1(a). If it does stop its spinning, it will no longer exist as an identifiable system. What Figure 1(c) shows is that due to the interaction between the eddy field, which spins perpendicularly to the axis of spin, of the model, and the meridian field, which rotates parallel to axis of spin, all the materials that actually return to the black-hole side travel along a spiral trajectory.

As expected, this yoyo model has successfully played the role of intuition and playground for scholars who investigate the world and explore new knowledge holistically, just as what the Cartesian coordinate system did for the traditional science (Lin, 2009; Lin and Forrest 2011; Forrest 2013; 2014; Forrest and Tao, 2014; Ying and Forrest, 2015). In particular, this yoyo model of general systems has been successfully applied in the investigation of Newtonian physics of motion, the concept of energy, economics, finance, history, foundations of mathematics, small-probability disastrous weather forecasting, civilization, business organizations, the mind, among others. Along this same line of logic, in this paper we will use this model as our intuition to establish our conclusions.

MARKETS CHANGE FASTER AND CUSTOMERS LESS PATIENT THAN EVER

Because of the advent of the internet and the knowledge-based economy in general, decreases in protective trade regulations, and advances in technology, consumers and markets are changing faster than ever; and customers are less patient with businesses than ever before. Consequently, the advantages that made many commercial companies iconic, such as the 163-year-old Alliance Boots (UK), have ended. So, many companies now seek to be quicker, more decisive, and more candid so that any negative news is immediately addressed. They spend more time thinking about the future than ever before. To capture opportunities and act as an organic whole, many companies seek to break down internal structural solos, while creating courageous leaders who are fully engaged in capturing opportunities and moving away from strategies and practices that no longer represent the future (McGrath, 2013, p. ix). So, the following natural questions arise:

Question 1: What makes markets change faster and customers less patient than ever?

Question 2: What makes past sustainable competitive advantages presently transient?

The answers to these two questions are closely related. Let us address Question 1 first. To this end, we assume that the oligopoly market of our concern has m incumbent firms, named 1, 2, …, m, which provide horizontally differentiated products at constant marginal costs, which we set to zero without loss of generality. Assume that each incumbent Firm k has a market share α of the loyal customers such that these customers only purchase the product of Firm k provided that the price is no more than their reservation value, which is set to 1. Let $\beta = 1 - m\alpha$ be the portion of the switchers who base their purchase decisions on which price is lower between 0 and 1. The risk-neutral managements of these m firms are well aware of the pricing strategies of the other firms and have established their best responses by playing the Nash equilibrium through pure self-analyses.

Theorem 1. In the Nash equilibrium, when the competition of the market grows with more new firms entering the market, the loyal-customer base of the incumbent firms deteriorates over time.

Proof. This market does not have any pure strategy Nash equilibrium and nonsymmetrical mixed strategy Nash equilibrium (Forrest, et al., 2017). Let $F_i(P)$ stand for the price distribution of Firm $i, \in \{1,2,\dots,m\}$, which compete with each to attract switchers. The assumption that an increasing number of firms enter the market implies that the consumer surplus satisfies $\beta = 1-\alpha > 0$. Assume that there are n new firms that enter the market by uniformly randomizing its price P over the interval [0,1], where their cost basis is also assumed to be constant and set to zero. Then, the profits of incumbent Firm *i* are given by

$$\alpha P + \beta P(1-P)^n \prod_{j\neq i}^{m} [1-F_j(P)]$$

and the objective function of incumbent Firm *i* is

$$max_{F_i(P)} E(\Pi_i) = \int_0^1 \left\{\alpha P + \beta P(1-P)^n \prod_{j\neq i}^{m} [1-F_j(P)]\right\} dF_i(P)$$

The equilibrium indifference condition for incumbent Firm *i* is

$$\alpha \times P + \beta \times P(1-P)^n \prod_{j\neq i}^{m} [1-F_j(P)] = \alpha \times 1.$$

So, the symmetric equilibrium price strategy of each incumbent Firm *i*, *i* = 1, 2, …, *m*, is

$$F(P) = F_i(P) = 1 - P^{\frac{-1}{m-1}}(1-P)^{-\frac{n-1}{m-1}}\left(\frac{\alpha}{\beta}\right)^{\frac{1}{m-1}} = P^{\frac{-1}{m-1}}(1-P)^{-\frac{n-1}{m-1}}h(P)$$

where $h(P) = P^{\frac{1}{m-1}}(1-P)^{\frac{n-1}{m-1}} - \left(\frac{\alpha}{\beta}\right)^{\frac{1}{m-1}}$.

For this strategy $F(P)$ to be valid, we must have $F(P) = 0$, for $P \le \underline{P}$, $F(P) = 1$, for $P \ge \bar{P}$, and $F(P) \ge 0$, for $\underline{P} \le P \le \bar{P}$, where $\underline{P}$ and $\bar{P}$ are some fixed price levels such that $0 \le \underline{P} < \bar{P} \le 1$.

For such price levels $\underline{P}$ and $\bar{P}$ to exist, $h(P)$ must satisfy the following: $h(P) \ge 0$, for $\underline{P} \le P \le \bar{P}$, where $\underline{P}$ and $\bar{P}$ are some fixed price levels such that $0 \le \underline{P} < \bar{P} \le 1$, and that $h(0) < 0$ and $h(1) < 0$. Since

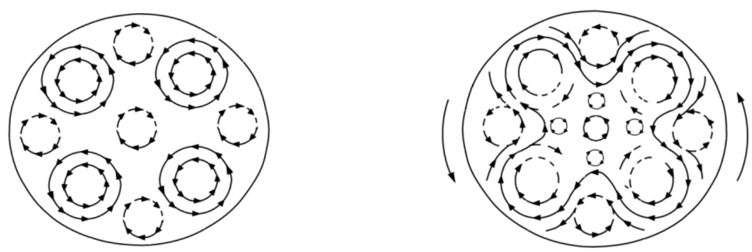
$$h'(P) = \frac{1}{m-1} P^{\frac{1}{m-1}}(1-P)^{\frac{n-1}{m-1}}[P^{-1} - (n-1)(1-P)^{-1}]$$

it can be shown that $h(P)$ reaches its maximum at $P = 1/n$. That is, in order for the previously mentioned price levels $\underline{P}$ and $\bar{P}$ to exist, $h(P)$ must satisfy $h\left(\frac{1}{n}\right) > 0$, which means

$$\frac{\alpha}{\beta} < \frac{1}{n}\left(1-\frac{1}{n}\right)^{n-1} = \left(1-\frac{1}{n}\right)^{n}\left(1-\frac{1}{n}\right)\frac{1}{n}.$$

So, when $n \to \infty$, $\alpha/\beta \to (1/e) \times 1 \times 0 = 0$. This end means that the base of loyal customers for each incumbent firm gradually diminishes when an increasing number of new firms enter the market. QED

The result in Theorem 1 provides an answer to Question 1: What have made markets change faster and customers less patient than ever? In particular, because of the growing globalization of the world commerce, consumer markets, which were once regional and tightly controlled by local firms, are becoming international with increasing number of firms from different corners of the world competing for the same customers. In terms of the systemic yoyo model, initially, the world consisted exclusively of local markets, as indicated by the small eddy leaves in Figure 2(a), where the overall circular pool stands for the world market. Because the international commerce did not exist or the scale was very small and could be ignored, the overall circular dish in Figure 2(a) does not spin. That is, the businesses of the world are not seen as a system. Next, with the advancement of modern transportation and communication technology, the world becomes more connected through international transfers of goods, information, and knowledge, the originally disconnected regional markets becomes connected as shown in Figure 2(b). The counterclockwise spin of the overall dish models the fact that goods, information, and knowledge are now travelling throughout the world, while originally local firms, the local eddies that also rotate round with the overall dish, are also serving the entire world market. Such much increased sources of suppliers of goods and services make customers spoiled so that they become less patient than ever before with anything unsatisfactory.



(a) Regional markets (b) Globalizing world markets

Figure 2. The world full of regional markets

SUSTAINABLE COMPETITIVE ADVANTAGES BECOME TRANSIENT

In this section, let us answer Question 2 in two parts: Why do competitive advantages of the past seem sustainable? And what makes present competitive advantages feel like transient?

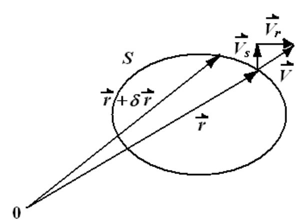


Figure 3. The definition of a closed circulation

To address the first part of Question 2, let us start by looking at Bjerknes' Circulation Theorem (1898) (Hess 1959). This theorem shows that nonlinearity mathematically stands (mostly) for singularities, and in terms of physics it represents eddy motions. Such motions are a problem of structural evolutions, a natural consequence of uneven evolutions of materials. In particular, at the end of the 19th century, V. Bjerknes discovered the eddy effects due to changes in the density of the media in the movements of the atmosphere and ocean. By a circulation, it is meant to be a closed contour in a fluid. Mathematically, each circulation Γ is defined as the line integral about the contour of the component of the velocity vector locally tangent to the contour. In symbols, if $\vec{V}$ stands for the speed of a moving fluid, *S* an arbitrary closed curve, $\delta\vec{r}$ the vector difference of two neighboring points of the curve *S* (Figure 3), then a circulation Γ is defined as follows:

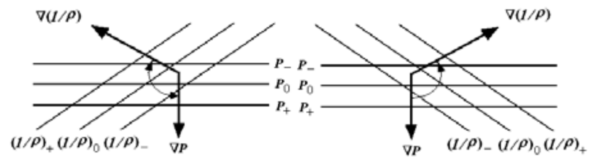
$$\Gamma = \oint_S \vec{V}\delta\vec{r}\,. \tag{1}$$

Through some ingenious manipulations (Wu and Lin 2002), the following well-known Bjerknes' Circulation Theorem is obtained:

$$\frac{d\vec{V}}{dt} = \iint_\sigma \nabla\left(\frac{1}{\rho}\right)\times\left(-\nabla p\right)\cdot\delta\sigma - 2\Omega\frac{d\sigma}{dt}, \tag{2}$$

where σ is the projection area on the equator plane of the area enclosed by the closed curve S, p the atmospheric pressure, ρ the density of the atmosphere, and Ω the earth's rotational angular speed.

The left-hand side of equation (2) represents the acceleration of the moving fluid, which according to Newton's second law of motion is equivalent to the force acting on the fluid. On the right-hand side, the first term is called a solenoid term in meteorology. It is originated from the interaction of the p- and ρ-planes due to uneven density ρ so that a twisting force is created. Consequently, materials' movements must be rotational with the rotating direction determined by the equal p- and ρ-plane distributions (Figure 4). The second term in equation (2) comes from the rotation of the earth.



(a) (b)

Figure 4. Solenoid circulations: (a) and (b) represent different rotational directions

This theorem reveals the commonly existing and practically significant eddy effects of fluid motions and implies that uneven eddy motions are the most common form of movements observed in the universe. Because uneven densities create twisting forces, fields of spinning currents are naturally created. Such fields do not have uniformity in terms of types of currents. Clockwise and counter clockwise eddies always co-exist, leading to destructions of the initial smooth, if any, fields of currents. What's important is that the concept of uneven eddy evolutions reveals that forces exist in the structures of evolving objects, and do not exist independently outside of the objects.

Now, let us look at the question we are addressing: Why do competitive advantages of companies in the past seem sustainable?

At the early times, people lived in more primitive conditions when compared to the present time. Due to the existing natural conditions and available resources within the environment and societies, some people and households started to exchange their surplus of goods with others for the purpose of improving the quality of their lives. That led to the formation of very beginnings of business transactions. Because the population density was low, tools available for production, transportation, and communication were limited and inefficient, minor obstacles of the environment in today's standard easily divided the flow of goods and services into small-scale shops. Because other than some luxury goods and services, these individual and separated shops mostly provided the basic necessities for human survival, they naturally delivered mostly identical set of goods and services with some minor differences. As time went on, better tools for production and transportation and better practices of management were designed and employed in various individual shops. The natural desire for better living conditions paved the way for inventions of new tools, discovery of new methods of production, and introduction of more efficient ways of management to pass around the land through word of mouth and improving technology of communication. So, a circulation of information and people with special abilities and resources started to form. As the circulation started to appear, Bjerknes's Circulation Theorem guarantees the appearance of abstract eddy motions over the land consisting of migration of people, spread of knowledge and information, and transportation of goods. That explains how local and then regional markets were initially formed and why all markets have conditions and barriers against new entrants. That is, over time incumbent firms have naturally established their respective competitive advantages that have been part of the conditions and barriers that help the firms to exploit their market shares while preventing competitions from new entrants. That explains why competitive advantages of the past seem to be sustainable; and indeed they were for the most part sustainable. As a consequence, most of strategy frameworks and tools in use were based on the single dominant notion: The purpose of designing and adopting strategies is to achieve a sustainable competitive advantage.

At this junction, there is a natural need to justify the scientific validity for us to employ the Bjerknes' Circulation Theorem as in the previous paragraph, because in theory this theorem holds true only for fluids. Firstly, when the systemic yoyo model is initially introduced earlier, we have given a relevant explanation for how and why each human organization is a spinning pool of fluid, consisting of flows of such fluids as energy, information, materials, etc., that circulate within the inside of, go into, and are given off from the organization. Secondly, the systemic yoyo model of systems naturally leads to the realization that the universe is a huge ocean of eddies, which changes and evolves constantly. That is, the totality of the physically existing world can be studied as fluids. Thirdly, as described in the previous paragraph, people in the land helped to circulate information, knowledge, goods, etc., all of which are studied using continuous or differentiable functions in social sciences in general and economics in particular. When these aspects of a market are modelled by such functions, they are generally seen in physics and mathematics as flows of fluids and are widely known as flow functions. Specifically, in the formation of an economy, it is these commonly shared aspects (or fluids) that make the land to have living markets, where individual persons are simply local "impurities" of the fluids; and each of the "impurities" carries some concentrated amount of "energy", information, knowledge, etc.

Secondly, let us see what makes present competitive advantages feel like transient. Recent frequently occurring breakthroughs and fast advances in communication technology, management methodologies, and manufacturing capabilities have made important know-how information more widely available, helped remove many insurmountable barriers of the past for the general public. In other words, such detailed information as for how to start up a competitive company, how to run a firm efficiently, and how to improve and market product beautifully have helped companies, either incumbent or new coming, to compete with each other on an unprecedented, equally levelled ground due to the fast advancement of communication technology. And, with the development of modern engineering technology, manufacturing an imagined product, which combines all the best-selling functionalities of relevant products, has become doable and much less costly than before. So, the secrets behind most of the so-called sustainable competitive advantages of the past have become common knowledge, while as soon as a new advantage leads to success, the underlying ideas becomes public information in no time. That is exactly the reason why newer competitive advantages have to be introduced frequently and evolved into fresh formats quickly.

In terms of the systemic yoyo model, the evolution of an economy, just as described in the previous paragraphs, can be shown most closely and vividly by using the dishpan experiment. To this end, let us first look at the basics of this experiment. As initially conducted successfully by Raymond Hide (1953) of Cambridge University, England, and then by Dave Fultz and his colleagues of University of Chicago (1959) independently, this experiment shows that when the movement of the fluid within a rotational dish is under enough pressure created by either the sufficient speed of rotation or sufficient difference in temperature between the center and the periphery of the dish, the pattern of uniform movement, as shown in Figure 5(a), will develop into the chaos, as shown in Figure 5(b). The number of local eddy leaves is determined either by the rotational speed or by the temperature difference or both and increases with the speed and the temperature difference.

(a) Initial even flow of fluid (b) Periodic appearance of chaos

Figure 5. The dishpan experiment

Of course, for our situation in hands, the pattern in Figure 5(a) should be replaced by that in Figure 2(a), because different from the perfect symmetry in the setup of the dishpan experiment, the initial distribution of local markets (and economies) is not even or symmetric. Instead, it is dictated by natural conditions and availability of resources. Additionally, the symmetrical distribution of local eddy leaves in Figure 5(b) would not be so symmetrical for our model of the world economy either. Now, if we look at this model closely, we can see that as the pressure increases, caused by either the spinning speed or the "temperature" difference between the center and periphery of the dish, the number of eddy leaves will grow larger. So, competitive advantages have to become temporary and transient in order for the incumbent eddy leaves to maintain their quality of livelihood. That is, to win in volatile and fast-moving environments, business leaders need to learn and master the skills of how to discover and exploit short-lived opportunities with speed and decisiveness, while realizing the fact that the deeply ingrained structures and systems that these leaders used to reply on to extract maximum value from a competitive advantage are actually liabilities, which are outdated and even dangerous, in the current fast-moving competitive environment.

KEY ORGANIZATIONAL ELEMENT TO SUCCESSFULLY RIDE TRANSIENT-ADVANTAGE WAVES

Recent business practice, such as Fuji (film)'s story (Kunii, et al., 1999; Inagaka and Osawa, 2012), suggests that simply managing well, developing quality products, and building up well-recognized brands are insufficient to remain on top in the increasingly heated global competition of the world economy. It seems that what is working in the face of rapid change is to invest in new competitive advantages while pulling resources from declining ones. Although no one gets it right every time and sometimes the moves are painful, companies cannot afford to be trapped by their past.

Historically, each iconic company found itself successfully in a favorable position in a well-defined industry and then optimally exploited a long-term competitive advantage. However, many of such storied organizations are either gone or no longer relevant today. Their downfall is the outcome of practices that are designed on the concept of sustainable competitive advantage. The deeply ingrained organizational structures and management systems, as designed to extract maximum value from a competitive advantage, become liabilities when the competition of the business world requires instead the capability to surf through waves of fleeting opportunities. To compete in these volatile and uncertain environments, companies have to conduct their business differently. For example, such big name companies as DuPont, 3M, Nokia, Intel, IBM, and others have all realized that traditional approaches weren't keeping pace with the speed of the markets in which they were competing (McGrath, 2013).

As proved in the previous section, competitive advantages come and go in waves; so the job of strategists is to discover and take strategic initiatives by launching ever-new waves (MacMillan, 1982). To this end, MacMillan (1988) and D'Aveni and Gunther (1994) introduced the concept of hypercompetition to characterize markets in which firms' competitive advantages would be quickly competed away. And in practice, successful firms look candidly at what happened, figure out how to do what they attempted to do better the next time, and move on. They move from one wave of competitive advantages to another without staying with one wave too long because it will become exhausted; and they always look for the next one. Just like great surfers, after having ridden a wave either successfully or not, they get back on their boards to challenge the next tidal wave. In other words, most of the sustainable competitive advantages of the past have been replaced by transient advantages of the present.

To adapt to the new environment of transient competitive advantages, companies have to design and apply new and different strategies on where to compete, how to compete, and how to win by constantly looking into the future. Central to this end is to reconfigure and renew advantages internally. It is through the reconfiguration process that assets, people, and capabilities make the transition from one advantage to another. Without such dynamism in the structures and processes of the organization, the firm will likely experience difficulties as soon as its competitors are competing in the next wave of transient advantages (McGrath, 2013).

By studying the best performing companies with a market capitalization of over $1 billion U.S. dollars as of the end of 2009 in 2010, ten such companies stood out for the time period of 2000 – 2009 (McGrath, 2013). These companies successfully coped with and then thrived amidst the challenge of moving from one advantage to the next, while their leadership promoted common key themes that came out of compelling strategy diagnoses. What is common to these outlier firms is their public commitment to world-class ambition, coupled with a clear sense of strategic direction. For example, at Infosys the leaders talk about Infosys 1.0 (basically labor arbitrage), Infosys 2.0 (global expansion into services), and then the emergence of Infosys 3.0 (McGrath, 2013).

The strategies for each of these companies were grounded in its stretch ambition for the firm, while the ambition provided an aiming point for the people directly or indirectly related to the company. And, the ambition turned out to be important to long-term ongoing reconfiguration of the firm and is essential for preventing the company and its people from becoming complacent and content in pursuing yesterday's advantages.

Other than long-term, unwavering world-class ambitions, the outlier firms also stabilize their organizations by investment in creating a common identity, culture, and commitment to leadership development. They wage significant attention to values, culture, and alignment in order to create the right cultural foundation that allows for changes to be made. As confirmed by Bob Best, CEO of Atmos energy, "Culture is the foundation for all success. This has been a very important process to the long-term health and success of our company." For details, see (Senn-Delaney Leadership Consulting Group).

In terms of the systemic yoyo model, what is unearthed above inductively based on anecdotes can be derived deductively as follows: Having a long-term, unwavering ambition is equivalent to fixing the direction of the axis of spin for the underlying yoyo structure of the firm Figure 6. When the direction of the axis is fixed, supported and promoted by the leadership, all layers of the eddy pool that spins around the axis will be able to focus their attention on interacting with their neighboring environments. That is, all employees located on different layers of the eddy pool can direct their attention to what is important for their divisions without the need to worry about potential change in the organization's business direction.

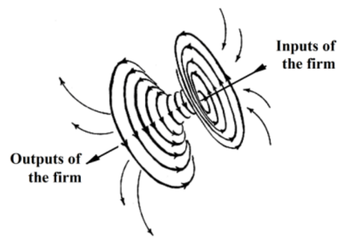


Figure 6. A underlying yoyo structure with its axial direction fixed

In terms of creating a common identity and culture for a firm to be health and prosperous, its importance is well spelled out by the following theoretical result:

Theorem 2 (Forrest and Orvis, 2016). Inefficiency always exists in the organizational system of any firm that has at least one full-time employee whose personal value is not in total agreement with the organization's mission, where the concept of organizational efficiency is defined as how well its employees help reach the defined mission of the organization.

From how personal values are formed (Forrest and Orvis, 2016), it follows that finding employees with identical personal values are practically impossible. And, personal values evolve with time and changes of the environment within which people live. So, initially similar personal values tend to diverge over time. Additionally, suppose a firm can find all the employees who have the desirable identical personal value, then what is observed in the dishpan experiment suggests that differences among the personal values will inevitably appear within the smooth operation of the organization. In particular, within our current context, we can naturally imagine that the entire dishpan stands for the mission of our organization and the spin of the dishpan the operation of the organization, while individual employees' personal values are drops of the water inside the dishpan. So, this dishpan experiment indicates that although the organization of our concern could find and hire supposedly employees with identical personal value, this initial uniformity in individual personal values will soon be destroyed by the smooth operation of the organization. Speaking in terms of our daily language, the uniformity in personal values is materialistically destroyed by the interactions and conflicts of interests of the employees of the organization. Therefore, Theorem 2 implies that organizational inefficiency starts to appear.

By pondering over Theorem 2 in more details from various angles and based on the discussion in the previous paragraph, we can readily see that organizational inefficiency always naturally exists within the operation of any firm (Theorem 2). So for the firm to perform well while riding through one wave to next of competitive advantages, the firm has to behave as an organic whole with its unique identity, culture, and commitment to leadership development (that potentially lead to discovery of new competitive advantages by individual employees). Without doing so, Theorem 2 implies that over time, no matter how successful a firm can presently be, it will be eventually destroyed by internationally mounting inefficiencies.

Summarizing what is discussed in this section, a key organizational element for a firm to successfully ride transient-advantage waves is its internal stability. Here, the stability is characterized by the fixed direction of the axis of the underlying yoyo structure of the firm (a long-term stretch ambition); that direction is supported and promoted by the leadership; and major investment is made around the fixed direction in order to create a common identity, culture, and commitment to leadership development in individual employees. More specifically, the particularly chosen direction of the axis aims at cultivating the necessary organizational cultural foundation through emphasizing on values, culture, and alignment so that changes can be readily made when needed. This end is similar to how human mind works (Lin and Forrest, 2011), while the term "human mind" is replaced by the "mind of a firm."

SOME FINAL REMARKS

By first establishing a systemic model and intuition and then a rigorous theorem, this paper develops a general theory on what makes markets change faster and customers less patient than ever before. Then, deductively, instead of inductively based on anecdotes and data mining, as exclusively used in the relevant literature, this general theory is employed to develop an evolutionary theory on how local, regional, and then world economies evolve through time, and how advances in technology help to make once sustainable competitive advantages transient. Thirdly, this paper shows why internal stability is the key for a firm to successfully ride the waves of transient competitive advantages with a long-term stretch ambition, supported and promoted by the leadership with major investment in cultivating common identity, culture, and commitment to leadership development in individual employees. Therefore, an organizational culture is established to emphasize on values, culture, and alignment so that changes can be readily made when the market demand such.

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RECIPROCITY AS THE NEW PARADIGM

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ABSTRACT

Reciprocity is the new (old) paradigm in business. It is offered as an alternative to a traditional Hobbesian perspective. The Hobbesian paradigm in which relationships are essentially a competition with incompatible self-interests leading to a winner and a loser is an inaccurate, albeit a traditionally accepted philosophical underpinning for social critique. The unexamined assumption of the validity of the egoism/altruism dichotomy has led to an inherent bias on the part of the critics, and therefore, needs to be replaced with the Aristotelian concept of reciprocity as the dominant paradigm for interactions between individuals. Reciprocity, the giving of benefits to another in return for benefits received, is a defining feature of social exchange. Cooperation (reciprocity) is our natural inclination as humans. Strong reciprocity is the natural evolution of traditional reciprocity. It is the people within any enterprise, and their interactions with each other, that ultimately produce excellence or mediocrity. Aristotle viewed the polis as a partnership for living well, a collaboration, a partnership entered into for the purpose of living well. Businesses are creating, maintaining, and altering structures within which people can enter into partnerships for living well. Reciprocity is the driving force behind successful businesses.

INTRODUCTION

The Hobbesian paradigm in which relationships are essentially a competition with incompatible self-interests leading to a winner and a loser is an inaccurate, albeit a traditionally accepted philosophical underpinning for social critique. The unexamined assumption of the validity of the egoism/altruism dichotomy has led to an inherent bias on the part of the critics, and therefore needs to be replaced with the Aristotelian concept of reciprocity as the dominant paradigm for interactions between individuals. In order to truly understand the traditional historical perspective, an exploration of Hobbes with a new complementary point from Beinhocker is offered, bolstered by insight from McIntyre on ego/altruism and Meikle's interpretation of Aristotle on the polis. Aristotle's thoughts on household management versus wealth-getting activities, including a discussion of money and the concept of enough, is explored. A discussion of human nature with connections being made to reciprocity as well as a foray into interpersonal communication literature, specifically Buber and Levinas, rounds out the discussion.

A TRADITIONAL VIEW OF HOBBES

The traditional interpretation of Hobbes is that he views man as aggressive and driven. The idea underlying this interpretation is the fact that Hobbes (1994) describes man as wanting to preserve his own interests, namely his well-being. Man will avoid harming other people except when preservation is at stake. Man will desire that which is good, defining good as that which aids in self-preservation, thus creating a moral relativism centered around the desires of man. In his book *Hobbes: A Very Short Introduction*, Tuck (1989) quotes Hobbes in Elements of Law (1.7.3) to point out the relativist idea.

> Every man, for his own part, calleth that which pleaseth, and is delightful to himself, GOOD; and that Evil which displeaseth him; insomuch that while every man differeth from other in constitution, they differ also one from another concerning the common distinction of good and evil. Nor is there any such thing as *agathon haplos*, that is to say simply good. For even the goodness which we attribute to God Almighty, is his goodness to us. And as we call good and evil the things that please and displease us; so call we goodness and badness, the qualities of powers whereby they do it (Tuck, 1989, pp. 62-63).

The postulate of the dominance of competitive material appetites is crucial to Hobbes's theory of the state. The argument is that men are fundamentally hostile to each other because they have appetites for things which they cannot enjoy in common, and of which there is such scarcity that all who want them cannot have them. It may be said that this scarcity has always existed, but Hobbes's assumption is that men are so conscious of it, and are so determined to avoid it for their part, that their actions are dominated by this consciousness. We need not be surprised, then, that to Hobbes, all the relations between men tend to be the relations of the market (Macpherson, 1954).

A CONTRARY VIEW PROVIDED BY MACINTYRE

The problem, as I have asserted, is the fact that philosophers, economists and social critics have adopted as their own Hobbes's description of man as being in constant struggle and competition with other men for limited resources used as a means of self-preservation. MacIntyre (1967) takes a contrary position in which human relationships are based on reciprocity, or mutual benefit. For MacIntyre (1967), Hobbes detaches the doctrines of natural law from their Aristotelian frameworks and is the first major philosopher to present a completely *individualistic* picture of human nature. MacIntyre (1967) interprets there to be three sources for Hobbes's individualism. First is his preoccupation with civil war lived out in the constant struggle of one private interest over another. Second is Hobbes's commitment to the Galilean resoluto-compositive method of explanation; to explain is to resolve a complex whole into its individual parts and to show how the individual parts must be combined in order to restrict the whole. Accordingly, for Hobbes, social life is broken down into individual men who must combine if social life is to be (re)structured by means of social contract. Thirdly, individuals are presocial and lack the characteristics of compromise and are governed only by their presocial drives. Mis-interpretors believe presocial drives must be competitive and aggressive because of the will to power over other men is what ceaselessly and restlessly drives men forward. Thus, what emerges is a picture of human nature as individual, non-social, competitive and aggressive.

With the three tenets of individualism as a presupposition, altruism and benevolence in any situation must be explained. McIntyre points out how traditional interpretations of Hobbes explain away what appears to be altruism as disguised self-seeking with undisguised self-seeking leading to social war. The fear of war leads to the adoption of a regard for others from purely self-interested motives; altruistic behavior (or at least behavior) is in our immediate interest as a means of preserving ourselves from the war of all against all (MacIntyre, 1967). McIntyre (1967) also looked to Hume's explanation in *Enquiry Concerning Human Understanding* that self-interest and "a tendency to public good and to the promoting of peace, harmony, and order in society" are two independent, coexistent springs of action. For MacIntyre, Hume sees the independent power of sympathy and of a sense of the public good, rather than a rational view of what is of long-term benefit to self-interest, as moving us to benevolence and altruism.

In his article "*Egoism and Altruism*", McIntyre (1967) elucidates the idea that self-interest is an abstraction and only has application in situations when one must decide to be competitive or noncompetitive. If decisions around self-interest are reserved only when one makes a purposeful decision to engage in violent behavior, as a means of attaining some desired good to the end of self-preservation, this is the only time benevolence and altruism have application and are limited circumstances that should not be considered paradigmatic. McIntyre points out that in neither Plato nor Aristotle does altruistic benevolence appear in the list of virtues, and consequently the problem of how human nature, constituted as it is, can exhibit this virtue cannot arise. McIntyre states clearly that reciprocity is the proper paradigm to interpret relationships, and is the basis for exchange as evidenced by the fact that the polis operated based on *philia*, or mutual regard. McIntyre looks also to the medieval world where the underlying assumption is that man's self-fulfillment is discovered in the love of God and the rest of the divine creation.

STRONG RECIPROCITY

Beinhocker (2006) in his work *The Origin of Wealth*, offers a new interpretation of reciprocity through the lens of an economic/social experiment called the "Prisoner's Dilemma". In this experiment, participants play the role of criminals that have been arrested after perpetrating a crime. An interrogator puts the two suspects in different rooms so they cannot communicate and then proceeds to tell each suspect that if he testifies against his partner, he will be released, provided his partner does not testify against him. If both testify against each other, both will go to jail with a reduced penalty for cooperation. Each is faced with a dilemma simultaneously; either stay quiet or testify against their partner. If both stay quiet, both will go free due to lack of evidence (which they do not know). If one chooses to stay quiet and his partner testifies, the quiet partner will go to jail for a long time. Both participants are simultaneously faced with the dilemma, not knowing what the other will do. Beinhocker (2006) points out how the prisoner's dilemma is best navigated by way of what he calls a non-zero-sum-game (p. 222) in which "if you scratch my back, I'll scratch yours and together we can do something neither can do as well on our own and we both benefit" (p. 265). Cooperation enables both parties to capture a gain unattainable as an individual. This stands in direct contrast to a zero-sum-gain in which there must be a winner and a loser where one person's gain comes at the expense of another's loss. The zero-sum-gain is analogous to the traditional Marxian perspective on capitalism which requires a winner and a loser. According to Beinhocker (2006), the prisoner's dilemma gives us insight into the conundrum we face with the operation of our economy because it depends on cooperative activity to work. People must work together to produce things and trade with each other (Beinhocker, 2006, p. 223). As in the prisoner's dilemma, in the economy, there is a constant tension between cooperating for the greater good and pursuing one's own self-interest. Wright (2000) argues in his book, *Non Zero*, much of human history can be summed up as the outcome of the struggle between cooperation and self-interest. For Wright (2000), in a world with limited resources, there are competitive pressures to cooperate because societies that learn to organize in order to maximize cooperation tend to dominate those who do not.

Beinhocker (2006) lists what he sees as the four basic sources for non-zero-sum magic: the division of labor, the heterogeneity of people, the benefits of increasing returns to scale and the smoothing out of uncertainties over time. The division of labor refers to the fact that two people of slightly different skill sets shouldfocus on what they do best and trade. The heterogeneity of people, the fact that there is cacophony of different needs and tastes, creates opportunities to trade for mutual benefit. The benefits of increasing returns to scale illustrates how joining forces with others naturally increases everyone's odds of success while at the same time reducing the amount of individual investment needed compared to greater expected returns. Cooperating is a great way to mitigate risk and smooth out uncertainties over time. If you are part of a cooperative group, your peers can help you out in lean times with the expectation that you do the same in return (Beinhocker, 2006, p. 267). Beinhocker (2006) acknowledges the issue of distribution of the spoils as a crucial question. If the rewards of cooperation are not distributed wrongly, cooperation will collapse and the non-zero-sum gains evaporate (Beinhocker, 2006, p. 267).

When talking about the difficulty of achieving cooperation and the ever more difficult task of maintaining cooperation, Beinhocker (2006) asserts that cheating is a major issue, and "The incentive to cheat means that cooperation is inherently difficult to achieve and potentially unstable even once achieved" (Beinhocker, 2006, p. 268). Looking at the issue from an economic perspective, if cheating is rewarded with greater benefits, it will be repeated. The solution has been described as "strong reciprocity" by Thames (2016). The idea is two-fold; the benefits from cooperation must be significant enough to induce continued loyal participation, and the punishment for cheating must be significant enough to make cheating not worth the risk. Going back to the prisoner's dilemma as a reference, Beinhocker (2006) summarizes the most effective strategy for entering into a non-zero-sum relationship, like that of cooperation in the market, as

> I will begin on the assumption of mutual cooperation. If you cheat on me, however, not only will I refuse to cooperate, but I will punish you, even to my own near-term detriment. After some time, I might forgive you and try cooperating again, just in case your cheating was an error or miscommunication, or on the chance you have reformed your ways. If you cheat again, the probability of my forgiving you again will become lower and my punishment even more terrible (Beinhocker, 2006, p. 269).

Beinhocker (2006) believes, as humans, evolution has made us naturally inclined to cooperate in order to realize the riches of non-zero-sum gains while also equipping us with sensitivity to cheating, expectations of fairness and a willingness to mete out punishment to those we believe cross the line (p. 269).

Beinhocker's (2006) cooperation is analogous to Aristotelean reciprocity. His major contribution to the ongoing conversation around reciprocity as the appropriate paradigm for interactions between individuals is the idea of "strong reciprocity" (Thames, 2016). Strong reciprocity brings into the picture the threat of punishment for those who choose to violate the social contract of cooperation. The idea is that you need to be part of the team so that we can all achieve more together and you need to not cheat (take more than your fair share or fail to contribute equally) at the fear of punishment. Be part of the team and do as we agreed, or else! Cooperation (reciprocity) is our natural inclination as humans. Strong reciprocity is the natural evolution of traditional reciprocity.

ARISTOTLE AND THE POLIS

Refocusing on Aristotle, Meikle's (1995) interpretation of Aristotle's *polis* is that it exists for the sake of the good life facilitated by the division of labor (increased productivity through specialization) which necessitates exchange (increased cohesion through mutual need). Most relationships are reciprocal and occur out of mutual need. The family is the basic unit of society and is what constitutes the *polis*. The common theme for Aristotle is the process of exchange, which he sees as natural, in which members of society cooperate in the use of their common human capacities to make or grow things that will satisfy their needs (Meikle, 1995, p.44). Our being is bound up in the *polis*. We are political in the sense of the necessity of the *polis* to become what we are; the *polis* does not exist without us, but we do not exist without the *polis* (Thames, 2011). The *polis,* is first and foremost a language community, a group that speaks to one another. We are political in the sense that we only learn or speak because we have been taught or spoken to. If language is our defining characteristic (as Aristotle described us - animals with *logos*), and the characteristic that illustrates our unique political nature, where is language housed and where does it exist? Language exists among us, not within us. The capacity to use language exists within us, but it has to be called out, a call and response. This perspective lends to our understanding of the *polis* because we cannot exist without the *polis,* and the *polis* cannot exist without us. Along with language we also get rationality. Another meaning found within *logos* is rational. You cannot have language without the *polis* and cannot have logic without language; therefore, we cannot exist or become what we are absent, the *polis*. Aristotle provides us with the idea of a mutuality in being; the self cannot be without the other; we are beholden to someone in terms of our very being.

The *polis*, Aristotle says, comes into existence for the sake of life, but it exists for the sake of the good life; it is not merely for defense and exchanging goods; it is a partnership in living well (Meikle, 1995, p. 75). For Aristotle, the *polis* does not exist without us, and we do not exist without the *polis*. We are called into language and into rational thinking. There is a kind of call and response which is the first example of reciprocity. Only in the *polis* are we capable of becoming all that which we are capable (like an acorn growing into an oak). Thames (2011) drawing from Randall (1962), states that the *polis* is first and foremost a language community, a group that speaks to one another. We are political in the sense that we only learn or speak because we have been taught or spoken to; first we are the animal that listens, we listen to one another which in direct contrast to communicative patterns of other animals. This distinction is more prevalent in gesture as human beings are the only animals that point; motor skills are uniquely human. The extent we attend to one another is important because we attend to one another in a way that other animals do not, emphasizing the essential nature of the reciprocal relationship necessary for human flourishing (Thames, 2011).

Aristotle talks about two different types of cooperation between individuals in the *polis*; one for household management (*oikonomike*) and the other for wealth-getting (*chrematistike*). Household management, for Aristotle, "must either find ready at hand, or itself provide, such things necessary to life, and useful for the community of the family or state" (Pol. 1, 1256b27-30). Aristotle spends considerable time and effort drawing a clear distinction between use and exchange value. In ancient society, a thing is defined by its "use value". Quality is the only concern in making or producing a product. Aristotle recognizes the potential negative effect of money stating that any activity can be corrupted by money. Society is concerned with use and the idea of quality. Exchange drives people to gather in the *polis* to take advantage of the division of labor. Money is introduced as a manner of facilitating exchange, especially for facilitating exchange over time and distance. In this sense, money exists only as a means. Exchange should be a matter of *philia*, or the love of the brother or said another way, reciprocity. Aristotle sees the process of exchange (reciprocity) as natural to man in which people cooperate in the use of their natural capacities to make or grow things that will satisfy their needs (Meikle, 1995, p. 44). Under this model you are not trying to take advantage of someone, rather you are making a good faith exchange. *Philia* ultimately holds the *polis* together and creates the need for the division of labor and exchange. Once money is introduced as a medium of exchange, the issue of wealth takes on a new dimension.

The idea of wealth has always existed; the introduction of money creates a competing definition, one based on accumulation that Aristotle rejects. For Aristotle, and the ancients, wealth is the available stock of products useful for leading the good life. Although there is no notion of "enough" in modern economics, there is in Aristotle's time. According to Meikle (1995), Aristotle defines wealth as part of the good life and consists of tools or useful things that are limited in size and number by the number of ends they serve. In this sense, the good life and its constitutive ends set the boundary for how much wealth is enough (Meikle, 1995, p. 45). The end is limited in the case of natural *chrematistike,* or true wealth, because, being defined as the stock of things that are useful, a natural limit is reached when there is enough of them. Enough means enough for the good life (Meikle, 1995, pp. 49-50).

For Aristotle, money serves as a means. The problem is that if you pursue a means, then the pursuit is endless, irrational, and unnatural. There are natural limits to consumption, means, and wealth. The intent of money is to function as a means; it has no other reason to exist, no use or end other than as a meansl; therefore, there is no limit to its acquisition. The introduction of money was a seismic shift. As the focus of attention shifted to the quantity of goods and/or money away from the quality of an individual good, the introduction of money became an important and formative event in the development of the "modern" economy (Meikle, 1995). The traditional (ancient) concern was for a good's use value, or the idea that a good was valued based on its functionality and usefulness which also included its quality. Goods were traded for in the spirit of reciprocity. Those who were skilled at growing corn traded with those who could not or did not grow corn but were skilled at producing something else of use. It was essentially a barter economy with good X being traded for good Y in quantities agreed upon to be fair by the participants. The idea of reciprocity is powerful in that it drove the ancient economy. Ideally, a person strove only to strike a fair bargain with his counterpart in the transaction. Each person receiving an amount of goods equal in use value to those traded away. You trade out of your surplus to satisfy a deficiency out of another's surplus thereby satisfying their deficiency.

For Meikle (1995), Aristotle seeks to uncover our surety in the justice of exchange so that we end up with equal and/or reciprocal proportions but is unable to find this quantifiable thing, as it does not exist in nature. The problem of exchange starts to emerge in a profound way based on the division of labor. The expansion of the world necessitated the introduction of a medium of exchange. As the world grew and cities became the epicenter of trade, it became necessary to have a method of exchange for those who wished to purchase from and sell their goods to those who, at the current time, have nothing of use of which to barter. Enter money as medium of exchange.

It is important to remember that money is a rhetorical tool and is an idea not a thing (Thames, 2011). It does not occur in nature and it is an idea that human beings created. Money has worth only because of an agreement: by agreeing it becomes part of the human world (Nomos). If you don't believe in the idea, then money is worthless. Money can be anything you want it to be by agreement; if there is no agreement, money does not exist. The problem is that the idea of money is very seductive. In a traditional hunter-gatherer society you have a natural division of labor resulting in numerous efficiencies such as specialization and the development and improvement of tools. The notion of the division of labor births a greater efficiency of labor resulting in the development of surpluses. People engaged in exchanging commodity for commodity: $C—C^1$. Once money is introduced, it facilitates exchange over time and distance which modifies exchange into commodity – money – commodity: $C—M—C^1$. This is possible because money is typically something that is durable and stable.

In NE 5, Aristotle provides the first clear statement of money as a store of value when he states "money serves as a guarantee of exchange in the future: supposing we need nothing at the moment, it ensures that exchange shall be possible when a need arises, for it meets the requirement of something we can produce in payment so as to obtain the thing we need" (1133b 10-13). The natural evolution, at least according to Marx, of the exchange equation becomes money – commodity – money: $M—C—M^1$. Money in effect, facilitated the switch from use value to exchange value in economics. It is important to note that for Aristotle the exchange equation of $M—C—M^1$ is a perversion and one that he rejects. When this shift occurs and exchanges occur without a commodity, then exchange value can be pursued without convention in the form of money - money: $M—M^1$, resulting in the concept of usury, or lending money for money.

Aristotle speaks harshly about usury, "the most hated sort, and with the greatest reason, is usury, which makes a gain out of money itself, and not from the natural object of it. For money was intended to be used in exchange, but not to increase at interest… Wherefore all modes of getting wealth, this is the most unnatural" (1258b 1-8). This concept was widely panned and even forbidden in ancient societies and some religions. According Meikle (1995), Aristotle believes that the use made of a thing in exchanging it is good or bad depending on the end served by the exchange. Exchanging a thing in the $C—M—C^1$ circuit is good because it brings together use values and needs. The use made of a thing in the $M—C—M^1$ circuit is bad because the end is bad (p. 55).

As one looks to texture the discussion about reciprocity with additional viewpoints, there is much to be gained from a foray in the genre of interpersonal communication literature, specifically the work of Buber and as a counterpoint Levinas. Because both differ from Aristotle on the specific definition of reciprocity, I look to them only for support on the larger reciprocity/relationship issue. Much of the interpersonal communication literature is based in psychology, therefore I will take a philosophic approach when creating connections to reciprocity.

BUBER'S I-THOU

In *I-Thou,* Buber (1970) is writing to describe the optimal conditions that exist which allow us as human beings to communicate with one another. Dialogue is essential and the natural consequence of the recognition of the other in an I-Thou and an I-It relationship that is by nature reciprocal. His philosophy can best be understood through the metaphor *the narrow ridge*. "I have occasionally described my standpoint to my friends as the narrow ridge. I wanted by this to express that I did not rest on the broad upland of a system that includes a series of sure statements about the absolute, but on a narrow rocky ridge between two gulfs where there is no sureness of expressible knowledge but the certainty of meeting what remains undisclosed" (as quoted in Friedmann, M., Martin *Buber; The Life of Dialogue*, 1955).

A look at Buber's (1970) work in *I-Thou*, gives us three distinct parts. In the first part after setting up the primary word pairs (I-Thou, I-It), he moves into the concepts of experience and relation. The I is relational; therefore, there is a relationship between the I and Thou, and the I cannot be spoken of without either the Thou or It. As Buber looks at how man experiences the word, he sees the world of experience belonging to the I-It while the world of relations belongs to I-Thou. It is important to note that relation for Buber equals reciprocity: My Thou acts on me as I act on it. Nothing is a component of experience or reveals itself except through the reciprocal force of confrontation. In the beginning is the relation, as the category of being, as readiness, as a form that reaches out to be filled, as a model of the soul; the *a priori* of relation; the innate you. Man becomes an I through a Thou. The individual Thou must become an It when the event of relation has run its course: the individual It can become a Thou by entering into the event of relation. In the second part of the book, Buber deals more with the concept of experience and also confrontation as a condition for relating to an Other. It is solely in his power to relate that man can live in the spirit. As man beholds what confronts him, its being is disclosed to the knower in the act of relation. Here he also talks about his idea of a community. For him, there are two elements necessary for community; all people stand in a living, reciprocal relationship to a single living center, and all people have to stand in a living, reciprocal relationship to one another. A community is built upon a living, reciprocal relationship, but the builder is the living, active center. In the third section, Buber presents a discussion about the divine as well as his critique of faith. He starts by clarifying that through every single Thou the basic word addresses the eternal Thou; therefore, we experience the Thou in the encounter. The Thou confronts me and I enter into a direct relationship to it. The relationship is at once being chosen and choosing, passive and active.

Looking to Glazer (1981), Buber's work may be formulated as follows

> Reality is not myself, not 'the world,' and not God. Only if I turn with my whole being to the other, if I relate to the other as to a thou, only then am I truly I, and only thus is reality established. We live in a realm in which we are addressed by a thou, or better, in which we acknowledge words spoken and events happening as an address to us, to which we respond. In true life, I do not use my fellow being as I would use an object, but take part in dialogue. What matters is the openness, the trust, and the readiness to speak and to respond with which we confront the fellow man, the world, and ultimately, God.

Buber's philosophy of dialogue radically shifts the whole ground of ethical discussion by moving from the universal (Kant, 1998) to the concrete and from the past to the present. Buber (1970) does not start from some external, absolutely valid ethical code which man is to apply as best as possible to each new situation. Instead he starts with the situation itself (Schlipp & Friedman, 1967). As a way to better establish Buber's philosophy, let us look at his controversies with spokesmen of other modern philosophies. He was, for example, opposed to Kierkegaard's (1985) dictum, "Everyone should be chary about having dealings with 'others' and should essentially speak only with God and with himself," thus becoming "a Single One." "In order to come to love," says Kierkegaard (1985) about the renunciation of his fiancé, Regina Olsen, "I had to remove the object." That, says Buber, is sublimely to misunderstand God. We are created along with one another and directed to a life with one another. For Buber, a God reached by the exclusion of his fellow-creatures would not be a God of all lives in whom all life is fulfilled. Yet, while Kierkegaard's quest for solitariness affirms at least man's communion with God, it is Max Stirner (1974), author of *The Unique One*, who eliminated the possibility of a relationship even between man and man. Stirner (1974) asserts that the man who belongs to himself alone is by origin free, for he acknowledges nothing but himself. Counter-posing Stirner, Buber (1970) proclaims that there is need of man's faith in the truth as that which is independent of him, which he cannot acquire for himself, but with which he can enter into a real relation. For Buber, the faith of human persons in the truth is that which sustains them together. Buber also opposed Martin Heidegger on the same central issue. While Kierkegaard's (1985) man stands alone before God, Heidegger's (1962) man stands before himself and nothing else, and since in the last resort one cannot stand before oneself, he stands in his anxiety and dread before nothing. Modern, solitary man, as depicted by Heidegger, is only the result of Nietzsche's (1924) assertion that God is dead.

Vogel (1970) describes the fundamental ethical concept, the concept on which Buber's ethical thought is built, as the concept of responsibility. The content of this concept, i.e., its ethical meaning and significance, is constituted by the answers to the following two questions: 1) Responsibility for what? and 2) Responsibility to whom? These questions by their very formulation already imply and necessitate the relational structure. Thus, from the very beginning, from the very choice of the touchstone on which his ethics will be built, Buber's ethics moves in the sphere of the relation (Vogel, 1970). The continuity of being responsible for a Thou as well as responsive to him is essential for an ethic of personal relations (Schlipp & Friedman, 1967).

To the first question, "Responsibility for what?" Buber (1970) provides one and only one answer, holding fast to it throughout a lifetime of concern with the domain of ethics and in spite of shifts and changes which occurred in other aspects of his ethical thought. His answer is: one has responsibility for responding (Vogel, 1970). One cannot respond to an It, but only to a Thou. Buber, therefore, is in effect stating already in his answer to the first question that there is a responsibility to enter the I-Thou relation. Buber's answer links itself to the I-Thou context, and consequently places Buber's ethical thought in its entirety in the I-Thou domain. His ethics is grounded in his ontology of relation (Schlipp & Friedman, 1967). This grounding could already be clearly seen in the choice of the concept of responsibility as the fundamental concept of his ethics in as much as the concept is thoroughly relational in its structure. Dialogue not only means awareness of what addresses one, but responsibility. Responsibility, for Buber, means responding (Schlipp & Friedman, 1967). Having grounded his ethics in his ontology, Buber must proceed to define responsibility in terms of responding, namely, he must maintain that the responsibility required ethically is for responding. For Buber's ontological formulation states not only that concrete, real being is being-in-relation, but furthermore that authentically realized being is being in the I-Thou relation specifically (Schlipp & Friedman, 1967). The I-Thou relation, however, in its ontological formulation is a relation of meeting constituted of address and response. The ontologically realized authentic being, therefore, is a responding being. It is Buber's ontological view of what constitutes authentically realized being that justifies and indeed requires his ethical demand for responding (Vogel, 1970). The presence of a true relation, i.e., a relation between two distinct entities over against each other, is a necessary presupposition for Buber's ethical thought, since without it the two basic and essential ethical concepts, that of responsibility and that of responding, would not be feasible. The responsibility to respond is placed upon me by the Absolute Thou, it being conceived here as a fully concrete, specific, individual Thou over against me, universally and eternally present, namely, a Thou without the potentiality of ever slipping into an It. I am to respond not because of any explicit content directing me but by the mere presence of the Thou over against me, since the ontological structure of the Thou demands that I respond to it (Vogel, 1970). Relation is mutual, even a tree can stand over against me as an equal, with its own rights and dignities and claims. Buber believes that in order for something to be ethical, it must be tied to a relational experience with the Eternal Thou, God.

The main concept of Buber’s ethic is responsibility, responsibility to respond to the Thou. As we enter into a relational engagement, the Thou by its very presence calls for a response. We are responsible first to become our true self, thus leaving behind the self-centered desires, and respond to the essence of the Thou. The basis for Buber’s ethics is the idea that we are called and compelled to respond to the Other and thus enter into a true dialogue. The connection to reciprocity is easily made, as Buber himself uses the term when describing the relational aspect of a call and response.

LEVINAS AND RESPONSIBILITY

Levinas gives us a counter point to Buber’s relational reciprocity. Beyond any other philosophical concerns, the fundamental intuition of Levinas's philosophy is the non-reciprocal relation of responsibility. In his article *A Reciprocal Asymmetry? Levinas’s Ethics Reconsidered*, Tatransky` (2008) explains that for Levinas the Other is not present to me in the same sense in which I am present to myself. The Other remains always a separate being, whose transcendence prevents me from establishing a direct relationship (p. 296). The phenomenological descriptions of intersubjective responsibility are built upon an analysis of living in the world. These are unique to Levinas. They differ from Heidegger's analytic of existence. For Levinas, an ‘I’ lives out its embodied existence according to modalities. It consumes the fruits of the world. It enjoys and suffers from the natural elements. It constructs shelters and dwellings. It carries on the social and economic transactions of its daily life. Yet, no event is as affectively disruptive for a consciousness holding sway in its world than the encounter with another person. In this encounter (even if it later becomes competitive or instrumental), the ‘I’ first experiences itself as called and liable to account for itself. It responds. The ‘I’'s response is as if to a nebulous command. The command or summons is part of the intrinsic relationality. With the response comes the beginning of language as dialogue. The origin of language, for Levinas, is always response; a responding to another, that is, to her summons. Dialogue arises ultimately through that response (Tatransky`, 2008). Although for very different reasons than Buber (1970), reciprocity, or response, occurs between me and the Other as a fundamental action resulting in a communicative act. Both Buber and Levinas make it clear that reciprocity, sometimes called response or responding, is essential in the relationship between individuals.

Interpersonal communication literature, when approached from a philosophical perspective, assists in establishing the import of reciprocity.

RECIPROCITY

As I have asserted and has been illustrated by a look at interpersonal scholars, Buber and Levinas, reciprocity is the appropriate paradigm for interactions between individuals. In order to better understand this paradigm, I will elucidate the concept more deeply. In *A Contribution to the Critique of Political Economy* Marx (1904) quoted Aristotle: "For neither would there have been association if there were not exchange, nor exchange if there were not equality, nor equality if there were not commensurability." The introductory clause ("for neither would there have been association if there were not exchange"), seems to make reference to reciprocity. Aristotle is describing a society in which exchange of goods was not a mechanical but a moral transaction, bringing about and maintaining relationships between individuals and groups. In Book 5 of The *Nicomachean Ethics,* Aristotle's concern is with justice, that subset of virtue concerned with relations to one's neighbor (1130a3-4). After a brief section on "universal justice", he turns to "particular justice", that is, the just as the fair and the equal. Under this heading he first discusses distributive and rectificatory justice, before turning to "justice in exchange, reciprocity in accordance with proportion" (McNeil, 1990, pp. 56-58).

Reciprocity, the giving of benefits to another in return for benefits received, is a defining feature of social exchange. As Emerson (1981) noted, it is this feature that gives exchange its name: "Benefits obtained through social process are contingent upon benefits provided in exchange" (p. 32). Recognition of the importance of reciprocity in social life is by no means restricted to exchange theorists; however, Hobhouse (1906) called reciprocity "the vital principle of society" (p.12). Becker (1956, p. 1) referred to our species as "homo reciprocus," and Simmel (1950, p. 387) noted that social equilibrium and cohesion could not exist without "the reciprocity of service and return service." Gouldner (1960) proposed that an internalized moral obligation - "norm of reciprocity" helps assure that people help others who have helped them in the past. More recently, Nowak and Sigmund (2000) have described reciprocity as the evolutionary basis for cooperation in society (Molm, et. al, 2007, p.199).

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NET PENSION LIABILITY IMPACT ON SCHOOL DISTRICTS AFTER INCORPORATION OF GOVERNMENTAL ACCOUNTING STANDARDS BOARDS (GASB) STATEMENT NUMBER 68

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ABSTRACT

This paper analyzes twenty school districts in the state of Pennsylvania and applies ratio analysis to understand the potential effect of GASB number 68 on the financial statements of these entities. The financial statements were picked on a random basis from the Electronic Municipal Market Access (EMMA, 2016) database. EMMA is a research and data retrieval system of the Municipal Securities Rulemaking Board (MSRB). The MSRB provides resources to trade municipal bonds and access to the financial statements of entities selling these securities.

The paper was developed as a result of the requirement by GASB to "recognize their long-term obligation for pension benefits as a liability for the first time, and to more comprehensively and comparably measure the annual costs of pension benefits" (GASB, 2016).

The public schools in Pennsylvania incorporated GASB number 68 for the fiscal year ended June 30, 2015 and restated the financial statements for the fiscal year ended June 30, 2014. The effects of these restatements created a situation where most of these districts now show a negative fund balance caused by an increase of liabilities of over one hundred percent. Many of the decision makers are uncertain of the long-term changes that this recognition will have on the operations of the school district. Bond ratings have suffered because of the volatility and uncertainty causing negative effects on the balance sheet, increased current recognition of pension expenses, and a possible interest rate increase. All of these effects are illustrated in this paper. This is at a time where many people are questioning the performance of many of the school districts.

INTRODUCTION

Pension funding for governmental entities after the incorporation of Governmental Accounting Standards Board statement number 68 is experiencing similar problems to the funding of defined benefits in corporations. Publicly traded corporations were required to recognize these obligations for fiscal years ending after December 15, 2006 (Financial Accounting Standards Board, 2016). This change in accounting standards created an environment where many companies changed from a defined benefit retirement program to a defined contribution system after the liability of the pension fund increased and the shareholders' equity decreased. This change in financial leverage increased the perceived risk factors for these corporations. Many corporations changed from a defined benefit structure to defined contribution plans as a result of the change in accounting principle.

Governmental units will experience an increase in liabilities and a decrease in fund balance because of the additional pension obligation caused by the change in accounting principle. The financial statements in this study show an increase in the funding of pensions along with an increase in liabilities and a deficit in the fund balance. The increase in pension expense may be attributed to the gap in funding that had already existed but had not been recorded. According to a 2013 report by Morningstar using data from the actuarial firm, Milliman "there is a $1.2 trillion dollar gap in 2012 for the largest 100 U.S. public pension plans" (Morningstar, 2012). This gap was not transparent in past financial statements because the unfunded liability was not stated on the financial statements of these entities. Government Accounting Standards Board statement number 68 requires that all governmental entities record the additional liability on the financial statement starting for financial statements dated after December 15, 2014.

Many states including Pennsylvania have a potential funding issue. The funded ratio varies state to state with 12 states having a funded ratio of at least 80%, 13 states are funded between 70 and 80%, and 25 states are funded at less than the 70% benchmark (Barkley, R., 2013). The Pennsylvania Public School Employees Retirement System has a funding rate of 66% while the State Employees' Retirement System has a funding rate of 59% (Barkley, R, 2013). The unfunded liabilities of these plans may cause problems including higher interest rates on bonds. Left unsolved, these changes could result in additional cases of municipal distress (Taft, J., 2015).

This paper is a study of twenty public school districts picked at random from a list of 596 districts in the state of Pennsylvania. The financial statements for the years ending June 30, 2015 and the June 30, 2014 were used. Governmental Accounting Standards Board (GASB) statement number 68 was incorporated for the June 30, 2015 financial statements and the June 30, 2014 financial statements were restated. We also used the statement of financial position issued as of June 30, 2014 for liability estimates before the effects of GASB number 68. The net pension liability is managed by the Public School Employees' Retirement System (PSERP) (Public School Employees' Retirement System, 2016). The number of employees served by PSERP has increased from 37,000 in 1919 to more than 600,000 today (PSERP, 2016).

ANALYSIS OF THE PENSION REQUIREMENT ON THE FINANCIAL STATEMENTS OF PUBLIC SCHOOL DISTRICTS IN PENNSYLVANIA

Appendices One, Two and Three illustrate the effect of GASB 68 on the financial position of the public schools. Appendix One illustrates the difference in liabilities caused by statement 68, Appendix Two calculates the debt to asset ratio, and Appendix Three is the debt to assessed value for the districts. The increase in liabilities is caused by the recognition of the obligation to pay pensions as stated in the employee contracts with the school districts. The debt to asset ratios allows the reader to understand the scale of the liability as measured by comparing these obligations to the recognized assets of the entity. The debt to assessed valuation compares the liabilities to the real estate assessed valuations for real estate taxes in the district. Public Schools in Pennsylvania are funded by taxes charged to homeowners and businesses based on the value of their real estate. This is also a controversial item in the state because it provides additional funding for districts in wealthier neighborhoods. Pennsylvania's school districts continue to be highly dependent on the local wealth of their communities to support students' academic achievement due to inefficient state funding (Pennsylvania School Funding Project, 8/2017).

The analysis of the total liabilities of the twenty schools illustrate the difference caused by GASB number 68. The average total liabilities before the restatement was $85 million and the average total liability after the restatement is $177 million. The average difference is calculated to be $92 million (see Appendix One). The total liabilities remained consistent from the restated 2014 number to the 2015 total of $177 million compared to $178 million. The total liabilities of the twenty school districts increased 1.08 times (91,972/84,914) on the average according to Appendix One. District one (the smallest school district in terms of liabilities) increased their liabilities 4.10 times (19,166/4,670) and district nineteen increased their liabilities .39 times (23,423/59,489). The additional debt posted on the statement of financial position at Pennsylvania Public Schools will also require the state to revise their assessment of school districts that would be designated as part of their financial watch system. The revising of the pension liability will cause schools to be part of the watch because of the change in fund balance ratio, borrowing base capacity, and debt ratio.

The debt to asset ratio before restatement was .738. This ratio increased to 1.667 because of the additional liabilities on the balance sheet as the result of GASB #68. The debt to asset ratio was 1.662 in 2015 (see Appendix Two). This ratio allows the financial statement reader to understand the scale as it is related to the assets of the entity and the increase in the total liabilities as a result of the change in accounting standards. The ratio of .738 to 1.00 means that on the average the districts had less than seventy-four cents in obligations for each dollar in assets recognized on the financial statements. The change in standard show that unrecognized liabilities for pension funding is calculated to increase the obligation by almost ninety-three cents on every dollar. The districts on average in 2015 are now presenting a balance sheet that has 1.667 times more liabilities than assets. This creates a negative fund balance calculation indicating that the cumulative effect of operation and school funding is negative partially caused by the increase in expenses and recognized liabilities of providing pensions to employees.

The debt to assessed value calculation (Appendix Three) will show the impact of the increased liabilities on the real estate basis the district has for potential funding. The increase from .07 (2014 before restatement) to .16 (2014 after restatement) indicates that the schools have more than doubled the burden as compared to assessed valuation for taxpayers on paper. This liability existed before the restatement but the increased transparency will put pressure on schools to operate with less funds as their taxpayers see the increased responsibility to fund public education. This may be problematic in the school districts with lower assessed values for their real estate. Districts with the lower home values will potentially have less funds as the taxpayers may apply political pressure to mitigate the property tax increase. It will also be a potential area of concern for districts with real estate that is not taxed including universities, churches and other not-for-profit entities.

The school districts have always been responsible for the increased liability but the unfunded liability was not recognized until the fiscal years ended June 30, 2015 with a restatement of the June 30, 2014 financial statements for comparative purposes. These differences illustrate that the volatility caused by the change in reporting for pensions will be uneven in the different governmental entities even within similar types of entities. This transparency may cause certain school districts to face additional financial scrutiny as their statement of financial position is not as strong when you benchmark the numbers to other districts. In most cases the changes caused by these increased liabilities are consistent from the 2014 restated numbers to the 2015 liabilities. The assets of the district will not change based on the incorporation of the new standard but the net position will change in proportion to the change in recognized liabilities.

Appendix Four contains an analysis of net position. The average net position decreased after the restatement of the liabilities to a negative fund balance of an average of $68 million dollars. This balance remained constant for the 2015 fiscal year. The decrease in net position of $90 million dollars is equivalent to the increase of total liabilities of $92 million dollars for the restatement caused by Governmental Accounting Standards Board Statement number 68. Several other items were also restated on the financial statements causing the difference of approximately $2 million dollars.

The change in fund balance is significant but each of the school districts showing a negative fund balance may cause the policy makers to consider alternatives to the current funding or possibly raising taxes. The November elections may give an indication of the stance of the various parties to this negative fund balance issue across the school districts. This decrease in fund balance will also affect other state and local governmental agencies that have a significant liability caused by pension obligations.

School districts before the incorporation of GASB #68 struggled to balance the budget. "Fueled by cuts in state funding and dramatic increases in pension costs some districts have depleted their fund balances just to balance budgets and avoid laying off teachers" (Hall, S., 8/17/2014). This was the state of the school districts before the incorporation of the new standard. "School Districts should keep a fund balance of 5 to 10% of their total budget" (Hall, S. 8/17/2014). This will be a difficult standard with the recognition of the pension liabilities.

Governmental and Financial Accounting standards take a long time to go into effect. These standards are vetted by the preparers of financial statements and many of these firms will estimate the effects on the financial statements of the incorporation of the new standards. Brown, Schultz, Sheridan and Fritz prepared a statement in January, 2014 detailing the potential effects of GASB # 68. The table within the article stated that the accrued liabilities for pensions in 2012 were $87.8 billion, the actuarial value of the assets calculated at $58.3 billion, and the unfunded liability was calculated at $29.5 billion (Esworthy, S. 1/2014). The funding ratio from the period 2003 to 2012 decreased from 97.2% to 66.4% (Esworthy, S. (1/2014). The problem increased significantly from 2003 to 2012 and the funding of the school districts pension obligation was deteriorating even before the incorporation of the new standard in 2015.

Appendix Five pension contributions illustrates that many of the school districts have increased their pension contribution from 2014 to 2015. This may be the result of the recognition of the funding status on the statement of financial position or as a result of a need to address the funding issue that has developed starting in 2003 (see previous paragraph). Most school districts in central Pennsylvania are looking to raise taxes next year at a rate of five, six, or seven percent (Mattera, J. 6/23/2016). The article discusses various reasons for the tax increases and one of the reasons is rising pension costs. School districts were able to defer funding the rising costs of pensions as evidenced by the 2003 to 2012 funding decrease of 30%. The transparency of the new standard is forcing these districts to address the issue.

CONCLUSION

The challenges of funding a defined benefit plan is the risk is assumed by the governmental entity. The pension assets of governmental entities depend on the investment strategy of the fund along with the promised benefits of the benefit. The analysis of total liabilities and net position indicate that the change in reporting pension liability will create an additional $90 million dollars of recorded obligation on the balance sheet and a negative fund balance for the school districts. This obligation was not recorded prior to 2015 but the future payments were going to be paid when the employees retired. This obligation was being paid in the past based on a growth model for the school districts. The number of employees retiring is increasing as the demographics of the state have changed.

The funding of the pension expense has been decreased from 97% in 2003 to 66% in 2012. Pension analysts note that the shortfall was increased because of the epic market collapse of 2008 (Schoen, J. 2015). The state has recognized this problem and it has resulted in a delay in the 2015 state budget. One of the items being discussed is to create a retirement plan based on a defined contribution with the state providing matching funds. This plan was not enacted for the 2015 and 2016 budget. The hybrid plan was passed for the 2018 Illinois budget (State Universities Retirement Systems (SURS), 7/7/2017). The 2016 -2017 Pennsylvania budget resulted in a $345 million increase in pension funding to a level of $2.064 billion (Pennsylvania School Board Association, 9/2016).

The debt to assessed value has more than doubled and many lawmakers are questioning the fairness of a system based on property taxes. One of the problems with his method is the unequal funding of schools. Governmental Accounting Standards Board Statement # 68 is providing a transparent view of the potential problems with the funding of pension obligations.

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Appendix One

Analysis of Total Liabilities

numbers in thousands of dollars	Total Liabilities-2015	Total Liabilities-2014	Total liabilities -2014	difference between 2014
			before restatement	total liabilitites
District one	23,188	23,836	4,670	19,166
District two	58,718	59,149	22,388	36,761
District three	138,166	129,071	70,056	59,014
District four	419,849	386,599	240,915	145,684
District five	549,160	588,147	234,144	354,004
District six	44,486	45,853	22,048	23,805
District seven	260,891	245,617	71,887	173,730
District eight	51,475	54,465	16,231	38,234
District nine	62,829	63,683	32,244	31,439
District ten	30,861	31,881	11,156	20,725
District eleven	87,007	91,805	36,336	55,469
District twelve	65,972	61,600	25,371	36,229
District thirteen	42,530	42,043	17,440	24,603
District fourteen	670,133	625,614	339,215	286,398
District fifteen	89,805	92,469	47,030	45,439
District sixteen	178,183	188,180	83,629	104,551
District seventeen	407,271	416,206	203,911	212,295
District eighteen	221,096	225,110	112,781	112,329
District nineteen	91,959	82,912	59,489	23,423
District twenty	81,842	83,490	47,344	36,146
Average	178,771	176,886	84,914	91,972

Appendix Two

Debt to Asset Ratio

School District	Debt to Assets-2015	Debt to Assets-2014	Debt to assets 2014 before restatement
District 1	2.481	2.535	0.497
District 2	1.201	1.192	0.451
District 3	1.579	1.430	0.776
District 4	1.388	1.252	0.780
District 5	2.109	2.269	0.903
District 6	1.307	1.341	0.645
District 7	1.518	1.600	0.468
District 8	1.485	1.574	0.469
District 9	1.618	1.614	0.817
District 10	1.533	1.600	0.560
District 11	2.922	2.925	1.158
District 12	1.235	1.197	0.493
District 13	1.360	1.300	0.539
District 14	2.091	2.175	1.179
District 15	1.717	1.485	0.755
District 16	1.407	1.462	0.650
District 17	1.453	1.441	0.706
District 18	1.442	1.475	0.739
District 19	1.333	1.394	1.000
District 20	2.051	2.083	1.181
	33.230	33.345	14.768
	1.662	1.667	0.738

Appendix Three

Debt to Assessed Valuation

School District	Debt to Assessed Valuation -2015	Debt to Assessed Valuation - 2014	Debt to assessed valuation before restatement - 2014
District 1	0.215	0.236	0.046
District 2	0.073	0.074	0.028
District 3	0.170	0.159	0.086
District 4	0.658	0.602	0.375
District 5	0.110	0.122	0.049
District 6	0.277	0.289	0.139
District 7	0.053	0.051	0.015
District 8	0.055	0.043	0.013
District 9	0.099	0.102	0.052
District 10	0.218	0.226	0.079
District 11	0.356	0.376	0.149
District 12	0.076	0.071	0.029
District 13	0.126	0.127	0.052
District 14	0.163	0.153	0.083
District 15	0.053	0.055	0.028
District 16	0.083	0.089	0.040
District 17	0.071	0.073	0.036
District 18	0.090	0.093	0.046
District 19	0.069	0.064	0.046
District 20	0.145	0.154	0.088
Average	0.16	0.16	0.07

Appendix Four

Analysis of net position

School District in thousands of dollars	Total Net Position-2015	Total Net Position-2014	Total net position -2014 before restatement	Difference in net position - 2014
District 1	(13,570)	(13,491)	4,732	18,224
District 2	(8,314)	(7,619)	27,215	34,834
District 3	(49,168)	(49,776)	20,187	69,963
District 4	(110,662)	(109,874)	67,800	177,674
District 5	(300,044)	(305,072)	25,083	330,155
District 6	(11,157)	(11,731)	12,135	23,866
District 7	(88,107)	(82,630)	81,629	164,260
District 8	(16,673)	(17,901)	18,372	36,272
District 9	(23,131)	(22,474)	7,215	29,689
District 10	(10,949)	(11,027)	8,765	19,792
District 11	(58,428)	(57,769)	(4,945)	52,824
District 12	(11,700)	(8,314)	26,074	34,388
District 13	(11,438)	(9,535)	14,895	24,431
District 14	(312,751)	(310,487)	(51,601)	258,887
District 15	(36,180)	(37,595)	15,235	52,831
District 16	(50,783)	(52,504)	45,074	97,578
District 17	(121,846)	(117,728)	85,015	202,743
District 18	(66,994)	(66,811)	39,862	106,672
District 19	(21,925)	(21,523)	17,963	39,486
District 20	(41,675)	(40,476)	(7,257)	33,219
Average	(68,275)	(67,717)	22,672	90,389

Appendix Five

Pension Contributions

District	Pension Contributions	Pension Contributions	Increase in Pension	percent increase
thousands of dollars	2015	2014	Contribution 2014 - 2015	2014 - 2015
District 1	1,174	948	226	24%
District 2	2,428	1,805	624	35%
District 3	4,697	3,732	964	26%
District 4	12,215	12,530	(315)	-3%
District 5	21,764	17,690	4,074	23%
District 6	1,709	502	1,207	240%
District 7	11,482	9,214	2,268	25%
District 8	2,604	1,805	799	44%
District 9	2,110	1,648	462	28%
District 10	1,381	1,053	327	31%
District 11	3,645	2,799	846	30%
District 12	2,450	1,948	503	26%
District 13	1,906	1,430	476	33%
District 14	19,578	15,281	4,297	28%
District 15	3,026	2,255	771	34%
District 16	6,371	5,412	959	18%
District 17	13,957	10,649	3,308	31%
District 18	7,466	5,985	1,481	25%
District 19	2,681	2,094	587	28%
District 20	2,322	1,831	491	27%
Average	6,248	5,031	1,218	38%

"I KNOW I AM, BUT WHAT ARE YOU?": PUBLIC PERCEPTIONS OF UNIONS, MEMBERS AND JOINING INTENTIONS

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ABSTRACT

Students' perceptions of demographic, social and behavioral characteristics of union members were analyzed in comparison to the statistical data regarding union members. Respondents also provided perceptions regarding unions themselves as well as future joining intentions. Overall, respondents accurately identified some characteristics of union members and were incorrect on others. General union image was poor as well as future joining intentions. The results of this analysis suggest that union density declines in the private sector will continue.

INTRODUCTION

Unions' raison d'etre is the protection of employee rights to fair treatment. However, there should be a balance between individual rights, group rights and societal goods. Occasionally, these are at loggerheads. For example, in 2014, heroin and related usage paraphernalia were found in a teacher's bathroom at an elementary school and the police were notified. An investigation ensued and narrowed the suspects to a small group of unionized teachers and aides. As the probe continued, the union stepped in and ground the investigation to a halt. Many parents, as well as much of the community, were outraged. In the protection of members' rights, the union may be perceived to be detrimental to society, children and other workers.

Other cases often influence the perception of union members. In these instances, members seemingly act alone in a miscreant manner. Ed Sweeney was convicted of arson, among other charges, related to burning down of a Quaker (avowed pacifists) meeting house because union members were not hired to build it. In a similar vein, Joseph Dougherty, of the Ironworkers Union, was sentenced nearly 20 years in prison on an array of charges. The FBI has spent years investigating alleged criminal activity by another labor union leader, John Dougherty of the Electricians union. FBI wire taps connect John Dougherty to high ranking local politicians. As with many other criminals, alleged or convicted, a social stigma is attached and individuals attempt to disassociate with these people. Given that union members frequently refer to one another as brother or sister, one in naturally inclined to ask, do you want to freely associate with these individuals? Granted these are the actions of a limited group of union members, but the possibility does arise that this will become the perception associated with the union or its members.

It is also quite possible that more positive acts by union members are the actions that form the basis of the stereotypes of union members. In 2017, a series of hurricanes battered the southern United States. Homes were destroyed and many residents needed assistance rebuilding. Unions from across the United States are contributing money, goods and time to help the victims of the hurricane ravaged areas. The actions of these union members could create a positive image of the union and its members. Thereby, increasing the desirability of affiliation with these members.

In addition to actions and behavior of the members, general perceptions regarding various demographic and societal statuses will influence the desirability of union membership. The old adage regarding flocking birds ("Birds of feather, flock together") pertains to demographic, social and behavioral criteria. Social proximity (Festinger, 1954), social identity (Tajfel, 1972), social attractiveness (Hogg & Hains, 1996) and social categorization (Hogg & Terry, 2000) have traditionally been used to understand group membership formation and desirability. At the heart of these theories are beliefs regarding members of groups and the groups themselves.

As individuals see themselves as having similar characteristics as union members, non-union members may be more willing to associate with members and possibly join unions. While surface level characteristics are known to bring individuals together, more deeply held characteristics (ex. political ideology) are associated with group cohesiveness (Hogg & Abrams, 2007). People will are attracted to and join groups with similarly held values and characteristics (Schneider & Smith, 2004; Butler, Bateman, & Gray, 2014). However, perceptions are wrought with cognitive errors and biases. Outgroup members often hold incorrect perceptions of the meaning to be a member of a group.

This study compares perceptions of union members to data on union members to determine if potential union members correctly perceive the “union member”. Respondent’s perceptions of the union itself are also discussed as well as behavioral intentions regarding future union joining intentions. Finally, practical implications and suggestions for union leadership are offered.

BACKGROUND

There is a long and undisputed decline in union density rates in the United States. Union density peaked in the 1950s and has been steadily declining since the heyday. Many different reasons have been offered to explain the decline. One typology focuses the explanation on union image (Youngblood, DeNisi, Molleston, & Mobley, 1984). More recently, others have begun to note that the union image is based upon the action of the members (Cornwell & Harrison, 2004). Another possible answer is less involvement in groups and civic engagement (Putnam, 2001). There has been a decline in voluntary associations such as unions in American for decades which may be exacerbated with Millennials (Cates, 2014). The topics of decline in union density, perceptions regarding labor unions, perceptions about union members, and finally union joining intentions will be briefly reviewed.

Decline in Union Density

Unions reached their pinnacle of union density in the 1950s and membership in the 1970s (Rosenfeld, 2014). While overall union density has been on a near constant decline over the last six decades, this has not been uniform in all sectors. Public sector union density has generally fluctuated around one-third, but private sector has reached 1930s levels of union density (Rosenfeld, 2014).

Various reasons have been offered for the overall decline in union density. The various reasons include changing demographics and work environments, substitution effects and the actions of the union themselves (Masters, Gibney, & Zagenczyk, 2006; Rosenfeld, 2014; Youngblood et al. 1984). The demographic and work environment argument is that as the workforce and the nature of work has changed, individuals and industries that were predisposed to joining a union comprise a far smaller percentage of the workforce. For example, African Americans, college graduates, and white collar employees are less desirous of union representation, but are an increasing percentage of the workforce. Therefore, as these populations increase as a percentage of the workforce, union density will decline. The results of this study suggest that this may not be accurate.

The substitution argument is that unions have been so effective in their support of workers that government legislation and regulation have been incorporated into law and are now required of all companies. Because individuals can get the benefits associated with unionism without associated costs such as dues and fees, the government has effectively substituted itself for unions. This is closely aligned with the idea of political unionism in which unions work to support the election of political candidates who are supportive of labor’s agenda (Masters, Gibney, & Zagenczyk, 2006).

The government substitution effect is amplified by the human resource substitution effect through mimetic isomorphism. Given that there is no appreciable increase in productivity, decreased profitability to companies and detrimental economic effects to the economy writ large (Doucouliagos, & Laroche, 2003; Hirsch, 2004), management attempts to provide benefits that would be gained through unionization without the associated cost to employees and employers alike. Recently, unions have been welcomed into companies with a union acceptance strategy, but lose the election even when supported by the company and union (Leef, 2015).

The actions of the unions argument was at the heart of the split of the Change-To-Win (CTW) from the AFL-CIO (Masters, Gibney, & Zagenczyk, 2006). In contrast to political unionism is the concept of business unionism. Business unionism is best conceptualized as the traditional union activities such as organizing campaigns, negotiations and other bread and butter activities of the union. The CTW leadership argued that the leadership of the AFL-CIO had lost sight of business activities and was too focused on political unionism. At the Federal level, unions were instrumental in the elections of Presidents Clinton and Obama. There has been a long history of unions supporting and endorsing Democratic candidates. Roughly, 40% of Americans are registered Democrats. By strictly endorsing Democrats, the union may alienate up to 60% of the country who are not registered Democrats. If potential members incorporate political affiliations and ideology (ex. Moderate independent), they are less inclined to see an overlap of personal identity and union identity which would reduce union joining intentions.

Perceptions of Union

The actions of the unions must be taken in a larger context. The behavior of the unions create perceptions of the unions which are highly predictive of union certification election results (Barling, Kelloway, & Bremermann, 1991; Youngblood et al. 1984). This view (Medoff, 1987) argues that individuals become aware of the actions of the union through experience, friends, media, etc. and form an overall perception of the union. The union image is compared to the individual's self-perception which influences voting behavior.

Overall, as the approval rate of unions has declined so has union density (Medoff, 1987). More recently, scholars have begun to disentangle the beliefs regarding unions as a whole from beliefs regarding specific unions (Park, McHugh, & Bodah, 2006). The idea is that individual unions may have a better public image than all unions combined. Essentially, an "I disapprove of unions but mine is great" viewpoint. Even though divergent general and specific beliefs coexist, Park, McHugh, and Bodah (2006) found that general beliefs are three times stronger than specific beliefs. Interestingly, general attitudes toward labor influence attitudes regarding specific unions but not vice versa. Overall, all labor must work together to create a positive image of labor and individual unions must work to maintain their own positive image because both specific and general attitudes toward unions are significantly related to union voting behaviors.

The perceptions are often formed long before union organizing campaigns. Barling and colleagues (1991) noted that "employees' voting decisions were consistently predicted by their union attitudes prior to the start of the campaign" (p. 725). Similarly, Park and colleagues (2006) stated that "general beliefs are formed at relatively early stage of life and are more stable than specific beliefs. Hence, it may be more difficult for unions to affect general beliefs during a union-organizing drive" (p.285). Views of work and work context are quite different between generations (Twenge, Campbell, & Freeman, 2012). Therefore, understanding the current generations (Millennials) general attitude toward unions is of the utmost importance if unions are going to rebound.

Perceptions of Union Members

According to social categorization theory and social attractiveness theory, not only do individuals compare self-identity to organizational\institutional identity, but also to perceptions of the stereotypical\prototypical union member. Understanding the perceptions regarding union members and its influence on organizations and employees in research has largely been ignored (Barling, Fullagar, & Kelloway, 1992). Little has been written regarding how non-union members perceive union members and how this will influence the union joining intentions.

This is striking given that union image is predicated not only on the actions of the union leadership, but also the actions of the membership. Also, the image of the union member, demographically, socially and behaviorally, form the basis of stereotype\prototype formation. Given the vital importance, it is astounding the lack of research regarding the nonunion members' perception of union members. In addition, to being significant to union joining intentions of non-union members, union member perceptions of the depersonalized member could be associated with disidentification (Elsbach & Bhattacharya, 2001). Research also indicates that union member's identification with the union will have ramifications for helping the union and other members (Gibney, Masters, Zagenczyk, Amlie, & Brady, 2012).

Cornwell and Harrison (2004) suggested union\organizational embeddedness as a method to overcome union density declines. They suggested that union members become involved in societal organizations, associations and clubs such as youth sports, the PTA or the Masons. Through these social, religious and sports groups, nonunion members will interact with members and develop a personalized relationship. Generally, individuals see in-group members in a more positive light (Tajfel, 1972). This similar-to-me effect will aid in the development of a positive perception of union members and could slow if not reverse union density decline. Another area to create positive images of union members is through social media (Gibney, Zagenczyk & Masters, 2013).

Union Joining Intentions

Attitudes toward the union, and by default union joining intentions are determined long before campaigns begin. General union attitude is a significant predictor of union success in union certification elections. In addition to interaction with members through clubs and organizations, familial and friendship relationships are critical to the formation of attitudes toward unions, and quite possibly union members (Barling, Kelloway, & Bremermann, 1991).

Barling and colleagues (1991) found that parental participation and parental attitude toward the union played a large role in determining their children's attitudes toward the union. Another strong predictor of the union joining intention was the strength of socialist\communist ideology which is most likely instilled, in part, by parent's views. With declining union density, parental participation declines and so does exposure to union members.

Cornwell and Harrison's (2004) organizational\institutional embeddedness solution may not be fruitful because Americans are "bowling alone" (Putnam, 2001). Putnam (2001) found that civic engagement and social capital were largely declining over the last few decades because people are not joining groups whether it be the PTA, labor unions or church groups. Different generations form different attitudes, and subsequently behaviors, regarding diverse topics from the nature of work to economic systems (Twenge, Campbell, & Freeman, 2012). The Millennials have generally been considered the "us" generation, much more socially engaged and, for the most part, inclined toward socialism. These are all positive indicators for the revival of unions. For example, Marxist ideology has been shown to a positive predictor of a more positive union image (Barling, Kelloway, Bremermann, 1991). Millennials have also not had much exposure to stereotypes of unions through either social media or the media to form given the low usage of social media by unions (Gibney, Zagenczyk & Masters, 2013).

Twenge and colleagues (2012) compared Millennials to other generations on a variety of attitudes and behaviors. Millennials civic engagement did decline in comparison to Gen X, just at a slower rate. Millennials were also found to have far less concern for others and empathy. Interestingly, they did perform more community service in high school and college than prior generations. The increased community service may be due to requirements placed upon them by educational, social and religious organizations. For example, the National Honor Society and Catholic Church (as part of the sacrament of confirmation) require community service. Many universities also require recognized clubs to hold at least one community service event annually. Therefore, the increased community service may not be voluntary. Data regarding attitudes toward unions, members or joining intentions were not collected as part of that study. The current research fills that gap.

SAMPLE AND METHOD

Sample

Respondents were students currently enrolled in business degree programs at two large public universities in the northeastern United States. A sample of future white-collar workers was targeted due to the difficulty with which unions have had in organizing white-collar workers (Bronfenbrenner, 1998). The sample consisted of 306 business students enrolled in a diverse set of business courses such as organizational behavior, human resources, negotiations and marketing. Students were given a small monetary token of appreciation ($1) or nominal extra-credit points (2) for completing the survey. The sample was 53% male and 78% Caucasian. The average age was approximately 23 years. Approximately 33% identified themselves as belonging to the Democratic Party and 26% stated that they ascribed to a liberal political ideology. In the United States, unions have a closer relationship with the Democratic Party than with the Republican Party (Dark III, 2000).

Method

A short introduction was provided to participants to prime respondents on image development. Participants were primed using the term cheerleader. When the term cheerleader is used, respondents commonly reported an image of young, attractive and physically fit female. Participants were then asked to develop a mental image of a union member and respond to items describing the characteristics of this union member. The characteristics included demographic (gender, ethnicity, age, education, socioeconomic status), work environment (blue vs. white collar, indoor or outdoor, industry, occupation) and political views (party affiliation and leaning). Beyond capturing surface level demographic data regarding the respondent's image of the union member, additional items were collected using a 7-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree". The additional items captured respondent's beliefs regarding union members' work habits and pay, union image, and union joining intentions. Participants completed items about union worker characteristics and behaviors including being hardworking, complaining about work conditions and being overpaid. An additional item captured the extent to which the respondent had a negative image of union members and perceived overlap of characteristics with the respondent.

In order to assess participant's attitude toward the union, measures from the AFL-CIO's 1999 Labor Day Study administered by Peter D. Hart Research Associates were modified (www.aflcio.com). In the AFL-CIO's study, respondents were asked to choose between two sentences (one pro-union and one anti-union) on nine categories. One sentence from each of these nine forced choice questions was selected by flipping a coin. When the coin landed with heads facing upward, pro-union statements were selected. Responses were measured on a 7-point Likert Scale.

Union joining intentions focused on whether participants felt that they would vote for a union during a union certification election, voluntary join a union, and take a job if it required joining a union. Each joining intention was captured with a single item. Data were analyzed in reference to the answering the following questions were: (1) What are the most frequently reported characteristics of a stereotypical union member? and (2) Does the stereotypical\ prototypical union member exemplify the statistically average union member?

RESULTS

Image

The most frequently described union member is a high-school educated, middle-class, white male between the ages of 36-45. Additionally, he works outdoors performing a blue-collar construction or maintenance job in a manufacturing industry. He is also a moderate Democrat. Respondents were likely to believe that the union member worked in either a production or construction occupation. Table 1 contains the percentage of responses in each category. (See Table 1

Average Member

In order to compare the survey responses to actual characteristics of the union workers, a statistical image of the average union worker was generated utilizing the Current Population Survey (CPS) data and the American National Election Studies (ANES). The CPS is a monthly survey conducted by the Bureau of the Census for the Bureau of Labor Statistics (BLS) and "is the primary source of information on the labor force characteristics of the U.S. population" (http://www.bls.census.gov/cps/overmain.htm). Approximately 54,000 households are surveyed monthly (approximately 106,000 respondents) and an array of demographic information about labor force characteristics, including the union status of workers (i.e., do they belong to a union). Each year the BLS reports on the state of union membership in the United States in an annual report (https://www.bls.gov/news.release/union2.nr0.htm). ANES also captures union data on political affiliations, ideologies and other data such as educational attainment and social status (http://www.electionstudies.org/).

Table 2 below shows the demographic breakdowns of the union and non-union workers in the reported annual data from the BLS and the election cycle data from the ANES. It reveals that the union sub-sample is slightly older and comprised of more males than the non-union group. While the union data is predominantly Caucasian, it is more diverse than the non-union subset. Interestingly, while the High School graduate is the largest group in both the union and non-union subsets, union members are much more likely to have earned a graduate degree than non-union members. Union members are much more likely to belong to Democrat party. Union members are more likely to have a Liberal ideology than a Moderate or Conservative stance. Interestingly, union members are far less Conservative than non-union members.

In comparison to the "average union member" based upon the CPS data, survey respondents' perception of union members were accurate representations on some measures and inaccurate on others. Survey respondents perceived the average union member to be overwhelmingly White males between the ages of 36-45. The largest age group for union members is 45-54 years of age (26.4), but the 35-44 group was and 54-64 group were also higher than the non-union groups. Thus, union members are generally older than non-union members. The union sample was 54.2% male, whereas the non-union was 51.6% male. As noted, the union sample was overwhelming White, but more diverse. Caucasians represented 76.4% of the union group but 78.2% of the non-union group. Within groups, Black employees are the most likely group to be unionized according to the BLS.

The perceived union member and the actual union member diverge on many of the remaining characteristics. For example, 61.1% of the students believe that union members' highest educational attainment is a high school diploma whereas 59.3% of the union members in the sample have an Associate's degree or higher. Interestingly, union members are more 1.5 times more likely to have earned a graduate degree (23.5%) in comparison to non-union members (15.4%).

In regard to political affiliation and ideology, the most common perception of the union member is a moderate (38.7%) Democrat (58.6%). While the data suggests that the perception of political party affiliation (51.1% Democrat) is fairly accurate, the political ideology is incorrect (29.7%). In fact, union members are least likely to identify as Moderates. Most union members identify as Liberals. In comparison, non-union members most closely identify as Conservatives (40.5%).

While the perception is that union members work in the construction or manufacturing industries (66.2%), approximately 50% of the union members work in the public sector with another 12% in education and health sectors. In reality, only 16% of union members are employed in construction or manufacturing industry. There is a large perceptual gap in perceptions regarding the work environment of union members.

A similar phenomenon existed in occupational perceptions. About 99% of respondents see union members as blue collar employees working construction and maintenance (44.8%) or production related occupations (35%). On the other hand, about 6% of respondents perceive union members in management and professional related occupations. In contrast, roughly 42% of union members are in management and professional related occupations. While the 80% of respondents placed union members in construction, maintenance and production related occupations, in reality, only 15% are employed in these occupations.

While there is a large divergence of perception of union members and work environments, there is some convergence on social status and earnings. By far, union members and non-union member perceive themselves to be middle class. Union members (94.2%) are more likely to hold this perception than non-union members (87.4%). This could be due to the 25% earnings premium for union members. The weekly reported mean earnings for non-union members was \$802 weekly (\$41,700) whereas the union members reported weekly earnings was \$1,004 (\$52,000). Based on available CPS data, non-union weekly earnings placed them in the 55th percentile. In comparison, union earnings is the 66th percentile. While union members perceive themselves to be middle class, statistically, these earnings are borderline upper income.

Table 3 below reports the responses to additional items. 14% of respondents believed that they had the same characteristics of union members. Given that large demographic overlap between the sample and union members, these groups actually have much more in common than respondents perceived. However, respondents may be using criteria other than those captured in this study. Future research should delve into the nature of the differences. Essentially, why do you see yourself as different?

While the respondents did not perceive themselves as similar to union members, the majority did not have a negative perception of union members (70.2%). Social identity theory (Tajfel, 1972) would suggest that in-group members hold negative perceptions of group members. This apparently is not the case within this sample. One difference that might account is the perception of unions. Only 32% of respondents approved of unions. This suggests that outsiders perceive the union and its union members as distinct entities which may or may not be acting in concert.

In reference to being overpaid, most were indecisive (51.3%). Given that respondents completely misunderstood the environmental and occupational characteristics of union membership, this is not surprising. The most common described industries and occupations are physically demanding occupations which could be considered stigmatized jobs (Ashforth, Kreiner, Clark, & Fugate, 2007). Respondents may have felt that individuals who perform stigmatized work functions should be compensated appropriately. This concept is supported by the approximately 50% of respondents who agreed that union members are hard working. As the new economy is one of knowledge, jobs that demand physical labor could be considered hard. However, the industrial and occupational environment of the perceived member is quite different than the reality. Even so, the union premium is approximately 25%. This should be viewed with a jaundice eye. As previously noted, union members are 50% more likely to have a graduate degree. Thus, the increased premium may be justified as union members are more likely to hold an advanced degree which is associated with decreased levels of unemployment or increased job security. Future research should delve further into this differential.

While most believed that union members are hardworking and not overpaid, the majority of respondents (50%) felt union members are overly complain. Respondents may have felt if you are fairly compensated for labor, then you do not have a right to complain. Again, the mismatch of perceptions regarding the working environment of union members could greatly impact this perception.

As noted only 32% of respondents approved of unions. Interestingly, there was far greater support for individual items than overall support. Future research should look more closely at the reasons and mismatch. This will provide union leadership with possible avenues to overcome declining union membership which stands at 10.7% overall and an anemic 6.4% in the private sector. Current, private sector union density is below that prior to passage of the National Labor Relations Act of 1935. Approximately 26% of respondents did not believe that union's time had passed and unions are an anachronism of a bygone era.

The majority of respondents (67%) were in agreement that unions aid workers in negotiating with management for better working conditions. Respondents also felt that union leadership work for the good of all members (48.4%). Approximately 66% of respondents support political unionism or attempting to influence elections and politicians for the good of union members. While outside members hold these views, union members and leaders have distinct differences on these views. For example, Gibney and colleagues (2012) found that union members frequently perceive the union to be a source of obstruction and withhold help. The concept of political unionism lead to split of the AFL-CIO and Change-to-Win (Masters, Gibney, Zagenczyk, 2006).

The dichotomous results regarding union approval and individuals may be driven by a more personal and self-interest role. When responding to the item regarding union's opposition improving production and work rules, the largest group of respondents felt that unions oppose this. With increases in efficiency, organizations frequently reduce prices. Opposition to efficiency could result in higher prices hurting the purchasing power of respondents. In support of this view, respondents felt that unions negatively impact the performance of organizations. In a similar vein, only 14% of respondents disagreed with the idea that unions hurt non-union employees in a unionized environment.

Along these lines, only 19% of respondents felt that unions are good for the overall economy. In toto, it would seem that respondents believe that unions are good in theory but may negatively impact them through higher prices and the likelihood that they will be not be union employees.

Union joining perceptions were also explored. Based upon the overall pattern of response and the generalizability of those responses, it does not seem that the decline in union density will reverse in the near future. Approximately 21% of respondents stated that they would support a union during an organizing campaign or voluntary join a union. On a more practical side, 33% of respondents were willing to join a union if it entailed joining the union. Interestingly, 47% of respondents would not be willing to take a job under an agency clause. Nearly 60% of respondents are willing to free-ride in a unionized environment.

DISCUSSION

During the debate during the split of Change-to-Win coalition from the AFL-CIO, union leaders argued that the AFL-CIO should consider focusing on the image of unions in order to reverse the decline in union density. However, the results of this study suggest this would not be enough. Non-members develop perceptions of union members and frequently, do not see themselves are being similar to union members.

The overlapping identities is important because individuals will join (or not join) groups based upon these social identity overlaps (Ellsbach & Bhattacharya, 2001). As individuals do not see themselves are having similar characteristics as union members, they are less likely to join a union. Therefore, union leaders must not only be attentive to the perceptions regarding unions, but also to the way union members are perceived. The data suggests that these identities are not just demographic but also ideological and behavioral.

Based upon the selected characteristics, the statistically average union member was fairly similar to the respondents. However, the vast majority of respondents did not self-identify as being similar to the statistically average union member. This warrants future research. Union leaders need to work on both the branding and imaging of the union and the union member. The marketing campaign should be mutually reinforcing of one another.

Locals unions have to present the typical union member as an "everyman" who is part of the community (Israel, 2014), it should also be emphasized with the membership that they need to reinforce this image with family and friends. Members who reinforce this image at home can positively influence non-member's perception of what it means to be a union member. The positive image of union members might influence non-union members' attitude toward the union.

One method for portraying the union member, and possibly the union, in a more positive light is the use of the Internet. Unions need to get personal and utilize social media (Israel, 2014; Gibney, Zagenczyk & Masters, 2013). It is not enough that union members volunteer and act in a more positive light. This needs to be part of an orchestrated campaign. Just as the "union label" ads in the 1970s and 1980s brought about public awareness to unions. While this focused on more instrumentality (better quality), the Millennials and Gen Z are much more socially aware and influenced.

In all the positive joining intentions which excludes freeriding, respondents are not predisposed to joining the union. Altering the perceptions surrounding the member and union may have a positive impact on union organizing campaigns in the future. In this regard, union leadership should focus on negotiating volunteering in the agreements and\or support volunteerism in the union itself.

While the perception seems to be that unions are "pale, male and stale", union leadership should point out the welcoming environment and commitment to diversity that is evidenced by the more diverse membership. This push on membership should also include the diversity of occupations and industries that members support. A caveat here may be that the campaign may want to distance itself from the government given the low approval numbers.

The perception of adverse impact is another important area to overcome. Respondents' perceptions clearly suggest that unions are perceived to be good for union members and bad for everyone else. This is clearly an area that unions must work on to overcome the abysmal union density.

Unions were perceived as detrimental to the non-union employees, companies and the economy as a whole. In part, unions are seen as obstructionist. This perceived obstruction (Gibney et al., 2012; Gibney, Zagenczyk, Fuller, Hester, & Caner, 2011; Gibney, Zagenczyk, & Masters, 2009) reduces the willingness to help the union, exit, and cognitive disassociate with the union. Union leadership should look for ways to counteract these three perceptions while simultaneously seeming to be relevant. This will be difficult because once a company, or person, is viewed as an ingroup or outgroup, overcoming the perception is very difficult (Choi & Winterich, 2013).

The extant literature on the declining union density offers wide ranging explanations for the decline over the last few decades. These include changing demographics, the changing nature of jobs, governmental and human resource management substitution effects, and union organizing strategies themselves. However, individuals are more willing to join groups when there is an overlap between the individual's personal identity and group's identity and\or when an individual sees himself as having similar characteristics to his perception of existing group members. It is quite a defensible position that many of the benefits that employees in all organizations enjoy are due to mimetic isomorphism directly related to the efforts of the unions. The union affiliation was once a sought after affiliation which held great social esteem, but this is no longer. Different marketing techniques could be utilized to change these perceptions. But first, the union must first understand the roots of these perceptions.

First, this study should be replicated regarding different groups. Once verified that these beliefs are pervasive across different groups, union leadership should form focus groups to delve deeper into understanding the roots of these opinions. Once of the biggest questions would be the transformation from being perceived as a major societal good to being a drag on the economy and companies. This will help formulate the marketing message and campaign.

Another area that must be addressed is the notion that unions are detrimental to non-union employees. Unions were once the stalwart of society which fought for the rights of all workers and not just their own members. This perception has undergone a metamorphosis. In part, it may be due to management wining the message war, but events suggest a much deeper issue. For example, Volkswagen (VW) supported the bid the United Autoworkers Union (UAW) to represent the workers at the Chattanooga, Tennessee plant. However, in a stinging blow to the union and management, employees voted against union representation by a 712-626 margin.

It is interesting that this anti-union sentiment exists prior to joining the workforce and the organizing campaign. This makes organizing campaigns that much harder. Another area that must also be addressed is if this view is pervasive for all unions. It is highly plausible that people may like a union but dislike all unions in total akin to love an individual but hate society. This will have ramifications for coordination. Umbrella organizations such as the AFL-CIO and CTW which represent multiple unions may be the appropriate level for the campaigns. In addition, the face of these campaigns may have to be different than that of the leadership. The image of hard-hitting union boss out to win for her people is not the same image that will likely change the perception of others that we are all in this together. The old adage that “a rising tide raises all boats” needs to be the new\old message again.

LIMITATIONS

The main limitation of this study is its cross-sectional nature. While college students were targeted because they are likely to join a group of workers which unions have traditionally had trouble organizing, they have not been exposed to dissatisfying job conditions which often lead to demand for union representation. In addition, respondents provided behavioral intentions. Behavioral intentions are strongly but not perfectly correlated. Thus, the respondents may intend to act in a certain manner, but may actually act differently. Respondents may have limited knowledge of union members as evidenced by the difference between perceptions of members and reality. When exposed to actual data, perceptions may realign to reality. Finally, the area of the United States in which this survey was administered has been a traditional stronghold of union representation. This tradition of union representation may have influenced respondents’ perceptions of members, pro-union attitudes and their union voting intentions.

CONCLUSION

There is a distinct perceptual gap between the perception of the union member and the statistically average member. These differences could lead to lower success rates in union organizing campaigns in the future. While union leadership has acknowledged the need to change societal perceptions of unions, this may not go far enough. Unions must strive to create a better image of the union member as well as the union. This may mean taking a moral stance and sanctioning members when their behavior is detrimental to society. Teachers shooting heroin in school bathrooms should not be defended, members burning down houses of worship or engaging in a host of other crimes if unions want to increase union density.

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Table 1. Demographics of Imagined Union Member

Item	Response Option	% of respondents
I imagine a union member's gender to be	Female	2.9%
	Male	97.1%
I imagine a union member's race to be	Other	5.2%
	White	89.8%
	Black	4.9%
I imagine a union member's age to be	18-25	5.3%
	26-35	12.2%
	36-45	55.6%
	46-55	24.7%
	56-above	2.3%
I imagine a union member's level of education to be	Less than High School Diploma	3.6%
	High School Diploma or GED	57.5%
	Associate degree\technical degree	20.9%
	Undergraduate degree	13.1%
	Graduate Degree	4.9%
I imagine a union member to be	White collar	.3%
	Blue collar	98.7%
I imagine a union member to	Work indoors	16.2%
	Work outdoors	83.8%
I imagine a union member's social class to be	Lower	28.4%
	Middle	69.3%
	Upper	2.3%
I imagine a union member's political party to be	Democrat	58.6%
	Independent\other	10.5%
	Republican	30.9%
I imagine a union member's political views to be	Liberal	33.1%
	Moderate	38.7%
	Conservative	28.2%
I imagine a union member's industry to be	Agricultural sector	1.6%
	Construction	24.6%
	Manufacturing	41.6%
	Mining	7.2%
	Public Sector	9.5%
	Services	12.5%
	Transportation	1.6%
	Wholesale or retail trade	1.3%
I imagine a union member's occupation to be	Construction and maintenance occupations	44.8%
	Farming, fishing, and forestry occupations	.3%
	Management, professional and related occupations	5.9%
	Production, transportation and material moving occupations	35.0%
	Sales and office occupations	2.3%
	Service occupations	11.8%

Table 2 – Characteristics of workforce				
Variable	Classifications	Total	Union	Non-Union
Age				
	16 to 24 years	**13.6%**	**5.6%**	**14.6%**
	25 to 34 years	**23.3%**	**20.1%**	**23.7%**
	35 to 44 years	**21.0%**	**23.5%**	**20.6%**
	45 to 54 years	**21.2%**	**26.4%**	**20.5%**
	55 to 64 years	**16.0%**	**19.9%**	**15.5%**
	65 years and over	**4.9%**	**4.4%**	**5.0%**
Gender				
	Male	**51.9%**	**54.2%**	**51.6%**
	Female	**48.1%**	**45.8%**	**48.4%**
Race and Hispanic or Latino Ethnicity				
	White	**78.0%**	**76.4%**	**78.2%**
	Black or African American	**12.5%**	**15.2%**	**12.2%**
	Asian	**6.1%**	**5.2%**	**6.2%**
	Hispanic or Latino ethnicity	**17.0%**	**14.0%**	**17.3%**
Education				
	Less than High School Diploma	**6.7%**	**6.6%**	**6.7%**
	High School Diploma or GED	**40.5%**	**34.8%**	**41.0%**
	Associate degree\technical degree	**14.2%**	**14.9%**	**14.1%**
	Undergraduate degree	**22.6%**	**20.2%**	**22.8%**
	Graduate Degree	**16.1%**	**23.5%**	**15.4%**
Party Affiliation				
	Democrat	**43.9%**	**51.1%**	**43.1%**
	Republican	**32.1%**	**30.1%**	**32.3%**
	Independent\Other	**24.0%**	**18.7%**	**24.6%**

NOTE: Estimates for the above race groups (White, Black or African American, and Asian) do not sum to totals because data are not presented for all races. Persons whose ethnicity is identified as Hispanic or Latino may be of any race.

Table 2 – Characteristics of workforce (continued)				
Variable	Classifications	Total	Union	Non-Union
Political Ideology				
	Liberal	**32.7%**	**38.7%**	**32.1%**
	Moderate	**27.6%**	**29.7%**	**27.4%**
	Conservative	**39.7%**	**31.6%**	**40.5%**
Social Class				
	Lower	**7.7%**	**4.2%**	**8.1%**
	Middle	**88.0%**	**94.2%**	**87.4%**
	Upper	**4.3%**	**1.7%**	**4.5%**
Occupation				
	Management, Professional, and Related occupations	**38.3%**	**41.7%**	**37.9%**
	Service occupations	**17.8%**	**16.1%**	**18.0%**
	Sales and office occupations	**22.8%**	**14.1%**	**23.9%**
	Natural resources, construction, and maintenance	**10.0%**	**2.9%**	**10.9%**
	Production, transportation and material moving occupations	**8.7%**	**12.3%**	**8.2%**
Industry				
	Agriculture, forestry, fishing and hunting	**1.0%**	**0.1%**	**1.1%**
	Mining, quarrying, and oil and gas extraction	**0.6%**	**0.3%**	**0.6%**
	Construction	**5.5%**	**7.1%**	**5.3%**
	Manufacturing	**10.9%**	**8.9%**	**11.1%**
	Wholesale and retail trade	**13.6%**	**5.4%**	**14.6%**
	Transportation and utilities	**4.4%**	**7.9%**	**4.0%**
	Information	**1.8%**	**1.5%**	**1.9%**
	Financial Services	**6.6%**	**1.4%**	**7.2%**
	Professional and business services	**10.5%**	**2.4%**	**11.4%**
	Educational and health services	**16.3%**	**12.4%**	**16.7%**
	Leisure and hospitality	**9.3%**	**2.6%**	**10.1%**
	Other services	**4.4%**	**1.1%**	**4.8%**
	Public administration	**15.2%**	**48.9%**	**11.2%**
Income	**Weekly mean**	**$832**	**$1004**	**$802**

Table 3. Similarity to prototype, negative perception of union member and intentions to join union		
Item	Agreement	%
I believe union members are paid too much for their work	Not Agree	23.5
	Neither	51.3
	Agree	25.2
I believe union members unnecessarily complain about their working conditions	Not Agree	24.5
	Neither	25.8
	Agree	49.7
I believe union members are hard working	Not Agree	20.9
	Neither	31.4
	Agree	47.7
I have the same characteristics of my image of a union member	Not Agree	62.7
	Neither	23.2
	Agree	14.1
Overall, I have a negative perception of union members	Not Agree	40.8
	Neither	29.4
	Agree	29.7
Unions make it easier for employees to negotiate with management for better working conditions	Not Agree	14.4
	Neither	18.6
	Agree	67.0
Unions represent the interests of their entire membership, not just the union leadership	Not Agree	32.0
	Neither	19.6
	Agree	48.4
Unions tend to oppose management on improving production goals and work rules	Not Agree	23.5
	Neither	32.4
	Agree	44.1
I approve of unions	Not Agree	26.8
	Neither	41.2
	Agree	32.0
There was a time when unions were needed, but the need for them has now passed	Not Agree	25.5
	Neither	27.5
	Agree	47.0
Unions attempt to influence political leaders in order to protect workers' rights	Not Agree	9.5
	Neither	24.8
	Agree	65.7
Unions are good for the economy	Not Agree	31.0
	Neither	49.7
	Agree	19.3
Unions negatively impact the performance of companies with unionized employees	Not Agree	26.8
	Neither	34.3
	Agree	38.9
Unions hurt non-unionized employees in companies that are unionized	Not Agree	14.4
	Neither	41.5
	Agree	44.1

Table 3. Similarity to prototype, negative perception of union member and intentions to join union (Continued)		
Item	Agreement	%
If a union attempted to organize my workplace, I would vote for the union	Not Agree	48.7
	Neither	30.7
	Agree	20.6
If I joined a company that had a union, I would join the union even if it was not required	Not Agree	45.1
	Neither	34.0
	Agree	20.9
I would accept a job offer if I had to join a union as a condition for that job	Not Agree	33.3
	Neither	33.7
	Agree	33.0
I would not take a job if I had to pay union fees, but did not have to join the union	Not Agree	26.8
	Neither	26.1
	Agree	47.1
If I could receive the benefit of being in a union without joining the union, I would not join the union	Not Agree	18.0
	Neither	22.2
	Agree	59.8

A SURVEY OF WHAT EMPLOYERS VALUE AND WHAT THEY FIND LACKING IN RECENT COLLEGE GRADUATES

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ABSTRACT

A skills gap is widely reported for recent college graduates in the popular, industry, and academic press. This study is designed to determine if a skills gap exists for recent Philadelphia-area college graduates in both the soft skills as well as the more concrete, hard skills that employers expect in new employees. The primary contribution of the research is the comparison between the importance of a skill and the presence of that skill in the hiring of recent college graduates. Most surveys ask only for the presence of a skill, without addressing the relative importance of a skill. An additional significant contribution is the development and testing of a fine-grained definition of different categories and types of skills.

The findings of the study are generally in line with other surveys in finding a wide gap between desired skills and their presence for soft skills such as decision- making and teamwork, and to a lesser degree for technical and functional skills. The data on the importance of skills and the fine-grained research questions are intended to direct changes in the business school curriculum and the assessment of learning.

The paper begins with a review of academic research, industry surveys, consulting analyses, the business press, and association surveys with the goal of determining the parameters of the skills gaps. Next a process to define, test and deploy the research survey for Philadelphia-area employers is described, followed by the results of the survey. Implications for curriculum design and areas for future research conclude the paper.

THE SKILLS GAP

The Reported Skills Gap

The popular press is replete with alarming news that graduating students do not have the skills that employers are seeking. These skills are general grouped into “hard skills” – the quantifiable proficiencies useful on the job – and “soft skills” that are harder to measure, such as public speaking and problem solving. Although some hard skill gaps, such as data analysis, are reported, the soft skills are generally seen as more deficient than hard skills.

For example, students are reported to be “failing in job skills” (Washington Post, 2015), given “room for improvement” (McGraw Hill, 2016 p.X), and “low score in preparedness” (AACU, 2015, p.X). Forbes (2016, p.X) reports that there are “nine skills missing,” while CBS News (2016, p.X) says, “grads are not ready for the workplace.”

The academic literature over the prior twenty years supports the existence this skills gap, calling graduates “woefully ill prepared.” (McLester & McIntire, 2006, p22.). While it is to be expected that college graduates need some experience and seasoning, perhaps on-the-job training will close the skills gap. However, according to Rosenbaum (2002), students who do not learn basic employability skills before they are hired may not have the opportunity to learn them on the job. Employers may be reluctant to invest in the resources needed to provide remedial training for these skills.

Bok (2006) reports that college professors and administrators felt they were teaching students what they need to know, but only 35% of a sample of industry executives thought that colleges taught students what was important to succeed at work. Robst (2007) states that college students believed that a college education provided them with all the skills necessary to obtain employment upon graduation. If nothing is done to improve educational performance, the gap between the skill needs of industry and the skills received by graduates will continue to grow (Plastrik, 2007).

These reports from the press and academe are not just the opinions of editors or an attention-grabbing headline, but are based on a number of surveys and studies performed by associations, consultants, and industry members. The surveys behind the story-lines include those from The Conference Board (2006), The Association for Business Communication (2012), McKinsey & Company (2013), the Committee for Economic Development (2012), AACU (2015), McGraw Hill (2016), and PWC (2016).

These surveys uniformly addressed a spectrum of skills that employers found lacking in recent college graduates, both soft skills and hard skills. They also uniformly found that the gap was bigger in the soft skills.

The Nature of the Skills Gap – Soft Skills and Hard Skills

Employers look for graduates with communication skills, empathy, motivation, decision-making abilities, planning abilities and improvisation abilities (Bagshaw, 1996). Zehrer & Mossenlechner (2009) add that graduates are expected to be proactive and able to solve problems in a creative way.

Yorke and Knight (2006) propose three main attributes for graduate employability, which are personal qualities, core skills and process skills. Personal qualities consist of self-awareness, self-confidence, willingness to learn, emotional intelligence, independence, and adaptability. Core skills include self-management, written and oral communication, and critical analysis. Process skills refer to problem solving, team working, computer literacy, integrity, business ethics, planning and prioritizing, and coping with uncertainty.

These skills are often called “soft skills.” The prior surveys in this area indicate that employees need to possess both the soft skills as well as the more concrete, hard skills.

For example, a survey of over 400 businesses was administered in 2006 by the Conference Board and of its three partners. This survey asked the respondents to rank the presence of skills in new employees in two skill groups, basic knowledge and applied knowledge, corresponding broadly to hard and soft skills. The survey also asked the companies what was important, finding that oral communications and teamwork were ranked most critical to career success.

In 2012, the Association for Business Communication conducted a survey of executives that ranked the soft skills, in order of importance, as integrity, communication, courtesy, responsibility, interpersonal skills, professionalism, positive attitude, teamwork skills, flexibility, and work ethic. More recently, in 2015 the American Association of Colleges and Universities conducted a study of employers. According to this study, the most highly valued among the 17 skills and knowledge areas tested were written and oral communication skills, teamwork skills, ethical decision-making, critical thinking skills, and the ability to apply knowledge in real-world settings.

The surveys from other organizations generally divide the skills into two groups, soft and hard skills. The surveys also asked employers what skills were lacking. This research addresses the need for a finer definition of workforce skills and for a new dimension to the surveys, the value that employers placed on the skills.

THE RESEARCH APPROACH

This research is designed to research these skills gaps in several steps: First a database was established of academic articles, US and International government surveys, non-profit and Non-Government Organization surveys, and consulting and for-profit surveys as well as articles from the business press and business magazines. Then, based on this literature review, a draft paper-based survey was developed and refined with internal reviews and a trial panel prior to deployment of a survey.

Based on both the review of the literature and prior workforce and employer surveys, the workforce readiness survey should: 1) examine the presence of both soft and hard skills, 2) examine what employers value in new employees – what is most critical - and 3) be kept short with a completion target of 15 minutes.

To further refine the survey vehicle, a panel group was formed of local employers and led through a guided discussion on both soft and hard skills that they require of their employees. An on-line questionnaire was then developed from the focus group results. Then that questionnaire was tested with a small group of employers, and finally the resultant questionnaire was distributed to a broad cross-section of Philadelphia firms.

One challenge was developing the lists of soft skills and hard skills that are specific but also met the criteria above of clear definitions, simplicity and specificity. To address that concern, the survey included three types of skills - technical, functional, and soft skills - as listed in table one below:

Table One

Technical skills	Functional Skills	Soft Skills
Basic Computer Operations	Sales	Oral communication
Word Processing	Marketing	Written communication
Spreadsheet Skills	Accounting	Team work
Internet	Technology/Computer	Active listening
Email	Operations Management	Defining a problem
Analytical skills	Project Management	Time management
Social media skills	Industry Knowledge	Reading with understanding
Troubleshooting skills	Global Knowledge	Observing critically
Basic database understanding	Language (other than English)	Cooperation with others
General technology skills	General Management	Resolving conflict with others
Research skills	Entrepreneurship	Researching facts about an issue
		Solving problems and making a decision
		Management of others
		Taking responsibility for learning

Final Survey

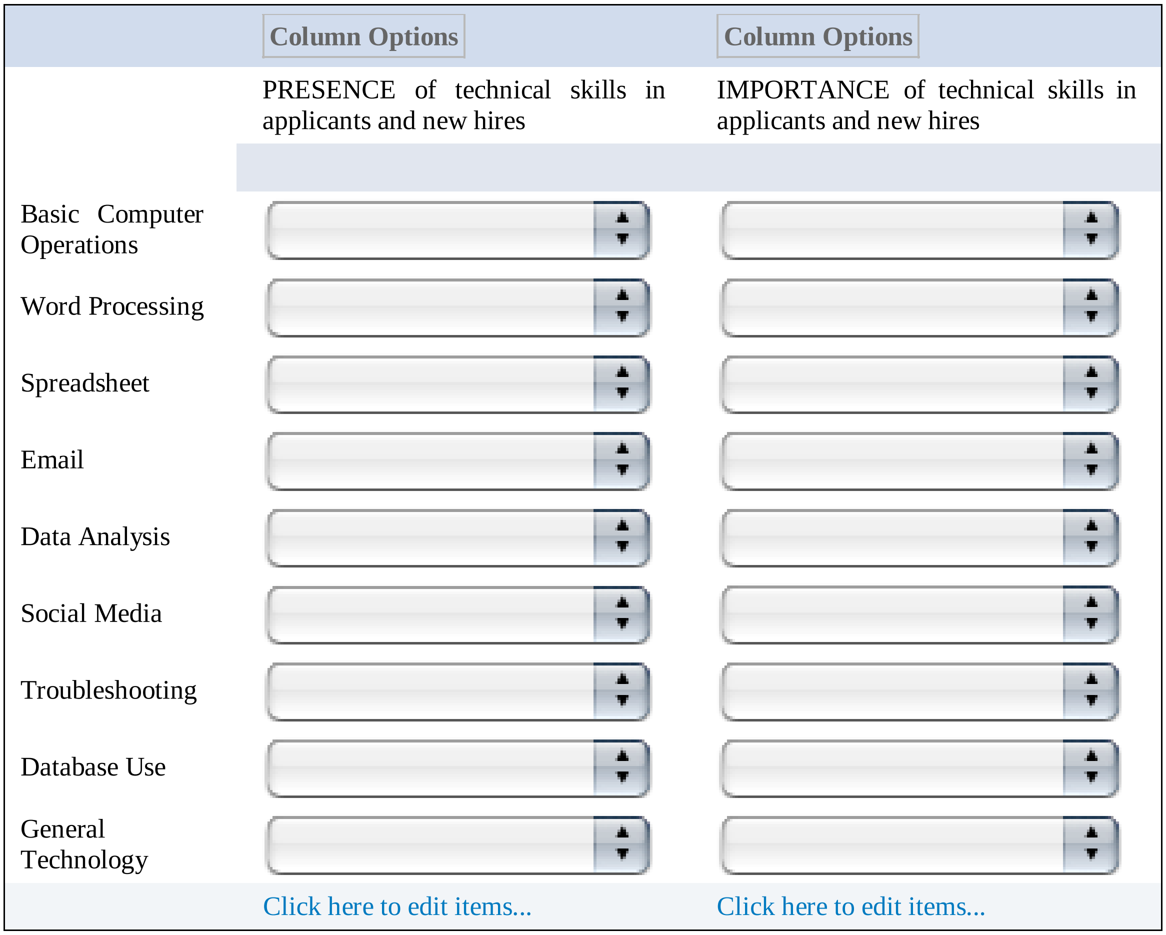
A panel of local businesses was convened in the summer of 2016. After obtaining signatures on the release forms, seven of the eight participants completed a paper version of the draft survey. A discussion afterwards with the participants led to the conclusion that the survey needed to be simplified and shortened, particularly in the comparison of the presence and importance of specific skills.

The survey was revised and entered into Qualtrics. Qualifying questions were added, and a matrix with pull-down menus is developed in order to rank the presence and importance of skills side-by-side. The complete survey is available from the authors, and a sample section is illustrated below in Figure One:

Figure One

Instructions: For each skill, please indicate your perception of the **PRESENCE** of technical skills **i**n applicants and new hires as**:** High, Above average, Average, Below average, or Limited. Also, Please indicate your perception of the **IMPORTANCE** of technical skills in applicants and new hires as: High, Above average, Average, Below average, or Limited.

Please use the pull-down menus to choose a response for each individual skill.



	Column Options	Column Options
	PRESENCE of technical skills in applicants and new hires	IMPORTANCE of technical skills in applicants and new hires
Basic Computer Operations		
Word Processing		
Spreadsheet		
Email		
Data Analysis		
Social Media		
Troubleshooting		
Database Use		
General Technology		
	Click here to edit items...	Click here to edit items...

As illustrated above, the survey design asks respondents to simultaneously consider both the importance and the presence of each skill. This revised form was then used to collect data from Philadelphia-area businesses.

SURVEY RESULTS - DATA DESCRIPTION AND ANALYSIS

The Qualtrics survey covered the Philadelphia Metropolitan Statistical Area (MSA), which is ranked seventh in the US with a population of 6 million. The Philadelphia MSA has non-farm employment of 2.6 million, and over 145,000 firms. The budget limitations of this study precluded a stratified sample that reflected the Philadelphia MSA, but a representative sample was requested.

Sixty-five surveys were completed out of over 200 attempts, reflecting the screening questions at the beginning of the survey (e.g. hiring of a recent college graduate) and the thoughtfulness requested on the two primary axes (presence versus importance) of a particular skill. The average time to complete the survey was 11 minutes, well within the target of 15 minutes.

Data Description

For the survey dataset, the mean number of employees is 4.03 and the standard deviation is 2.28. This is comparable to the Philadelphia MSA, where 72% of all firms have less than 10 employees (US Census, X). Therefore, the sample was reasonably representative of the Philadelphia MSA. Industries represented in the survey sample are shown below and compared to the 2015 Philadelphia MSA (US Census):

Qualtrics Survey		PHL MSA
Public Administration	2%	2%
Education	13%	2%
Health and Social Services	12%	12%
Arts, entertainment, sports	2%	2%
Utilities, construction	3%	8%
Manufacturing	9%	4%
Wholesale trade	6%	5%
Transportation	2%	2%
Information Technology	8%	2%
Finance, Insurance, Real estate	12%	10%
Professional, Scientific	17%	12%
Other	16%	10%

Data Analysis

As the relationship between importance and presence is the focus of this study, that is also the focus of the analyses. First, a basic measure of presence versus importance is derived by combining the top two categories of the presence measure -- very present and above-average presence -- and dividing that by the sum of very important and above-average importance. This results in a ratio that is greater than one if a variable is more present than important and vice versa.

The results by skill area and specific skill are shown below:

Technical Skills

Technical Skill	Presence/ Importance
Basic Computer Operations	0.91
Word Processing	0.74
Spreadsheet	0.71
Email	0.90
Data Analysis	0.58
Social Media	1.90
Troubleshooting	0.63
Database Use	0.78
General Technology	1.38
Average	0.95

The mean is .74 if social media and general technology are excluded.

Functional Skills

Functional Skill	Presence/ Importance
Sales	0.55
Marketing	0.70
Accounting	0.54
Technical/Computing	0.71
Ops Management	0.50
Project Management	0.55
Industry Knowledge	0.54
Global/International	0.65
Foreign Language	0.80
General Management	0.54
Entrepreneurship	0.86
Average	0.63

Soft Skills

Soft Skill	Presence/ Importance
Oral Communications	0.58
Written communications	0.50
Team membership	0.65
Listening Actively	0.51
Problem Definition	0.45
Time Management	0.54
Reading w/ Understanding	0.58
Observing Critically	0.46
Cooperating With Others	0.63
Resolving Conflict	0.48
Researching Facts	0.76
Solving Problems	0.49
Making Decisions	0.55
Taking Responsibility	0.45
Average	0.54

A review of this basic data shows a dramatic difference in the average of the three skills areas – technical skills are met 95% of the time, looking at very important and important versus the top two categories for presence – and

Functional skills are met 63% of the time. For soft skills, however, that number is only 54% of the time.

Analysis of Skills Impedance

One of the aims of the analysis is to ascertain the difference between what skills students come to their employer with -- via their education, experience, etc. -- versus what skills are required and valued by their employers; i.e., the impedance of those skills. To that end of determining this impedance, a separate measure was developed.

For each individual question, the respondent is asked to rate the recently hired employees, on a scale from 1 – 5, on both: 1) the presence of each skill; and, 2) the importance of each skill. The impedance, therefore, is the difference between those scores.

To analyze this data, presence versus importance, the difference of the two scores are computed and the result is squared. Squaring removes the direction of the difference --negative versus positive differences -- and emphasizes the larger disparities.

For example, if the Soft Skill Set, Oral Communication, is graded 3 for importance by one respondent and that same respondent graded 3 for presence, then that result is 0 (= $(3 - 3)^2$). If another respondent grades 3 and 5, respectively, then that results in a 4 (= $(3 - 5)^2$). The sum of the two would be 4 (= 0 + 4). With this scheme, perfect agreement of every respondent will result in a zero overall, and perfect disagreement will result in 1040 (= 16* 65) (= $(1 - 5)^2$ * N). An overall score for each question is the sum of those squares (SSQ) across all of the respondents (N = 65).

While the SSQ shows the magnitude of the impedance, it is also of interest to show the direction: is the difference positive where the respondent indicates there is a surplus of skills, rating presence higher that importance, or negative, where there is a lack of skills? To this end, an approach similar to the above is performed with the exception that the result is not squared. This is denoted as the sum of the differences (SDF), with positive values indicating that the employees have the skills, but that they are not valued as highly by the employer; negative, which shows skill are lacking; or, zero, where the skills sets are either aligned perfectly by every employer or were offset (averaged to zero) by the differing opinions of the various employers.

The results of the analysis, (sorted by SSQ), grouped by skill are presented below:

Functional Skill	SSQ	SDF	Kappa
Industry Knowledge	130	-52	0.084
Sales	113	-25	0.262
Project Management	83	-27	0.386
Language	82	2	0.287
Operations	80	-40	0.250
General Management	69	-25	0.202
Computer	68	-36	0.290
Entrepreneurship	64	2	0.363
International	62	2	0.513
Marketing	55	-7	0.397
Accounting	55	-17	0.392

Soft Skill	SSQ	SDF	Kappa
Taking Responsibility	180	-74	0.236
Time Management	176	-70	0.201
Written communications	175	-65	0.085
Solving Problems	161	-71	0.167
Resolving Conflict	158	-48	0.172
Making Decisions	149	-57	0.154
Oral Communications	146	-66	0.167
Observing Critically	136	-58	0.250
Listening Actively	126	-56	0.206
Problem Definition	116	-56	0.297
Researching Facts	104	-36	0.179
Cooperating With Others	99	-49	0.227
Team membership	89	-43	0.287
Reading with Understanding	79	-47	0.216

Technical Skill	SSQ	SDF	Kappa
Social Media	203	67	0.243
Troubleshooting	146	-48	0.096
data analysis	82	-30	0.148
Database	67	-19	0.032
Word Processing	59	-13	0.071
Spreadsheet	57	-19	0.129
Basic Computer	46	-18	0.181
General Tech	44	-26	0.368
email	32	-6	0.232

One can see that on most of the measures, there is some lack of needed skills, shown by a non-zero for SSQ and a negative value for SDF. The one exception is that of Social Media, where students seem to have a surplus of skill in an area for which the employers have no need.

Bubble charts for the above questions were also prepared to allow for visualization and the questions with the most disparate responses appear in the Appendix. Based on the nature of the survey, present versus importance, the ideal placement of points is on the main diagonal (e.g., present = 1, importance = 1, etc.). The bubble charts indicate the number of respondents by the size of the circle and the distance from the main diagonal is color coded, with the continuum from the main diagonal ranging from green to red.

Analysis of Rates of Failure

Finally, it is of interest to determine the failure rate of employees: how many employers fired employees for lack of skills. This occurs when an employ is perceived as having skills, perhaps because of a college degree, but fails to show/use them on the job.

A simple question is posed as to whether an employer had fired an employee for lack of skill, and then for which skill. The analysis is simply the percentage of those who said 'yes' for the respondents (N = 65) (in each major category and overall). The results are as follows:

Reason	Fired	%
Technical	10	15%
Functional	18	28%
Soft	23	35%
Overall	35	54%

(The overall response/percentage is not the sum of the components, as they are not mutually exclusive.)

It is disturbing to note that more than half of companies fire their employees for lack of skills. Note that this is the percentage of companies, not the percent of employees. Further research in this area is projected and warranted.

STATISTICAL ANALYSIS

The small sample size makes it doubtful that statistical analysis adds to the understanding, but nonetheless it is performed using SPSS.

1. A regression on overall skill satisfaction with overall satisfaction of soft, functional, and technical skills is performed. The model is significant but functional skills are not.
2. A factor analysis of the three skill-rating scales is performed:
    a. Technical skills only capture 60% of the variation; results in 2 factors; all scale items load nicely on first factor except social media, which loads nicely on second factor by itself.
    b. Functional skills only capture 62% of the variation; results in 2 factors; all items load on first factor nicely except Technical/Computer and Language; Technical/Computer loads on second factor by itself; Language marginally loads on second variable but is negative, meaning it is the polar opposite of whatever that factor represents.
    c. Soft skills only capture 66% of the variation, results in one factor; all items load nicely on that factor. Low captured variance means there is still something major we are not capturing.
    d. Reliabilities on the three scales; Cronbach alphas, were high and acceptable.
3. An exploratory factor analysis was run on all questions, with the result indicating the grouping by the skills, (technical, soft, functional) alone, thus indicating a good grouping of the original questions.
4. A regression, same as #1 above, but controlled for company size, shows no impact.

Summary of analyses

The analyses of the survey data support the hypotheses that soft skills are generally more important than present and that hard and technical skills are also more also important than present, but to a much smaller degree. Detailed analyses of particular skills give insights into particular skills in all three areas that are held more important than present, also providing insights into areas for curriculum development.

SUMMARY AND AREAS FOR FURTHER RESEARCH.

Surveys at the national and regional level indicate that soft skills are not present at the level desired by employers. This research project is designed with the express purpose of assessing the hard and soft skills sought by Philadelphia-area employers by collecting survey data on specific skills in three groups – soft skills, technical skills, and functional skills - with the intention of incorporating the results into business school curriculum design. The results may also be of use to the other schools at the University.

A survey instrument was developed from existing surveys, tested on a focus group, and then deployed through a survey consultant. The cost of the survey kept the size of the dataset small, with an N of 65, but the respondent profiles by industry and firm size are fairly representative of Philadelphia-area employers.

The primary contribution of the research is in asking the respondents for a comparison of the importance of a skill and the presence of the skills in recent college graduate hires, as most surveys ask only for one aspect of a skill or the other. The findings of the survey are examined at the category level and by skill level, for soft, technical, and functional skills. In general, the research finds that many specific skills were lacking, but that soft skills are both more important and less present that other skills.

The research findings have been initially incorporated into curriculum design – several optional courses were moved into the core, and a new course on analytics has been proposed.

Areas for future research include asking students the same sets of questions that were asked of employers. Other surveys indicate that students have a much higher opinion of their skills than employers have, particularly in terms of soft skills. Another potential area for further research is an assessment tool for specific skills, with a focus on soft skills. That would also lead to a third area – how to train students in soft skills. Finally, the survey contained one question about firing for a lack of skills, with over 50% of the respondents in the affirmative. Further research in this area is warranted.

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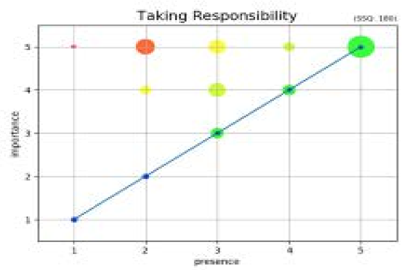
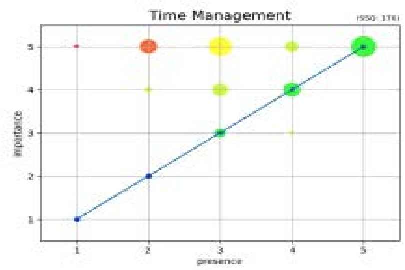
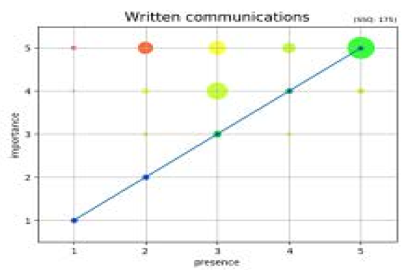
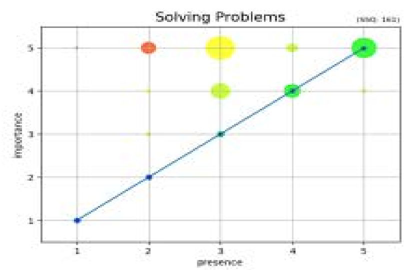
Appendix A- Bubble Charts

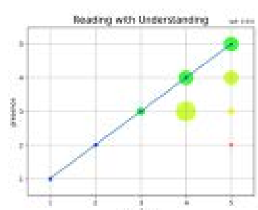
Soft Skills

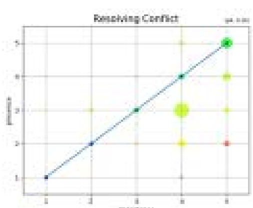


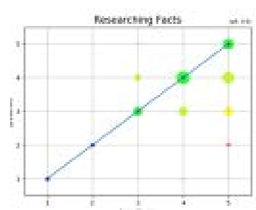


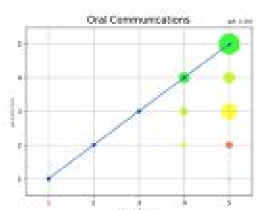


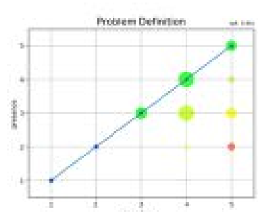


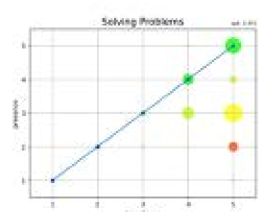


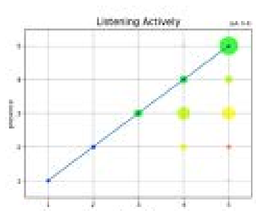


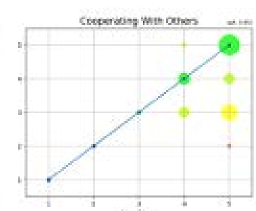


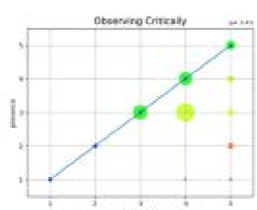


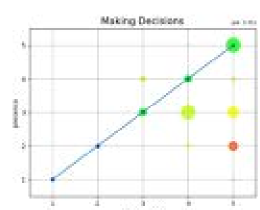


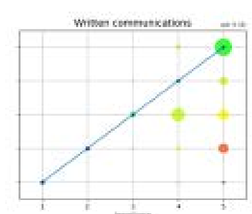




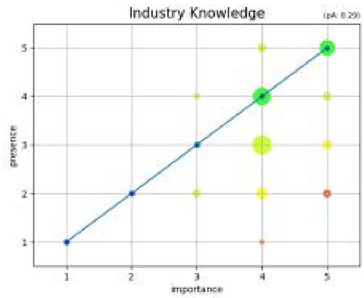




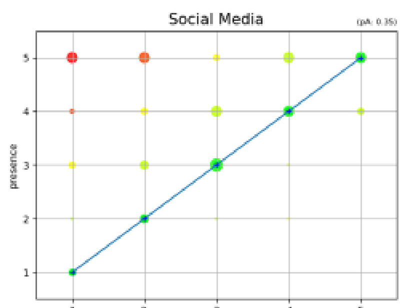


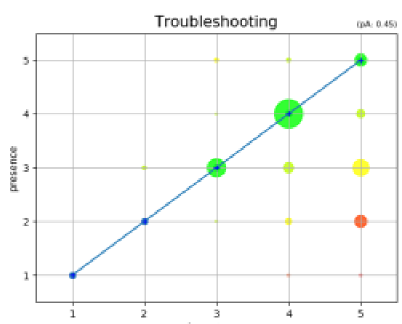


Functional Skills



Technical Skills





HOUSING VACANCY AND THE POTENTIAL EFFECTS OF HIGHER EDUCATION INDEBTEDNESS IN THE UNITED STATES

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ABSTRACT

In the United States, student debt is a growing problem. As more young adults attend college, these students fund their education with student loans, and the costs of education continue to increase across the country. In addition, student debt upon graduation is hypothesized to have an effect on the decision to purchase a home. It is hypothesized in this paper that student debt could have a delaying effect on the purchase of a home with older educated adults purchasing homes and younger educated adults delaying a home purchase. In the absence of direct measures of student indebtedness at the local level, age cohorts with Bachelor's degrees were used to assess the relationship these populations have on local housing vacancy. It was found that the only age cohort that had a significant relationship with local housing vacancy were the 35 to 44 year olds. This cohort had a negative relationship indicating that housing vacancy decreased as this population increased in the city. The results suggest that the mid-career educated population tend to purchase homes while the early-career freshly educated population delay purchasing homes.

INTRODUCTION

Housing vacancies are a real problem across the United States. The housing market crash which precipitated the Great Recession exacerbated the housing vacancy problem. During this same period the numbers of students graduating with student debt increased substantially while the levels of that student debt has grown annually. Students have had to borrow money to go to school since the 1980s, but the percentages and levels of that borrowing has increased astronomically in the 2000s.

Many observers have noticed that students graduating with large amounts of student debt are unable to purchase those things typically associated with educated people such as new homes. The housing market which is reeling already from an economic downturn may have a secondary problem with Millennials, those born in the early 1980s until the early 2000s, being shackled with student loan debt and unable to purchase homes. The Millennials represent the primary generation for economic fuel in the United States today so any adverse effect on this generation will have an adverse effect on the economy as a whole. The pivotal role of homeownership to the economy, and municipal and school district fiscal health in the United States supports this potential effect.

This study is interested in the potential effects of student debt on housing vacancies in the United States. It is suggested that if student debt is prohibitive to obtaining a mortgage to purchase new homes, then there will be a delay in purchasing a home leaving high levels of housing vacancies in cities that have a larger percentage of recent graduates. Since there is no data on student loan indebtedness at the local level, the indirect effects from the educated-age cohorts are used in this study.

The next section of this paper explores the problems related to student debt and housing vacancy, and the reasons both are considered a contemporary problem in the United States. The following section explores the possible connections between student debt and homeownership and housing vacancy. The section after this is the study design for this paper including the data and methodology. The results of this study follow this section which is concluded with a discussion of those results and general conclusions.

THE PROBLEMS OF STUDENT DEBT AND HOUSING VACANCY

In general, across the United States, households have increasingly become indebted with 75 percent of households deeply indebted at a median household debt as of 2011 of $75,600. Since the 1970s, indebtedness has increased with the latest generation (Millennials) being the most indebted generation in U.S. history (Ross, 2013; Houle, 2014). As noted by Houle (2014), "recent cohorts of young adults have come of age in a historical context where access to credit is increasing, credit is being used to supplement stagnating incomes, and debt repayment is becoming more burdensome on family's economic resources" (p. 450).

A major factor in increasing this household debt is student loan debt. In the National Student Loan Survey, 70 percent of students said loans were extremely important in allowing them to go to college. Since 2005, the level of student debt in the United States has risen faster than inflation with a 35 percent increase. This has been a growing problem since 1982 when loans became the largest form of federal financial aid to go to college in conjunction with increasing tuitions because of decreasing state support. In addition, private lending for college education is expected to surpass federal lending in which the loan market around college education has become very lucrative since bankruptcy is not permitted. This has even included securitized loans based on student loans like mortgage-backed securities previous to the Great Recession (Ross, 2013; Elliot, 2014).

The result has been student debt surpassing all other forms of consumer debt with the average graduating student as of 2014 possessing $33,000 in student debt. This has been the highest level since 2013 with expectations that 2015 will surpass 2014. This problem not only exists, but is increasing annually demanding more attention from policymakers. President Obama has already expanded the pay-as-you-earn program for federally-financed student loans which is scheduled to begin at the end of 2015. This program caps monthly payments at 10 percent of income with loan forgiveness after 20 years. The Congress has also attempted to pass legislation to allow graduate debtors to refinance their debt which was blocked by the Republicans. The effort to pass the Student Loan Forgiveness Act and the Private Student Loan Bankruptcy Fairness Act also had no chance in passing (Izzo, 2014; Elliot, 2014; Graham, 2014; Field, 2014; Ross, 2013).

The rising problem of student debt has also coincided with a declining real wage and the lowest savings to income rate since 1933. The percentage of graduates under 35 years of age with student debt is at 40 percent which increasingly exacerbates the problem of low levels of saving and smaller wages (Andrew, 2010; Elliot, 2014; Greiner, 2007). As pointed out by Greiner (2007), "The data available suggest a long-term decline in the personal savings rate, while the family debt ratio and financial obligations ratios have increased" (pp. 9 – 10). In addition, Woo (2014) found that by 2009, graduating students faced greater burdens of debt in which monthly debt payments were above 12 percent of monthly income.

The problem this scenario creates for the economy and the housing market in particular appears to be obvious to most observers. For instance, the homeownership rate amongst 30-year olds has dropped significantly for those with student debt. As stated by Houle (2014), "young adults in later born cohorts tend to have lower incomes, are less likely to own homes, and have fewer assets than the cohorts that preceded them" (p. 451). The apparent connection is the inability to meet savings and income requirements to receive a mortgage for a house purchase due to student loan payments. In addition, new Federal regulations have implemented a debt-to-earnings ratio of 43 percent when the average graduating student has a debt-to-earnings ratio of 50 percent. This regulation prevents new graduates from homeownership absolutely (Graham, 2014; Elliot, 2014).

New graduates are delaying important stages of their life such as having children or buying homes by as much as seven years (Brian, 2014). Given the importance of family development and homeownership to the economy in the United States, this is beginning to have impacts on the economy. As stated by Bracha and Jamison (2012), "For better or worse, owning a home remains both a long-term driver of the U.S. economy and an important psychological benchmark for many citizens" (p. 6). Choi (2014) found in a literature review on studies from 1985 on the impacts of student loan debt on career choices that the studies have contradictory results, but the general consensus in the literature is that student debt is negatively impacting social equality and creating market distortions. In addition, the inability of new graduates to purchase new homes or existing homes that are vacant leaves homes vacant for longer periods of time than would naturally occur in a different scenario of lower levels of personal financial indebtedness and better wages.

Vacancy, in general, is a problem across the United States. According to a Government Accountability Office (GAO), report the number of vacant homes increased between 2000 and 2010. These vacant properties, if left vacant long enough due to low demand, can lead to a scenario of abandonment. Short term abandonment is not a terrible problem except for the loss of property tax revenues. Long term abandonment can incur larger costs (U.S. GAO, 2011).

Long-term vacancy or abandonment can reduce values of neighboring homes, attract crime and increase the risk of fire. The problems associated with vacant homes increases costs on the city. Once there is enough vacancy, the overall neighborhood begins to decline and then the spiral of decline is self-feeding with decline causing further decline which causes more decline. In general, abandonment reduces neighborhood property values from .9 to 8.7 percent. One of the major problems leading to abandonment is the lack of demand (U.S. GAO, 2011; Accordino & Johnson, 2000; Winthrop & Herr, 2009, Schilling, 2004).

The lack of demand could be from macro and micro economic reasons such as a changing economy which causes a shift in the job base. It could also be due to household level factors of which central to this is the level of household income and debt. The rising levels of student debt may be playing a large factor in further decreasing demand for housing, therefore, raising levels of housing vacancy.

THE POSSIBLE EFFECTS OF STUDENT DEBT ON HOME VACANCY & HOMEOWNERSHIP

Homeownership is dependent on many factors such as age, race, marital status, gender, number of children and housing age. In addition to these factors, there are factors that are impacted by student debt that also have an influence on homeownership. These include household income, unemployment and housing values. As discussed previously, the real wage of households is declining while unemployment still remains a problem especially amongst recent graduates. Housing values are also prohibitive given debt-to-income ratio limitations on housing affordability. In the homeownership literature, all of these factors are considered important in predicting homeownership (Andrew, 2012; Couch & Cocks, 2013; Desilva & Elmelech, 2012; Conrad & Brown, 2012; Bentzinger & Cook, 2012; Lauf, Haase, Seppelt & Schwarz, 2012; Turner & Smith, 2009; Martin, 2010; Hirschl & Rank, 2010; Blaauboer, 2010; Lerbs, 2011; Bracha & Jamison, 2012).

A decrease in homeownership due to any of these factors would signal an increasing level of home vacancy. At the center of this assumption are the natural vacancy rate and the vacancy chain model. The natural vacancy rate is the rate of home vacancy due to the moving of one family from one home to the next. This is also known as transaction vacancy. The time between the original owner and the new owner is the natural vacancy that occurs under normal circumstances.

The vacancy chain model attempts to identify the relationship between the factors of homeownership and the natural vacancy rate. This model focuses on vacancy creating events and the absorption of those vacancies via new purchases. This model includes existing housing and the construction of new housing. Similar to the vacancy rate, this model attempts to determine the probability of a vacancy transformation (transaction) where one house changes ownership or receives its first owner after it has been built. This model has various assumptions of which the prime assumption is that there is a line of consumers for these housing units who are currently renting and waiting for the opportunity to purchase either their first home (first-time homebuyer) or to reenter the housing market after having previously exited it. Renters are assumed to be making rational economic decisions on the relative costs of ownership versus renting. This model also assumes constant growth which may or may not be the case in some cities (Nordvik, 2004; Andrew, 2012; Lauf et.al., 2012).

The problems with these assumptions in this model are apparent when considering the constraints on first-time buyers who are graduating from university saddled with student loan debt. There may not be a line of consumers waiting for their opportunity to purchase a house, and the rational consideration of the costs of renting versus owning are complicated by the reality of having high debt-to-income ratios. Under this scenario, the natural vacancy would be extended considerably where homes stay vacant longer. This is further exacerbated if the area is losing population. The longer the vacancy the more likely that the home will turn into blight which only worsens the problem.

Andrew (2010) investigated the impacts that increasing student debt had on homeownership in the United Kingdom after a government policy change which pushed more financial burdens for post-secondary education on students by a one-third increase over previous levels. The study was a simulation of potential effects in which he found that the typical male with increased student debt added two more years to save for the required deposit. The typical couple with increased student debt remarkably added four to five years to save for the required deposit. Andrew (2012) based his simulation on expected housing for those demographic groups which is why it may have taken longer for a couple to achieve the required deposit despite combining incomes. In addition, he found that lower paying jobs along with student debt reduces the probabilities of homeownership, and for potential homebuyers, it increases the length of time that is needed to purchase a home. Andrew (2012, 2010) modeled the impacts of credit constraints and student debt on first-time homebuyers in the United Kingdom assuming that these college graduates would desire a typical home for their demographic and income group.

There is also another phenomenon that does not follow these assumptions which is explained through the process of gentrification. Gentrification is the relocation of college-educated, young professionals into the central city neighborhoods which had been characterized by high levels of vacancy and accordingly low property values due to neighborhood decline. It is quite possible that recent graduates strapped with higher levels of student debt choose to live in these neighborhoods because of the affordability of housing versus other areas of the city. In essence, this would actually decrease levels of vacancy instead of increasing them.

Most of the vacancy is due to already built structures in which the legacy cities in many of these states account for most of the vacancies. The term ‘legacy city’ was developed by the American Assembly at Columbia University to describe older cities that have lost population with declining neighborhoods with high unemployment and poverty. Examples of these cities are Chicago, Detroit, Pittsburgh, Youngstown, Cleveland and Baltimore (“Reinventing America’s Legacy Cities,” 2011).

According to research at the Housing Research Foundation in the 1990s, low income neighborhoods in Chicago experienced an improvement in economic activity in which per capita incomes rose by 21 percent and mortgage lending increased by 110 percent. It was found that those neighborhoods that had the greatest improvements were those that were gentrifying. In these neighborhoods well-educated, single, childless and young professionals were relocating in the 1990s. In these neighborhoods at the beginning of this period the conventional mortgage rates were below the average for the city. These neighborhoods experienced double digit increases in the proportion of people who were college graduates (Zielenbach, 2005).

It would not be a stretch to suggest that these college graduates who were saddled with debt even in the 1990s were choosing to locate to these neighborhoods because of the more affordable housing there. The increase in incomes in these areas indicates the educated background of those relocating there since the relationship between college education and incomes has been well-established in the literature. A more detailed study confirms that in this time period (1990 to 2000), gentrification in these low income neighborhoods was fueled by college graduates under the age of 40 who did not have children (McKinnish, Walsh & White, 2008). The characteristic of not having children or a spouse is also indicative of this population as well as the potential effects of student debt on this group as discussed previously.

This phenomenon of gentrification fueled by young, educated adults was still the case in the period 2000 to 2010. Sherman (2014) in citing a study by City Observatory found that in the City of Baltimore, not unlike other legacy cities across the country, college-educated people between the ages of 25 to 34 were relocating to areas within three miles of the central business district. These areas have been characterized since the 1950s as areas of urban decay, but today many college-educated youth are relocating there. In the City of Baltimore alone, this area has witnessed a 92 percent increase in this population between 2000 and 2010 in which the central city is outpacing the suburbs for this demographic group (Sherman, 2014).

It is quite possible that as student debt continues to increase many college graduates are opting to live in central cities because of more affordable housing. They may be purchasing formerly vacant properties, therefore, cutting the home vacancy rate in the city. There could also be a coinciding lifestyle choice tailored by lower real wages for those college-educated that limits housing affordability and the conveniences of the automobile resulting from increasing gas prices. For instance, public transportation has increased in use in places like Baltimore by this population and even prompting the cash-strapped City of Detroit to invest in a light-rail system in those areas that are currently gentrifying (Sherman, 2014; Guillen, 2014).

The potential effects of student debt are of interest in this paper as these first-time homebuyers are recent graduates with higher levels of debt than any other graduating class. The potential effects of this high level of student debt have not been thoroughly studied in the literature. There are many potential effects, but one of the effects that appear to be gaining the most attention by real estate and banking professionals is the effect on homeownership. A corollary to this is the level of home vacancies in a city. Any positive effect on the level of home vacancies (an increase in home vacancies) would signal a negative effect particularly on local government and school district finances which rely heavily on property tax collections. Consequently, this would also burden the state government which would have to increase transfers to those local governments and school districts to compensate for lower own-source revenues. In contrast, any negative effect of student debt on increasing housing vacancies would signal improved local and state government finances at least as it pertains to property tax collections and intergovernmental transfers.

STUDY DESIGN

The research question for this paper focused on the potential effects of student debt on housing vacancies. It was hypothesized that the effects would be significantly positive for recent graduates (25 to 34 year olds) indicating an increase in housing vacancy with an increase in this population. Further, it was hypothesized that older graduates (35 to 44 year olds) would be purchasing homes possibly for the first time due to the delay in homeownership caused by large debt-to-income ratios. This relationship was hypothesized to be significantly negative indicating a decrease in housing vacancy with an increase in this population.

The level of analysis for this study was at the city-level, and all cities in the United States for which data were available were included in this study. The study sample was 837 cities. The timeframe for the study ranged from 2010 to 2013 which were years that the American Community Survey (ACS) had five-year estimates for these cities at the time of data collection. Some databases had data for 2009, but not all variables included in this study had data for that year.

The outcome variable of interest was the level of housing vacancy as a percentage of total housing. Since this was a percentage variable and due to normality reasons, the natural log of the variable was calculated to aid in interpretation. The predictor variable of interest was the percentage of the population with a Bachelor's degree. This was separated into age cohorts based on the ACS for those 25 to 34, 35 to 44, 45 to 64 and 65 and older. In the absence of local data on student debt per person it could only be implied that those graduating in the earliest cohorts (25 to 34 and 35 to 44) were more likely to be saddled with student loan debt than the later cohorts (45 to 64 and 65 and older).

A number of control variables were introduced to account for predictors of homeownership in the literature. These included the total population, median age, the percentage of the population that is African American, the percentage of the population that is Hispanic, the unemployment rate, the percentage of the population that is female, the percentage of the female population over 15 that has never married, the percentage of the population that is married with children under the age of 18, the percentage of new housing built since 2005, the median value of homes and the percentage of the population that is foreign born. The mean household income was also included initially, but due to high levels of correlation with the predictor variable and the median value of homes, it was excluded from the analysis.

There were problems with heterogeneity of variance which required the transformation of the predictor and control variables. The square root or natural log transformation was used to align these variables with normality expectations in the model. In addition, a weighted least squares approach was used to further eliminate bias created by heterogeneity of variance. The standard deviation, mean and maximum and minimum values of the untransformed variables are listed in table 1.

Table 1: Descriptive Statistics for All Variables Untransformed

	Standard Dev.	Mean	Max. Values	Min. Values
Percent Vacancy	6.52	15.24	19.85	10.63
Education 25 - 34	1.56	28.90	30.00	27.80
Education 35 - 44	2.47	22.15	23.90	20.40
Education 45 - 64	0.42	19.70	20.00	19.40
Education 65 & Up	2.40	15.20	16.90	13.50
Median Age	3.89	33.15	35.90	30.40
Population	266864	400996	589697	212295
Percent Female	0.95	52.74	53.41	52.06
Percent Married w Kids	3.77	10.18	12.85	7.51
Unemployment	0.92	8.35	9.00	7.70
Female Never Married	1.67	35.80	36.98	34.62
Newest Housing	0.35	0.75	1.00	0.50
Median House Value	38325	112900	140000	85800
Percent Black	24.58	56.75	74.13	39.38
Percent Hispanic	9.40	9.75	16.40	3.10
Percent Foreign Born	4.45	6.54	9.68	3.40

Notes. All data for variables collected from the ACS 5 Year Estimates for the years 2010 to 2013 (4 Year Period). N = 837 Cities.

A fixed effects panel model was calculated in which a p-value of .05 was considered the significance threshold needed to determine a possible effect. The model was repeated several times for each separate educated age cohort. Insignificant results were determined to be of minimal potential impact on housing vacancy while significant results indicated a possible relationship between the size of that age cohort and housing vacancy. The direction of the effect was also important in which negative effects indicated a positive relationship with housing vacancy and positive effects indicated a negative relationship with housing vacancy. The results are reported in the following section.

RESULTS

The relationship between the percentage of 35 to 44 year olds and housing vacancy is negative and significant at the .0001 probability level. This is the only significant educated age cohort in the study. The negative relationship is not the largest among the variables in which the percentage of households that were married with children under 18 has the largest negative effect on housing vacancy. The negative effect indicates that an increase in the size of this population is related to a decrease in the amount of vacant houses. The largest positive effect on housing vacancy is the percentage of females never married in the population. These results are in line with the current literature on homeownership. Table 2 lists these results.

The negative relationship indicates that as the size of the college-educated population that are between the ages of 35 and 44 increase, the amount of housing vacancy decreases in the city. These effects are robust to controls in the construction of new housing, the demographic composition of the city, the size of the married population, the never married female population, the female population, the median age, the total population, unemployment and housing values. The foreign born population, housing values and the married population all have significantly negative effects on housing vacancy. The median age, population of never married females, new housing and the population of African Americans all have significantly positive effects on housing vacancy. These results are all expected based on the literature. In addition, these results are robust to time-based and case-based random variances.

Table 2: Second Cohort (35 to 44 Year Olds) Panel with Percentage Housing Vacancy

	β	*SE*
Square root of Bachelor's 35 to 44	-.049498*** (-.074, -.025)	.012639
Median Age	.015337** (.007, .024)	.004444
Natural Log of Population	.010696 (-.028, .050)	.019911
Percentage Female	.007023 (-.006, .020)	.006808
Square root of Percentage Married	-.210623*** (-.263, -.158)	.026891
Square root of Unemployed	.057717 (-.003, .118)	.031103
Natural Log of Female Never Married	.289732** (.123, .456)	.084803
Natural Log of New Housing	.053708*** (.043, .064)	.005410
Natural Log of Housing Value	-.137955*** (-.201, -.075)	.031976
Square root of Percentage Black	.040718*** (.021, .061)	.010223
Square root of Percentage Hispanic	.010674 (-.010, .032)	.010636
Square root of Percentage Foreign	-.039227*** (-.051, -.027)	.006173

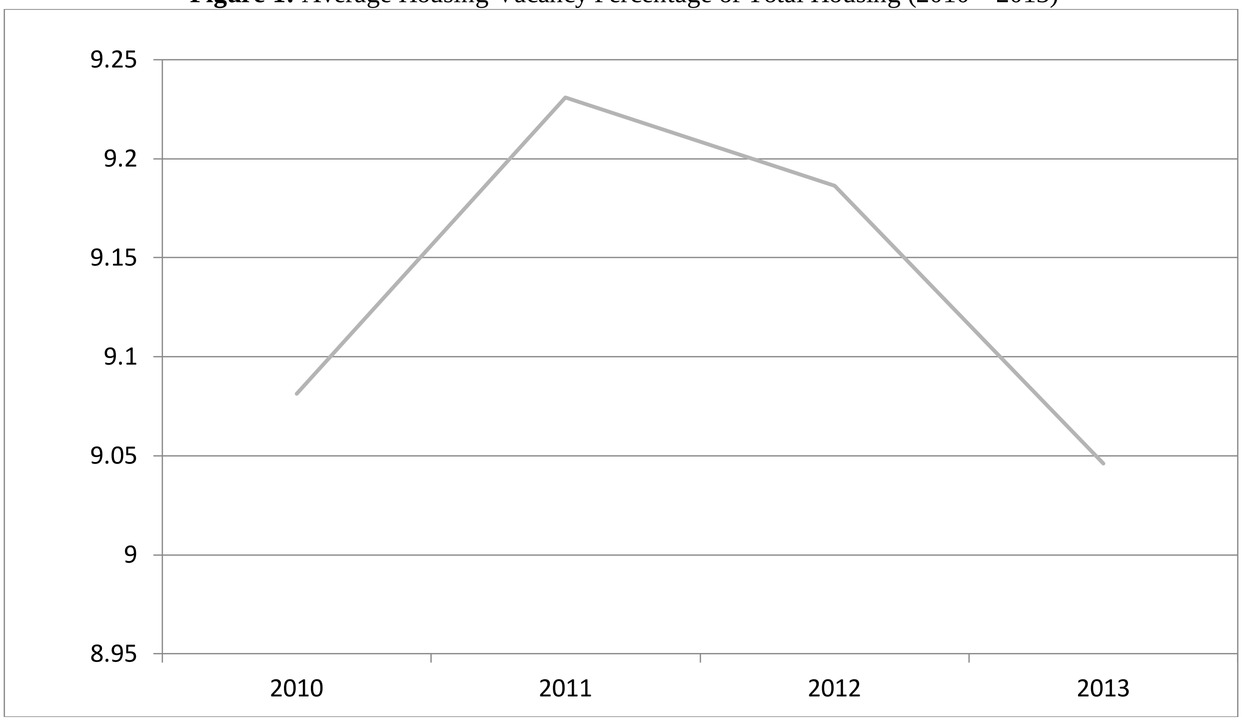
Notes. Dependent Variable: Natural Log of % Vacancy. WLS method for residuals. Intercept = 2.90*** (1.60, 4.22). β = unstandardized beta, *SE* = standard error. *p ≤ .05; **p ≤ .001; ***p ≤ .0001. Data from ACS 5 year estimates. DF not reported because they are not integers. N = 837.

The results in table 2 provide some evidence of a confirmation of the hypothesis that later generations of college graduates are purchasing homes. The 25 to 34 educated age cohort also has a negative relationship with housing vacancy, but it is one of the most insignificant variables in the model and it is the most insignificant of the educated age cohorts. Interestingly, the 45 to 64 and 65 and up educated age cohorts have a positive relationship with housing vacancy indicating that as this population increases the number of vacant houses increase. The effects are insignificant, but it does support the idea that younger age cohorts are typically purchasing homes while older age cohorts are not purchasing homes leaving the natural vacancy rate to lead to an increasing number of vacancies in communities that have a larger percentage of this population. This might also indicate the desire on the part of cities to attract younger college-educated families that have high earning potential. These households will purchase vacant homes, establish their families, contribute to the local economy and pay increasing levels of taxes as housing values increase with this population. Coincidently, these populations also tend to use less city services.

The large insignificance of the youngest educated cohort indicates that even though the effect is negative and there may be many people within this age range with Bachelor's degrees, purchasing homes the size of this effect is practically zero. This indicates that most people within this age range with Bachelor's degrees are not purchasing homes adding some confirmation of the idea that this population is delaying home purchases. There is some doubt since this is not a direct measure of student loan indebtedness and even with this data would be absent the internal rationalizations of individual homebuyers. Despite this objection, it does provide an interesting contrast when the 35 to 44 educated age cohort has a very significant and negative effect on housing vacancy when controlling for the same extraneous variables, time and case effects.

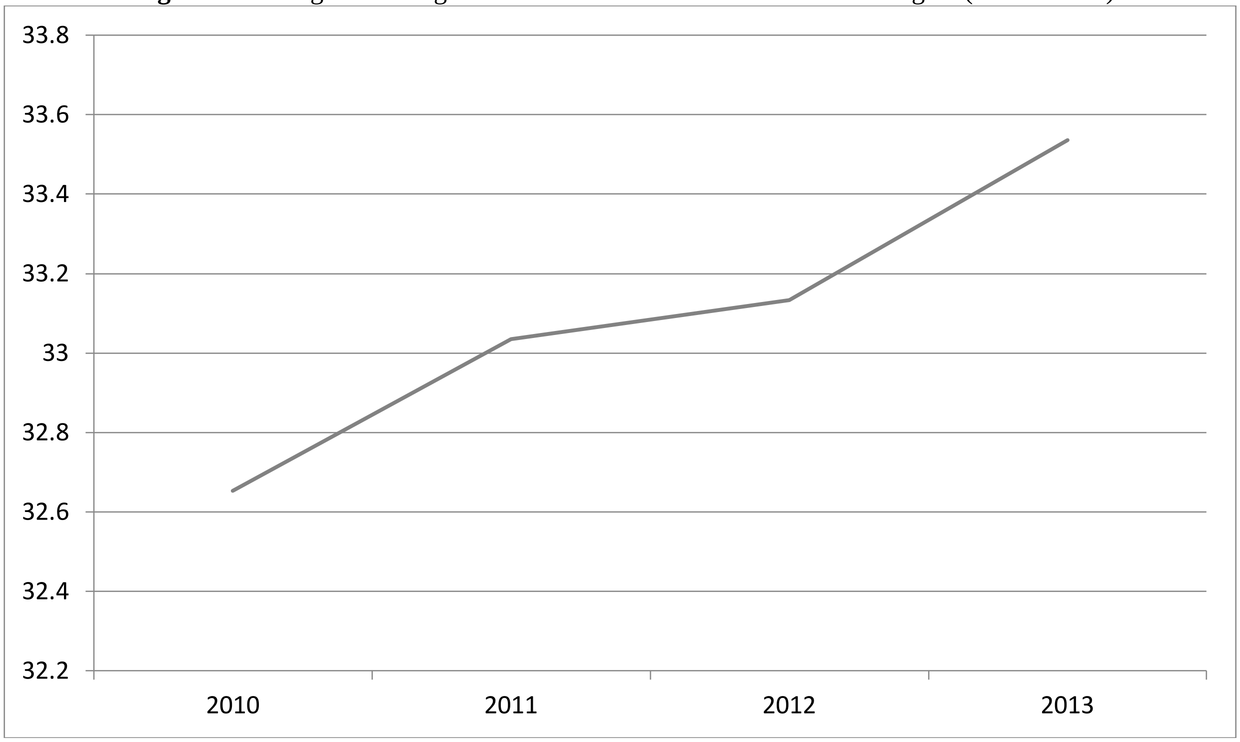
A visualization of the data shows that the average housing vacancy between 2010 and 2013 increased initially in 2011, but then has decreased steadily since this period. It also has to be remembered that the housing crisis was starting to abate by 2010 and by 2011 many were observing a turnaround in the housing market. Figure 1 shows this general trend. The averages are across four years and 837 cases.

Figure 1: Average Housing Vacancy Percentage of Total Housing (2010 – 2013)



In addition, the size of the population with Bachelor's degrees in the age range of 35 to 44 has been steadily increasing across the United States. This trend is steeper than the trend in the decline in housing vacancy in the United States and reflects the reality that more Americans are getting their Bachelor's degree than in the history of the nation. As argued previously, this also strongly indicates that this generation (Millennials) is the most indebted generation in U.S. history and many of them are only finding the adequate levels of income and savings later in their lives to purchase a home. Figure 2 shows this trend. The averages are across four years and 837 cases.

Figure 2: Average Percentage of 35 to 44 Year Olds with Bachelor's Degree (2010 – 2013)



DISCUSSION

The results imply that of the two youngest cohorts of college graduates with Bachelor's degrees, the later cohort has a significant relationship with decreasing housing vacancy while the earlier cohort has a very insignificant relationship with decreasing housing vacancy. The hypothesis in this paper argued that student debt burdens could be delaying home purchases and the results in this paper appear to support this notion. Since it is not a direct measure of student loan indebtedness nor is it a direct survey of reasons to purchase a home when it was purchased, the results are not definitive. It can only be implied through these results. Despite this reservation, these results are very interesting in pursuing future research in this area as better data become available and the true effects of increasing college-graduate indebtedness become more widely studied in the literature.

The earliest cohort of college graduates still has a negative relationship with housing vacancy albeit it is very insignificant. This might indicate that this group of recent college graduates are still purchasing homes, but not at the level to make it a significant factor while controlling for other important factors for homeownership. It has to be remembered that not all college graduates are heavily indebted. It could be less indebted college graduates that are purchasing homes. In addition, as argued in this paper, as recent college graduates who tend to be unmarried and without children choose to relocate in poorer neighborhoods in the central city, the possibility for earlier homeownership increase as housing values are not as prohibitive in these neighborhoods.

The later cohorts of college graduates with Bachelor's degrees are insignificant, but have positive relationships with housing vacancy. The effects are small as indicated by their insignificance, but also confirm a widely-held belief that aging communities tend to have more vacancy. Shrinking cities are aware of these social dynamics and have been attempting to attract younger generations to their cities. These younger generations not only bring the propensity to limit the supply of housing stock, but also have high earning potential which all translate into tax dollars and economic development.

The potential delay in housing purchases and possibly other major purchases by heavily-indebted recent college graduates may have a negative effect on the economy as a whole besides negative effects on tax revenues to these cities. This effect is unknown. The joke of the 30-year-old still living with his/her parents has become so ubiquitous that the phenomenon is taken for granted in the United States. The larger effect of this population being less than productive or having the financial buying power it once did is still being studied in the literature. The general assumption is that the effect will be negative. A delay in housing purchases does not have to be a bad thing, but in an economy based on consumption with local governments heavily dependent on property-based tax revenue, this effect is creeping into the consciousness of policymakers and economists.

Future research can focus on the effects of college-graduate indebtedness on housing vacancy or other areas as data become more available as this issue becomes more important in policy circles. An important element would be having data for more years in which general trends in homeownership captured over a longer time period can be better controlled for in the analysis. It would also be interesting to look at the Census tract level where individual neighborhoods in cities can be explored and the phenomenon of younger college-educated graduates moving to poorer neighborhoods can be studied for possible effects on housing vacancy there.

CONCLUSION

The intent of this study was to determine whether college-graduate student loan indebtedness had a potential influence on recent graduates to delay purchasing a home in the United States. The literature on housing vacancy and homeownership was explored and a model was developed that could assess in an indirect manner the potential relationship of graduating with a Bachelor's degree on homeownership. The model controlled for other factors related to homeownership and for unique case and time-based variances over a period of 4 years and across 837 cities. The findings lent support for the notion that college graduates are delaying the purchase of homes in which 35 to 44 year olds with Bachelor's degrees had a significant and negative effect on housing vacancy.

The study still left many questions unanswered especially since it was not a direct measure of actual college-graduate indebtedness. It was argued that the findings in this study provide a solid foundation for future research especially as more detailed data become available on the debt burdens of this population. The prevalence of this issue with laws in Congress, banker's awareness in the housing mortgage market and the high likelihood that college education will only get more expensive lend some credence to the findings in this study.

Policymakers might start to address concerns related to high levels of recent graduate indebtedness through loan forgiveness or other initiatives that address the issue in a reactionary way. They may also start to address the root cause of the problem which is the high costs of higher education. The movement from the Department of Education to begin assessing colleges across the country on objective criteria based on college success is one effort to ensure that colleges are not bankrolling on the proliferation of college finance while producing less than desirable outcomes.

The concerns at the local level over housing vacancy have vexed upper levels of government leading to Federal and state programs like the Neighborhood Stabilization Program (NSP). These programs have usually approached the issue from a prescriptive perspective dealing with vacancy when it becomes a problem in a city. Preventive programs have rarely been implemented. Further, if preventive programs are considered, the demographic effects on housing vacancy are rarely considered by policymakers. The size of the college-graduate community that may be heavily laden with student loan debt could be changing these dynamics in a way that local policymakers are unable to fathom or control.

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AN INTEGRATED APPROACH TO TEACHING FINANCIAL STATEMENTS ANALYSIS USING BLOOMBERG AND THOMSON REUTERS

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ABSTRACT

In an information age where data is currency, it is critical for students to have the skills to access, manipulate, analyze and interpret real-market data. The use of Bloomberg and Thomson Reuters in business education has become a priority for universities in order to equip their students with a competitive edge in today's job market. This paper discusses a project for financial statements analysis using Bloomberg and Thomson Reuters. The project has proven very helpful for students to learn how to effectively use Bloomberg and Thomson Reuters for conducting a financial statement analysis. The paper provides the steps for faculty to develop an effective learning experience, closing the gap between theoretical knowledge and the expectations of the 21st century workplace. The project also supports the implementation of the learning framework to address the spirit and intent of the AACSB business and accounting standards related to information technology skills and knowledge.

INTRODUCTION

In an information age where data is currency, it is critical for students to have the skills to access, manipulate, analyze and interpret real-market data. This paper provides a project for financial statements analysis using Bloomberg and Thomson Reuters. The project has proven very helpful for students to learn how to effectively use Bloomberg and Thomson Reuters for conducting a financial statement analysis project and for faculty to develop an effective learning experience closing the gap between theoretical knowledge and the expectations of the 21st century workplace. The project also supports the implementation of the learning framework to address the spirit and intent of the AACSB business and accounting standards related to information technology skills and knowledge (AACSB 2017).

Given economic uncertainties and changes in the regulatory environments, businesses must adapt to stay profitable. To do so, they are adopting big data analytics, using cutting-edge software with real-market data, and they need skilled employees ready to function in this ever-changing environment. If the university goal is to prepare students for their future careers in the *real world*, the question is: are our students well equipped or not? What needs to change? How do we all do it? Bringing Bloomberg and Thomson Reuters into the curriculum gives students hands-on experience with a set of tools used by business professionals on daily basis, providing a competitive edge in today's job market. Our paper provides a project assignment available to accounting and finance instructors to help them integrate Bloomberg and Thomson Reuters into the business curriculum.

This paper will assist professors by providing them with a project on how to use Bloomberg and Thomson Reuters, and help students solidify their understanding of theoretical knowledge by applying it to a real life scenario. The students will learn how to effectively find information on particular topics in finance and accounting, how to collect and manipulate critical data in Excel from Bloomberg and Thomson Reuters, how to complete a project that describes and demonstrates students' investigation, and how to compare the results to the market response.

With this project, both faculty and students will better understand that they will need better tools for measuring the performance of their research. They will also learn that their research needs to justify their investments, evaluate data providers, and drive future planning using data accessed through tools such as Bloomberg or Thomson Reuters.

The paper is organized as follows: The next section provides a literature review on the use of financial technologies in teaching business courses. Then, it introduces a new teaching-learning curriculum innovation and presents an overview of Bloomberg Professional and Thomson Reuters financial technologies along with their importance, advantages and challenges in integrating them. After that, the following section explains the project and provides the guidelines and step-by-step instructions of how to use Bloomberg and Thomson Reuters to complete all the steps of the project. It also demonstrates how to use Excel to retrieve and manipulate critical data necessary for conducting the analysis and it provides faculty with a list of questions for reinforcing the concepts. The last section provides a summary and conclusion.

LITERATURE REVIEW

In a fast paced society, university professors, university administrators and employers must constantly engage in a healthy debate about what skills employers most need from business school graduates. Students should learn a variety of skills that insure their employability. Wagner (2008) interviewed a large cross-section of business and industry leaders and concluded that critical thinking and problem solving skills were at the top of the survival skills employees need. In a study commissioned by Bill and Melinda Gates Foundation (2011) 69% of respondents rated "the ability to analyze and synthesize information" being very important along with 82% for "critical thinking and problem solving". For learning to take place, other researchers showed that critical thinking needs to be done in a real world setting whenever possible, posing and solving problems that are authentic in nature (Lipman, 1988; McPeck, 1990).

In today's information age, business education must give importance to information technology skills. In 2016, PwC surveyed leaders across all businesses who were concerned with the speed of technological change having a disproportionate effect on financial services (PwC's Global CEO Survey, 2016). The FinTech disruptors in consumer banking, wealth management, and regulatory framework -- along with customers gravitating towards low fees, and convenience – force the traditional banking system to change at a fast speed or fall behind. In this dynamic situation, companies need skilled employees with critical thinking skills who are able to synthesize rapidly changing data.

In order to provide an environment for this sort of skill development, business schools are adopting financial service labs. In 2008, there were only 45 university financial services labs in the world. In 2018, 368 specialized financial labs were actively operating in American and Canadian business schools according to a survey by Rise Display. With financial services labs more numerous, the key differentiating factor is not just to have one, but using it effectively.
Understanding how to access and apply the appropriate data is a critical element of success. Makani-Lim, Agee, Wu, & Easter (2014) shows that "the time spent for and not finding the information to do their job is a huge drain on employees' productivity and company resources".

Some researchers emphasized that relating information literacy to a particular discipline provides a more valuable learning experience. Faculty have the responsibility of teaching those skills that are required for subject-specific inquiry and research (Grafstein, 2002; Roldan & Wu, 2004). The two providers of real market data and analytics -- Bloomberg Professional Service and Thomson Reuters -- offer financial professionals access to a top-of-the-line financial, regulatory, and market database. Activities users most commonly subscribe to their services are: analyst recommendations, earnings estimates, company fundamental data, stocks, fixed income securities, options, calendar actions, US economic surveys and releases, M&A, news and deals.

Thomas Coe (2007) identifies potential applications using Bloomberg and potential benefits acquiring it. Scott (2010) discusses how to implement the Bloomberg certification into finance classes. Lei and Li (2012) show how to use the Bloomberg terminal for teaching a securities analysis and portfolio management class. Croushone and Kazemi (2014) illustrate the use of Bloomberg terminal in economics courses by emphasizing that "students learn about data and economic events better when they can put their hands on the data or manipulate it". Because student academic performance and learning outcomes are positively correlated to student engagement (Carini, Kuh, and Klein (2006), Excel based assignments and projects help students understand the concepts, make appropriate connections, engage them in the classroom, and most importantly prepare students for modeling real business problems (Zhang, 2014).
Knowing how to find and retrieve data, export it to Excel and quickly manipulate it leaves more time for comprehensive analysis and better decision-making. Only a proper balance between theory and practical applications will give students the competitive edge they need to compete in today's labor market.

INCORPORATING THE PROJECT IN YOUR COURSE THROUGH A NEW CURRICULUM INNOVATION USING BLOOMBERG AND THOMSON REUTERS

Financial analysis must relate not only to what happened in the past based on the data from financial statements, but also to what is going to happen using the information from external sources. While financial statements are easily available, the external sources are more specialized, expensive and require significant time to learn how to effectively use them. Because the time commitment for research, teaching and committees make it difficult for faculty to allocate time for curriculum changes, at American University's Kogod School of Business, we introduced a new teaching and learning innovation. This innovation incorporates the Financial Services Lab into the curriculum in a way that faculty and students constantly acquire new technology-supported knowledge and skills. The Financial Services Lab enables students to gain exposure to, receive training in, and apply theory to "real life" business situations, all while learning new technology skills.

The goal of this curriculum innovation is to have a sample-project for each course which can be used across all accounting and/or finance sections. Each course includes a project that requires students to attend training sessions collecting real data, manipulating that data, using analytics and interpreting the results. The subsequent curriculum is focused both on acquiring the necessary technology skills and promoting collaboration and problem solving, resulting in a new learning experience. The project can also be used in individual studies and financial seminars, teaching non-financial managers how to read financial statements and to interpret financial results for making better decisions.

Assigning the Project

The project that is included in the syllabus should clearly specify:

- learning objectives and detailed requirements of each section
- number of students per group
- completion dates of each section
- grade given for the project as a percentage of total grade

After reading the background material related to the project assigned by the instructor, students come to the Financial Services Lab to develop an action plan, determine the data requirements, design the analysis, collect the data, manipulate the data, perform the analysis and experiments, build the charts and exhibits, interpret the results, write the report and draw a conclusion.

Through a structured way, students are taken through all the steps of the project using a sample company either in one or two training sessions. Because one of the purposes of the project is to make students familiar with the databases and company financial statements, students must work by themselves to locate data on their own for their chosen company and the benchmark company, compare the two companies and write the report following the same methodology. Supplemental questions are provided for instructors to help students reinforce the process.

Ideally, the instructors should not provide the information to the students directly, but they should talk about where the financial information can be located, why is it there, and how does it benefit the analyst. This project transitions students from understanding the theory to applying it, to analyzing the real problem and to evaluating the results.

FINANCIAL STATEMENT ANALYSIS PROJECT

Project Summary

The project addresses concepts that students will encounter in a real situation in their careers. Students will be assigned a publicly traded company and a benchmark company. The students are asked to compute ratios and to address a lot of questions, commenting on the information each ratio provides and determining which company is performing better. Students learn how to conduct a financial statement analysis using the tools of ratio analysis.

Audience

The project can be used in a Financial Analysis course, in MBA, MSA and MSF programs. The project serves as well as an extra assignment for honors classes to extend the curriculum beyond that expected of a regular course.

Learning objectives

Our objective for this project is to actively engage students in class through a financial statements analysis that students will experience in an internship or job.

The financial statement analysis is used to identify trends in a company's past performance, to compare a company's financial results with those of other companies and industry benchmarks.

Exhibit 1: Learning Objectives

Upon completing this financial statement analysis, the users should know about:

- the role of ratios in financial statement analysis
- the ratio categories, their definitions and formulae: profitability, liquidity, asset management and solvency
- the types of standards that are used for comparing the ratios: historical, industry, forward looking
- how to calculate and interpret interpretation financial ratios and their drawbacks
- how to find the data and ratios in Bloomberg and Thomson Reuters databases
- how to make a strategic assessment, to identify accounting issues and to analyze financial management issues

Teaching Plan

1. We begin the class by asking "Who is interested in conducting a financial statement analysis?"

2. We briefly talk about the history of Bloomberg and Thomson Reuters and the benefits and challenges emphasizing that they are both widely used by finance professionals and that their use and functions enhance student success in their career choices.

3. In class, we walk through a step-by-step analysis of each section using both systems and commenting on the interpretation of the ratios.

In this paper, we provide several examples of data and analysis tools from Thomson Reuters and Bloomberg. Faculty have access to the Bloomberg and Thomson Reuters screenshots along with the appropriate step-by-step instructions how to get to the data and analytics. A set of relevant questions are included to lead to or to enforce the computed ratios, helping students better understand the concepts.

Background Information

We start with the Bloomberg system. Each student will set up Bloomberg account. Once we are in the Bloomberg system, we want to find basic and descriptive overview of the chosen company, in this case Wal-Mart.

Exhibit 2: Bloomberg: Company Background

Type WMT EQUITY <GO>. Then type DES <GO>.

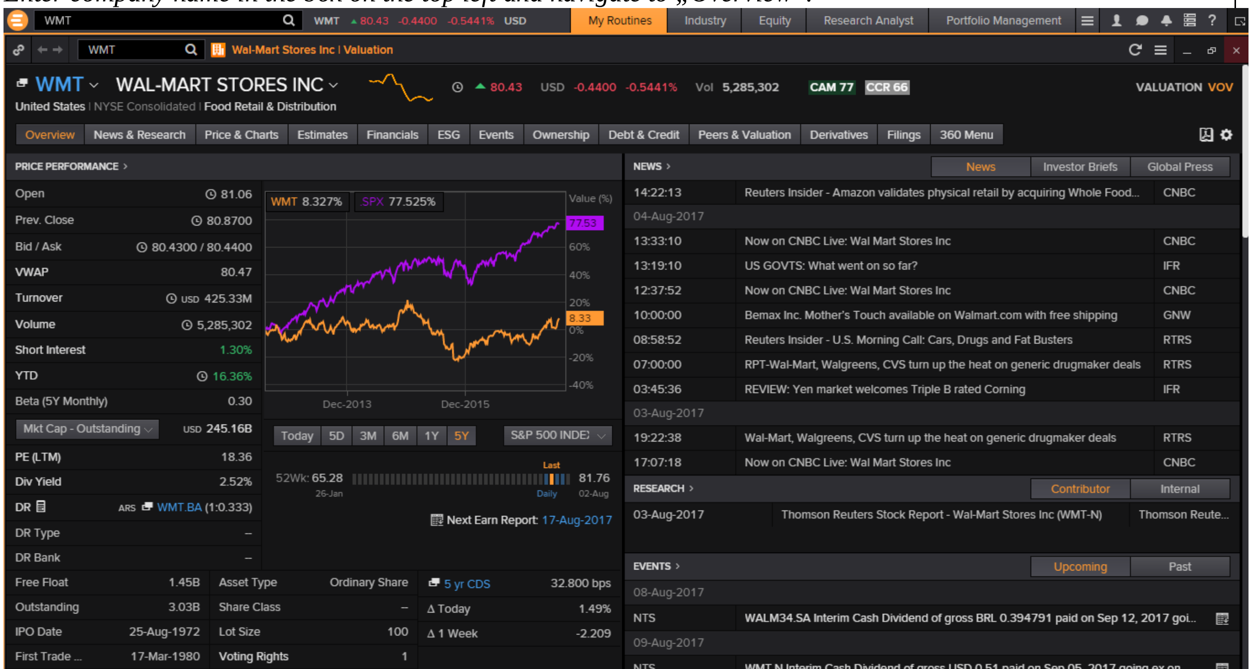
Source: Bloomberg

Selecting "Description" will allow you to see a business description, issue information, management team, top holders, latest ratios, comparable revenue and EPS, business and geographic segmentation as well as relevant industry information.

Then, we'll use Thomson Reuters Eikon to find our chosen company.

Exhibit 3: Thomson Reuters Eikon: Background Information

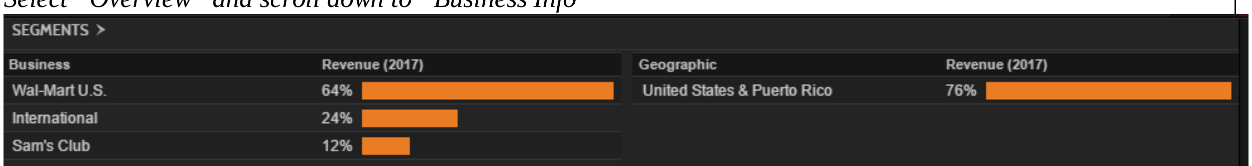
Enter company name in the box on the top left and navigate to „Overview".



Source: Thomson Reuters

Business Segments

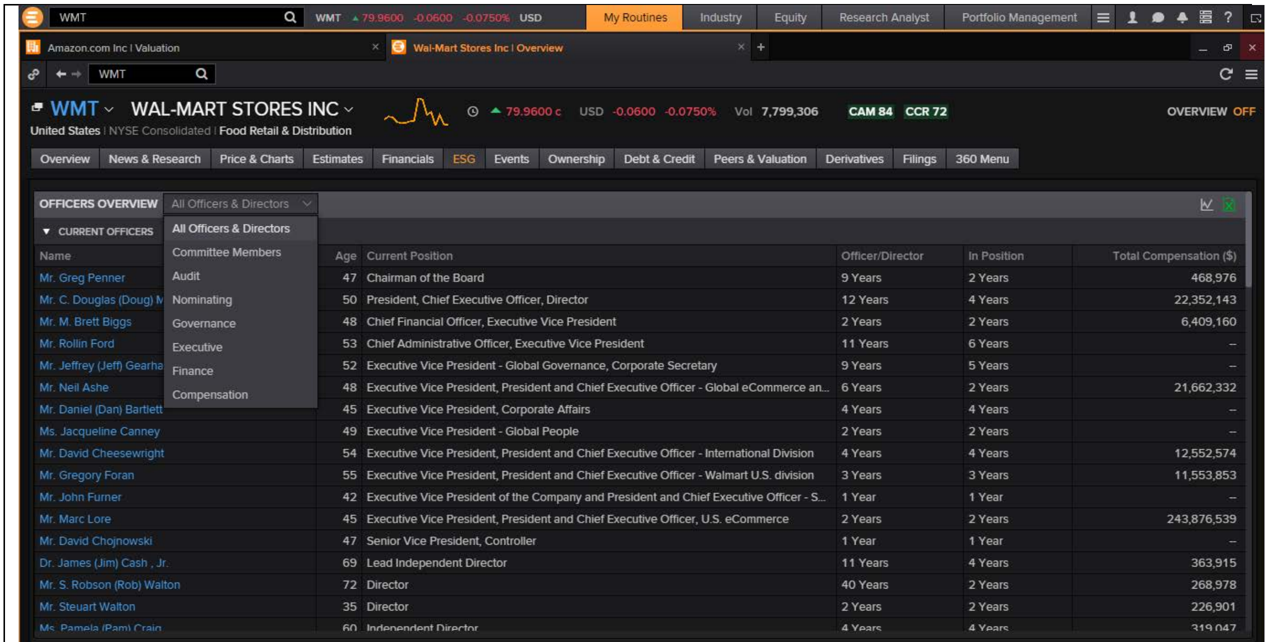
Select "Overview" and scroll down to "Business Info"



Source: Thomson Reuters

Officers

In the tool bar select "ESG" and then click on „Officers" to get the information you look for.



WMT · WAL-MART STORES INC · 79.9600 c USD -0.0600 -0.0750% Vol 7,799,306 CAM 84 CCR 72

United States | NYSE Consolidated | Food Retail & Distribution

Overview | News & Research | Price & Charts | Estimates | Financials | ESG | Events | Ownership | Debt & Credit | Peers & Valuation | Derivatives | Filings | 360 Menu

OFFICERS OVERVIEW · All Officers & Directors

CURRENT OFFICERS

Name	Age	Current Position	Officer/Director	In Position	Total Compensation ($)
Mr. Greg Penner	47	Chairman of the Board	9 Years	2 Years	468,976
Mr. C. Douglas (Doug) M	50	President, Chief Executive Officer, Director	12 Years	4 Years	22,352,143
Mr. M. Brett Biggs	48	Chief Financial Officer, Executive Vice President	2 Years	2 Years	6,409,160
Mr. Rollin Ford	53	Chief Administrative Officer, Executive Vice President	11 Years	6 Years	--
Mr. Jeffrey (Jeff) Gearha	52	Executive Vice President - Global Governance, Corporate Secretary	9 Years	5 Years	--
Mr. Neil Ashe	48	Executive Vice President, President and Chief Executive Officer - Global eCommerce an...	6 Years	2 Years	21,662,332
Mr. Daniel (Dan) Bartlett	45	Executive Vice President, Corporate Affairs	4 Years	4 Years	--
Ms. Jacqueline Canney	49	Executive Vice President - Global People	2 Years	2 Years	--
Mr. David Cheesewright	54	Executive Vice President, President and Chief Executive Officer - International Division	4 Years	4 Years	12,552,574
Mr. Gregory Foran	55	Executive Vice President, President and Chief Executive Officer - Walmart U.S. division	3 Years	3 Years	11,553,853
Mr. John Furner	42	Executive Vice President of the Company and President and Chief Executive Officer - S...	1 Year	1 Year	--
Mr. Marc Lore	45	Executive Vice President, President and Chief Executive Officer, U.S. eCommerce	2 Years	2 Years	243,876,539
Mr. David Chojnowski	47	Senior Vice President, Controller	1 Year	1 Year	--
Dr. James (Jim) Cash , Jr.	69	Lead Independent Director	11 Years	4 Years	363,915
Mr. S. Robson (Rob) Walton	72	Director	40 Years	2 Years	268,978
Mr. Steuart Walton	35	Director	2 Years	2 Years	226,901
Ms. Pamela (Pam) Craig	60	Independent Director	4 Years	4 Years	319,047

Source: Thomson Reuters

Industry Analysis

Before we start our analysis for comparison and consistency, we talk about all industry classifications and the importance of choosing an industry and sticking to it for the entire analysis. Here we present the differences between industry classifications in both systems, Bloomberg and Thomson Reuters.

Type the name of the company, choose "Overview" and then "Codes and Schemes"

THOMSON REUTERS BUSINESS CLASSIFICATION (TRBC)		
Economic Sector	Consumer Non-Cyclicals	54
Business Sector	Food & Drug Retailing	5430
Industry Group	Food & Drug Retailing	543010
Industry	Food Retail & Distribution	54301020
Activity / Sub-Industry	Supermarkets & Convenience Stores	5430102012

NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS)		
Sector	Retail Trade	44-45
Subsector	Food and Beverage Stores	445
Industry Group	Supermarkets and Other Grocery (except Convenience) Stores	4451
International Industry	Supermarkets and Other Grocery (except Convenience) Stores	44511
National Industry	Supermarkets and Other Grocery (except Convenience) Stores	445110

Source: Thomson Reuters

Financial Statements

The 3 financial statements, Income Statement, Balance Sheet and Cash Flow Statement, can be found under the "Financials". In the right-hand corner click on the Excel icon and the financial statements are exported to Excel.

WMT WAL-MART STORES INC CAM 83 CCR 71 INCOME STATEMENT

United States | NYSE Consolidated | Food Retail & Distribution

Overview | News & Research | Price & Charts | Estimates | Financials | ESG | Events | Ownership | Debt & Credit | Peers & Valuation | Derivatives | Filings | 360 Menu

INCOME STATEMENT Annual Standardised in Millions of U.S. Dollars [+] Show All

Period Annual View Standardised

	2017	2016	2015	2014	2013 R	2012 R	2011 C	2010 C	2009 R	2008 C
Earnings Quality Score	99	90	87	56	71	58	65	82	97	47
Period End Date	31-Jan-2017	31-Jan-2016	31-Jan-2015	31-Jan-2014	31-Jan-2013	31-Jan-2012	31-Jan-2011	31-Jan-2010	31-Jan-2009	31-Jan-2008
+ Revenue	485,873	482,130	485,651	476,294	468,651	446,509	421,849	408,085	404,254	377,023
Other Revenue, Total	–	–	–	–	–	–	–	–	–	–
Total Revenue	485,873	482,130	485,651	476,294	468,651	446,509	421,849	408,085	404,254	377,023
+ Cost of Revenue, Total	361,256	360,984	365,086	358,069	352,297	334,993	314,946	304,106	303,941	284,137
Gross Profit	124,617	121,146	120,565	118,225	116,354	111,516	106,903	103,979	100,313	92,886
+ Selling/General/Admin. Expenses, Total	101,853	97,041	93,418	91,353	88,629	85,025	81,361	79,717	77,546	70,934
Research & Development	–	–	–	–	–	–	–	–	–	–
Depreciation/Amortization	–	–	–	–	–	–	–	–	–	–
Interest Expense, Net - Operating	–	–	–	–	–	–	–	–	–	–
Interest/Investment Income - Operating	–	–	–	–	–	–	–	–	–	–
Interest Expense(Income) - Net Operating	–	–	–	–	–	–	–	–	–	–
Interest Exp.(Inc.),Net-Operating, Total	–	–	–	–	–	–	–	–	–	–
+ Unusual Expense (Income)	–	–	–	–	–	–	–	260	–	–
Other Operating Expenses, Total	–	–	–	–	–	–	–	–	–	–
Total Operating Expense	463,109	458,025	458,504	449,422	440,926	420,018	396,307	384,083	381,487	355,071
Operating Income	22,764	24,105	27,147	26,872	27,725	26,491	25,542	24,002	22,767	21,952

Source: Thomson Reuters

Financial Analysis

Before we start a ratio analysis, we need to understand the company's customers, competitive forces, critical success factors and accounting issues. The Notes to the financial statements should be read by identifying any accounting issues. Students should compare the component percentages from common-size financial statements to the component percentages of benchmark company or industry averages at the same point in time. Differences between companies should be viewed as indicators that further analysis is necessary, not as an indication that problems exist.

In order to identify and assess trends in a company's financial position and performance, we use ratio analysis. Evaluating those trends help us isolate historical patterns, gauge their significance over time, and assess their effects on the company's future.

The ratios covered are: the profitability, liquidity, solvency and asset management and asset utilization and asset activity ratios. Instructors can elaborate on the interpretation of the ratios during different periods of time. Each student has to retrieve the data and building their own tables.

See **Exhibit 4**, below.

Exhibit 4: Thomson Reuters Eikon: Profitability and Liquidity Ratios

Go to "Financials", scroll down to "Key Ratios"

RATIOS - KEY METRICS — Annual Standardised in Millions of U.S. Dollars

Period: Annual | View: Standardised

	Industry Median	2017	2016	2015	2014	2013
Earnings Quality Score	61	99	90	87	56	71
Profitability						
Gross Margin	22.4%	25.6%	25.1%	24.8%	24.8%	24.8%
EBITDA Margin	5.6%	6.8%	7.0%	7.5%	7.5%	7.7%
Operating Margin	3.7%	4.7%	5.0%	5.6%	5.6%	5.9%
Pretax Margin	3.0%	4.2%	4.5%	5.1%	5.2%	5.5%
Effective Tax Rate	32.3%	30.3%	30.3%	32.2%	32.9%	31.0%
Net Margin	1.9%	2.9%	3.1%	3.5%	3.5%	3.8%
DuPont/Earning Power						
Asset Turnover	2.52	2.44	2.30	2.38	2.34	2.36
x Pretax Margin	3.0%	4.2%	4.5%	5.1%	5.2%	5.5%
Pretax ROA	7.7%	10.3%	10.7%	12.1%	12.1%	12.9%
x Leverage (Assets/Equity)	2.56	2.56	2.48	2.50	2.69	2.66
Pretax ROE	18.0%	25.9%	26.7%	31.5%	32.3%	34.8%
x Tax Complement	0.67	0.67	0.68	0.66	0.65	0.66
ROE	12.1%	17.2%	18.1%	20.4%	20.8%	23.0%
x Earnings Retention	0.76	0.54	0.57	0.62	0.61	0.68
Reinvestment Rate	8.7%	9.4%	10.4%	12.6%	12.8%	15.7%

RATIOS - KEY METRICS — Annual Standardised in Millions of U.S. Dollars

Period: Annual | View: Standardised

	Industry Median	2017	2016	2015	2014	2013
Earnings Quality Score	61	99	90	87	56	71
Liquidity						
Quick Ratio	0.71	0.22	0.24	0.28	0.24	0.22
Current Ratio	1.42	0.86	0.93	0.97	0.88	0.83
Times Interest Earned	7.0	9.6	9.5	11.0	11.5	12.3
Cash Cycle (Days)	19.1	8.2	11.2	12.2	11.9	10.1
Leverage						
Assets/Equity	2.56	2.56	2.48	2.50	2.69	2.66
Debt/Equity	0.62	0.59	0.62	0.62	0.74	0.71
% LT Debt to Total Capital	25.9%	33.2%	32.9%	32.0%	31.9%	30.4%
(Total Debt - Cash) / EBITDA	1.85	1.23	1.23	1.25	1.38	1.30
Operating						
A/R Turnover	25.3	84.8	77.8	72.2	70.9	73.8
Avg. A/R Days	14.4	4.3	4.7	5.1	5.2	5.0
Inv Turnover	10.2	8.3	8.1	8.1	8.1	8.3
Avg. Inventory Days	35.9	44.3	45.4	45.1	45.3	43.9
Avg. A/P Days	27.3	40.5	39.0	38.0	38.6	38.8
Fixed Asset Turnover	6.69	4.21	4.14	4.14	4.06	4.09
WC / Sales Growth	0.0%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Source: Thomson Reuters

Excel Integration

Because Excel skills are constantly ranked high with employers, We download the data in Excel from the Bloomberg library. This gives students a chance to learn how to change the template using different formulae with a variety of fields.

Exhibit 5: Bloomberg: Excel Company Fundamentals and Financial Analysis

Launch Bloomberg. Enter WMT EQUITY <GO> then type XIDF and in the drop down menu choose XLTP XIDF and <GO>. On the Key Stats tab, in the Ticker Cell: enter WMT US then press <Enter>. The entire workbook will update our company's Financial Statements, Multiples, Ratios, Capital Structure. Repeat the same steps for the benchmark competitor.

Bloomberg — Company In Depth Fundamentals

Ticker	WMT US	Accounting	Mixed
Period	Annuals	Consolidated	Yes

Ratios	FY 2007 1/31/2007	FY 2008 1/31/2008	FY 2009 1/31/2009	FY 2010 1/31/2010	FY 2011 1/31/2011	FY 2012 1/31/2012	FY 2013 1/31/2013	FY 2014 1/31/2014	FY 2015 1/31/2015	FY 2016 1/31/2016	FY 2017 1/31/2017
Long Term Solvency											
Total Debt/Equity	61.2%	67.1%	62.6%	56.9%	70.0%	70.5%	66.2%	69.6%	53.0%	55.5%	53.1%
Total Debt/Capital	38.0%	40.2%	38.5%	36.3%	41.2%	41.4%	39.8%	41.1%	34.6%	35.7%	34.7%
LT Debt/Equity	49.9%	51.7%	52.9%	51.7%	64.0%	66.0%	54.3%	58.4%	48.7%	50.1%	49.9%
LT Debt/Capital	29.9%	30.0%	31.5%	31.9%	36.2%	36.4%	30.5%	32.3%	30.2%	31.1%	31.5%
Total Liabilities/Total Assets	23.6%	23.5%	24.8%	24.8%	28.2%	28.6%	24.4%	26.4%	25.7%	25.7%	25.8%
EBIT / Interest Exp.	11.33x	10.44x	10.44x	11.62x	11.58x	11.44x	12.33x	11.51x	11.03x	9.46x	9.62x
EBITDA / Interest Exp.	13.04x	11.76x	12.52x	13.94x	14.24x	14.20x	15.11x	14.81x	14.41x	12.97x	13.67x
(EBITDA-CAPEX) / Interest Exp.	5.17x	5.55x	7.64x	8.49x	8.79x	8.67x	9.73x	9.38x	9.58x	8.54x	9.25x
Total Debt/EBITDA	1.50x	1.58x	1.43x	1.33x	1.50x	1.54x	1.49x	1.58x	1.25x	1.38x	1.30x
Net Debt/EBITDA	1.20x	1.39x	1.18x	1.07x	1.28x	1.35x	1.28x	1.38x	1.00x	1.12x	1.09x
Altman Z Score	4.9	4.77	4.94	4.95	4.68	4.67	4.71	4.75	5.14	4.83	4.75

Source: Bloomberg

Students should be guided to think about questions related to a qualitative analysis, such as:

- Are the financial statements prepared in accordance with accounting standards applied on a consistent basis?
- Are there any hints that the company might have managed company's earnings to present a more favorable picture?

Earnings Quality

In practice, earnings quality has different meanings. For some researchers the term captures the extent to which reported earnings reflects the economic impacts of transactions and other events that have occurred during a period (Dechow, 1994). Others focus on the notion that higher quality earnings arise from transactions in the U.S. and other locations with more predictable economies, and from regulated businesses and other sectors shielded from too much competition by barriers to entry. Others emphasize earnings' sustainability and persistence in the long run.

Thomson Reuters has developed a rating system which uses its StarMine Earnings Quality model to identify public companies sustainable and unsustainable earnings sources and to provide a score that is useful in comparing the quality of those companies' reported earnings. The StarMine uses computer-driven models to analyze financial statements and to calculate rankings for more than 35,000 companies worldwide. The scores have proven to be reliable predictors of a company's ability to sustain high earnings over the coming quarters.

Before we start comparing the performance of the two companies, we explain how analysts can adjust the reported numbers. Further, before we talk about the relative valuation methodology using multiples, we discuss how analysts can assign higher multiples to higher quality earnings due to earnings' higher level of sustainability and predictability.

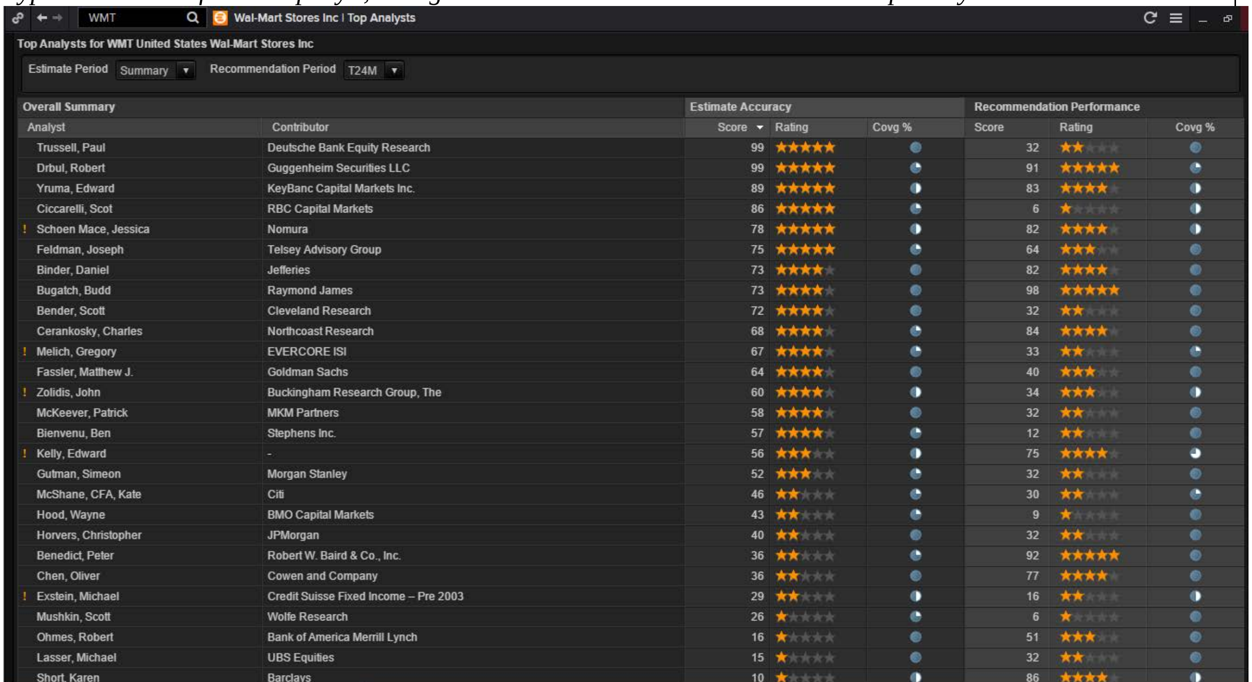
Analyst Reports

Analyst reports help us supplement traditional financial-statement-focused ratio analyses with the perspectives of the capital markets. Their research reports can be useful for investors to discover subtle red flags that might not be apparent from reading the financial filings. Red flags might include changes to financial reporting, governance issues, off-balance sheet items etc. The analyst reports help students, faculty, and investors with modeling management guidance, outlining an investment narrative, identifying significant issues, and understanding independent analysts' earnings forecasts providing buy/sell recommendations. After going through a couple of research reports, we ask students to write a concise justification between the discrepancies among management, independent analysts and their own assessment.

To identify the analysts covering the stock we can use Thomson Reuters or Bloomberg. Students learn how to find the analysts and how the Star Mine rating system helps them identify the top analysts.

Exhibit 6: Thomson Reuters Eikon: Top Analysts

Type the "Name of the company", then go to "Financials" and scroll down to "Top Analysts"

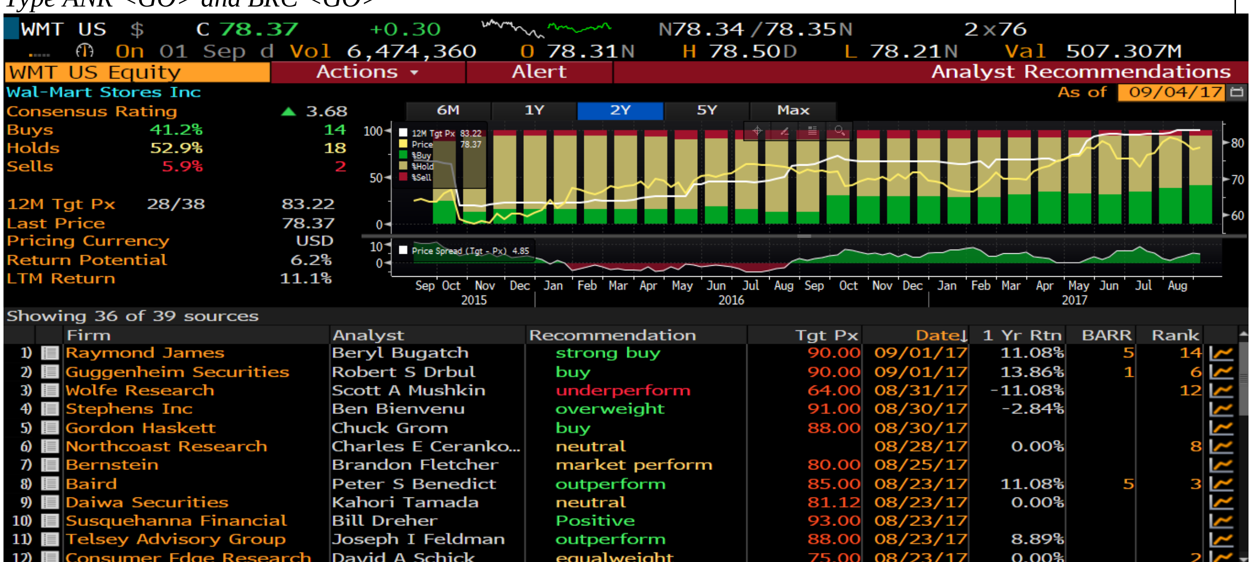


Analyst	Contributor	Estimate Accuracy Score	Estimate Accuracy Rating	Recommendation Performance Score	Recommendation Performance Rating
Trussell, Paul	Deutsche Bank Equity Research	99	★★★★★	32	★★
Drbul, Robert	Guggenheim Securities LLC	99	★★★★★	91	★★★★★
Yruma, Edward	KeyBanc Capital Markets Inc.	89	★★★★★	83	★★★★
Ciccarelli, Scot	RBC Capital Markets	86	★★★★★	6	★
! Schoen Mace, Jessica	Nomura	78	★★★★★	82	★★★★
Feldman, Joseph	Telsey Advisory Group	75	★★★★★	64	★★★
Binder, Daniel	Jefferies	73	★★★★	82	★★★★
Bugatch, Budd	Raymond James	73	★★★★	98	★★★★★
Bender, Scott	Cleveland Research	72	★★★★	32	★★
Cerankosky, Charles	Northcoast Research	68	★★★★	84	★★★★
! Melich, Gregory	EVERCORE ISI	67	★★★★	33	★★
Fassler, Matthew J.	Goldman Sachs	64	★★★★	40	★★★
! Zolidis, John	Buckingham Research Group, The	60	★★★★	34	★★★
McKeever, Patrick	MKM Partners	58	★★★★	32	★★
Bienvenu, Ben	Stephens Inc.	57	★★★★	12	★★
! Kelly, Edward	-	56	★★★	75	★★★★
Gutman, Simeon	Morgan Stanley	52	★★★	32	★★
McShane, CFA, Kate	Citi	46	★★	30	★★
Hood, Wayne	BMO Capital Markets	43	★★	9	★
Horvers, Christopher	JPMorgan	40	★★	32	★★
Benedict, Peter	Robert W. Baird & Co., Inc.	36	★★	92	★★★★★
Chen, Oliver	Cowen and Company	36	★★	77	★★★★
! Exstein, Michael	Credit Suisse Fixed Income – Pre 2003	29	★★	16	★★
Mushkin, Scott	Wolfe Research	26	★	6	★
Ohmes, Robert	Bank of America Merrill Lynch	16	★	51	★★★
Lasser, Michael	UBS Equities	15	★	32	★★
Short, Karen	Barclays	10	★	86	★★★★

Source: Thomson Reuters

Exhibit 7: Bloomberg: How to Find Analysts Recommendations and Reports

Type ANR <GO> and BRC <GO>



	Firm	Analyst	Recommendation	Tgt Px	Date	1 Yr Rtn	BARR	Rank
1)	Raymond James	Beryl Bugatch	strong buy	90.00	09/01/17	11.08%	5	14
2)	Guggenheim Securities	Robert S Drbul	buy	90.00	09/01/17	13.86%	1	6
3)	Wolfe Research	Scott A Mushkin	underperform	64.00	08/31/17	-11.08%		12
4)	Stephens Inc	Ben Bienvenu	overweight	91.00	08/30/17	-2.84%		
5)	Gordon Haskett	Chuck Grom	buy	88.00	08/30/17			
6)	Northcoast Research	Charles E Ceranko...	neutral		08/28/17	0.00%		8
7)	Bernstein	Brandon Fletcher	market perform	80.00	08/25/17			
8)	Baird	Peter S Benedict	outperform	85.00	08/23/17	11.08%	5	3
9)	Daiwa Securities	Kahori Tamada	neutral	81.12	08/23/17	0.00%		
10)	Susquehanna Financial	Bill Dreher	Positive	93.00	08/23/17			
11)	Telsey Advisory Group	Joseph I Feldman	outperform	88.00	08/23/17	8.89%		
12)	Consumer Edge Research	David A Schick	equalweight	75.00	08/23/17	0.00%		2

Source: Bloomberg

ROE Framework

Equity investors, analysts and others are interested in the return on equity ratio if they wish to derive the overall performance of common stock investments. A discussion of the differences between using the book values versus the market value of equity is necessary before we start the DuPont Analysis.

We provide the Dupont formula data for the chosen company and the benchmark company and we ask the students to discuss the performance of the two companies.

Exhibit 8: Thomson Reuters Eikon: DuPont Data

Type the "Name of the company", then go to "Financials" and scroll down to "Ratios".

RATIOS - KEY METRICS — Annual Standardised in Millions of U.S. Dollars — [-] Hide All

Period: Annual — View: Standardised

	Industry Median	2017	2016	2015	2014	2013	2012	2011	2010	2009
Earnings Quality Score	53	99	90	87	56	71	58	65	82	97
DuPont/Earning Power										
Asset Turnover	2.48	2.44	2.39	2.38	2.34	2.36	2.39	2.40	2.44	2.47
x Pretax Margin	3.1%	4.2%	4.5%	5.1%	5.2%	5.5%	5.4%	5.6%	5.4%	5.2%
Pretax ROA	7.5%	10.3%	10.7%	12.1%	12.1%	12.9%	13.0%	13.4%	13.3%	12.8%
x Leverage (Assets/Equity)	2.61	2.56	2.48	2.50	2.69	2.66	2.71	2.64	2.42	2.50
Pretax ROE	17.6%	25.9%	26.7%	31.5%	32.3%	34.8%	34.8%	33.9%	32.6%	32.1%
x Tax Complement	0.67	0.67	0.68	0.66	0.65	0.66	0.65	0.70	0.65	0.64
ROE	11.6%	17.2%	18.1%	20.4%	20.8%	23.0%	22.5%	22.1%	21.3%	20.4%
x Earnings Retention	0.76	0.54	0.57	0.62	0.61	0.68	0.68	0.71	0.71	0.72
Reinvestment Rate	8.9%	9.4%	10.4%	12.6%	12.8%	15.7%	15.3%	15.7%	15.1%	14.6%

Source: Thomson Reuters

CONCLUSION

Our intention was not to emphasize the need to acquire technology skills, but to show how to learn using the technologies within the accounting and finance field. We demonstrated theory with live market data integrated in a comprehensive financial statements project. As the market and new tools evolve, there will be an increased need for more specialists who will have to know how to integrate the new technologies turning the raw data into decision-useful information. Because financial technologies change so fast, business professionals must recognize that these technology skills are a necessity in the competitive labor market. Therefore, professionals should keep an eye on technology trends to understand how they can be deployed within a company to gain a competitive advantage. These skills will complement the business knowledge and will make professionals more marketable.

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APPENDIX A

Financial Statement Analysis Project

This project makes extensive use of financial information and as such databases/tools available in the Kogod financial services laboratory (FSIT lab) are very relevant to the successful completion of the project. The professor teaching the course will work with the Director of the Financial Services Lab who will serve as a technical consultant to the project. The director will be conducting two tutorials during the semester to introduce and demonstrate the use of databases and tools (e.g., Bloomberg, Thomson Reuters) available in the lab. While the first tutorial will provide a broad introduction to the resources of the FSIT lab, the second and the third tutorials will be targeted more to the class project. The attendance is **compulsory**. [Note, the resources of the lab are extensively used in several Kogod classes and the data skills you acquire are highly marketable].

Instructions:
You will be placed in a group of four students. Each group will be assigned a publicly traded company and a benchmark company. This is a project designed for a 15 week class. You will need to access a copy of the 2017 annual report for your company and its benchmark. This project is divided into two interrelated parts. Part 1 is due after the 6th class and Part II after the 13th class. Instructions for the two parts will be provided separately. In both parts, you will be asked to compute ratios. Since ratio interpretation relies heavily on a context (time, industry benchmarks), whenever you are presenting ratios, you need to provide ratios for two years for your company, benchmark company, and industry averages side by side. Because definitions for ratios can vary, please use definitions provided in the ratios handout for consistency. Additionally, some ratios require calculation of averages for some accounts, this may require you to access certain financial information from the previous annual reports for your company and its selected peer.

The project reports should be highly professional and must **be presented in a form that would be suitable for submission to a client**. In addition, the report should be concisely written and the complete report should be no longer than 20 pages [including exhibits]. The financial statements [income statement, balance sheet, and statement of cash flows] should be appended to the report. Student can consult with the Center for Business Communication to get advice on best practices on report preparation. I will maintain a discussion board for the group projects on the blackboard site. All questions and comments regarding the group projects should be posted on the discussion board. I encourage everybody to participate actively in the discussion board. Although, I encourage open discussion and consultation on the group project via the blackboard site, the project reports submitted by each group must be their own work.

Financial Statement Analysis Project

Part 1 Requirements
Due Date: After the 6th class

Background Information: [2-3 pages maximum]

1. Brief Overview of the Company
    - Main lines of business; Major products or services; Major markets; Leadership team [Also refer to major geographical/industrial segments presented by the company in their annual report]

2. Industry Analysis
    - Company Standard Industry Code (SIC); Brief Overview of Industry; Major Competitors; Industry Dynamics/Developments/Outlook

3. Major Developments
    - Mergers & Acquisitions; Regulations; Other significant events

4. Auditors & auditing report
    - Name of auditors; Nature of audit report; any qualifications; comments; Division of responsibilities between the auditor and management

5. Management report and management discussion and analysis

- Brief summary of the information in these two reports

Financial Analysis: [5-6 pages maximum]

1. Comparative common size income statements and balance sheet of the company for the last two years with late st year statement benchmarked against specified competitor.

2. Profitability Analysis:

- Prepare a schedule that presents the following ratios: Gross profit margin; Net profit margin; Return on assets; Return on equity
- Also compare the income statement format/presentation for your company vs. the benchmark focusing especially on the difference between core and non- core activities.
- Comment in your report on the information each one of the ratios provides. Based on the above results and analysis, develop an assessment of profitability for your company.

3. Liquidity Analysis:

- Prepare a schedule that presents the following ratios: current ratio; quick ratio; operating cash flow to current debt ratio.
- Also compare the cash flow generating patterns for your company vs. the benchmark focusing specially on the amount of cash being generated by operations.
- Comment in your report on the information each one of the ratios provides. Based on the above results, develop an assessment of liquidity for your company.

4. Activity/Efficiency Analysis:

- Prepare a schedule that presents the following ratios: accounts receivables turnover, days in accounts receivables; inventory turnover, days in inventory, accounts payables turnover, days in accounts payables; fixed asset turnover.
- Identify and compare the revenue recognition methods, inventory policies, and depreciation policies for your company and that of the benchmark. Also develop an assessment of the accounting for allowance for uncollectible accounts for your company relative to the benchmark company. Do you observe the same patterns in the allowance account; is the provisioning adequate; is it increasing or decreasing?
- Comment in your report on the information each one of the ratios provides. Based on the above results and comparative analysis of accounting policies, develop an assessment of activity/efficiency for your company.
- Combine the days in accounts receivables, accounts payables, and inventory to calculate the cash gap for the company and compare it with the benchmark company. What does the cash gap indicate? Briefly comment.

Stretch Question: [Half page maximum]

- Access the 2017 annual report for Citicorp. Examine its income statement, balance sheet, and statement of cash flows. Why do the financial statements of Citicorp look so different than those for your company? Explain briefly

Part II Requirements

Due Date: After the 13th class

Deliverable: You will provide an integrated report that incorporates updated work for Part 1 as well as work required for Part II.

Financial Analysis: [3-4 pages maximum]

1. Solvency Analysis:

- Prepare a schedule that presents the following ratios: Long term debt to total assets; debt to equity; times interest earned; operating cash flow coverage

- Examine the footnote related to leases for your company. What proportion of total leases are accounted as operating leases for your company and how does this compare to the benchmark company. What adjustments would you make as an analyst to adjust for these differences? Briefly state your reasoning.
- Obtain the debt ratings of the company and compare it to the benchmark.
- Does your company have any contingent liabilities? Briefly describe and comment on whether they are significant to influence your evaluation of the company.
- Is there any evidence of other significant off balance sheet financing arrangements? Comment briefly.
- Comment in your report on the information that each ratio provides. Based on the results and additional evaluation above, develop an assessment of the solvency position for the company.

2. Cash Flow Analysis

- Prepare a schedule that presents the cash flow from operating, investing, and financing activities for your company and its peer for the last two years.
- Examine the pattern (increases/decreases) in these cash flows. Are the operating cash flows sufficient to pay principal and interest on debt and meet other cash requirements?
- Develop a brief summary of your assessment of your company's sources and uses of cash and how it compares to that of its peer.

3. Value Analysis:

- Prepare a schedule that presents the following ratios: Book value of common stock; dividend payout; market to book; price earnings ratio
- Comment in your report on the information that each ratio provides. Based on the results, why is there a gap between book and market values for your company?

<u>Other Assessments: [1 page maximum]</u>

1.Earnings Quality & Earnings Persistence.

- Based on an evaluation of accounting policies and accounting method choices conducted in earlier sections on areas such as: revenue recognition; accounting for allowance for uncollectibles; inventory method choices; depreciation method choices and estimates; lease accounting; off balance sheet financing develop an overall evaluation of earnings quality for the firm. Is the company's accounting posture, conservative, neutral, or aggressive? Briefly discuss.
- Based on an examination of the income statement, comment on the segregation of core vs. non core activities and any nonrecurring items such as discontinued operations, extraordinary items or effect of accounting changes.
- How do these impact earnings persistence?

<u>Outside Assessments: [1 page maximum]</u>

- Identify the analysts and their affiliations who follow your company.
- Obtain the most recent analysts reports and examine them
- Prepare a schedule that documents management's forecasts and analysts' earnings forecasts for the coming year. Briefly explain why you should not place complete reliance on management's and analysts' forecasts.
- Concisely summarize the above information, state whether you agree, partly agree, or disagree with this outside assessment. In other words, is this information consistent, partly consistent, or inconsistent with your analysis. {Note: I don't want reports that parrot or closely resemble analysts' reports for the company. Analysts' reports are to be consulted only as a reference at the end of the project]

<u>Concluding Section - Integrative Framework - ROE Framework [2-3 pages maximum]</u>

- Integrate the various ratio analyses for the most current year for your company and its benchmark [Refer to p. 190 of textbook for ROE framework]

- Use the ROE model to provide an integrative analysis for your company that leverages all the information, both financial and non-financial, that you have collected to provide a final assessment.

REFLECTIVE THINKING USED AS TEACHING PEDAGOGY IN THE FIRST YEAR SEMINAR

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ABSTRACT

One of the primary components of First Year Seminar Course (FYS) for the Business discipline is reflective activity using ePortfolio as a tool. ePortfolio provides an opportunity for the first semester students to articulate and define their academic goals through scaffolded reflective activities that also allow them to make connections with their major. The approach of defining the academic goals in the ePortfolio not only helps the students think critically about their futures but also helps them to understand the importance of a timely graduation. This paper will present the integrative pedagogy and practices that connect lessons, classwork and ePortfolio reflections that have been effective in teaching students to set and achieve academic goals. Included are results of post surveys in the FYS courses that students complete every semester. Faculty and administration can examine the results to see if the students retain and apply their academic plans in the following semesters and demonstrate a clear understanding on defining the academic goals.

INTRODUCTION

The first year of college is challenging for students because they are adjusting to a new setting and often lack the skills to think critically in identifying their academic goals in an informed and realistic manner. Students need to be able to think critically and solve problems not only about class subjects, but about their academic journey. According to the CCSSE (2012), data suggest over 21% of CCSSE respondents have no plans to return to college and/ or are uncertain about their future plans. After enrolling classes in their first year, many students fall behind, as difficulties in handling a college transition seem overwhelming. Reflective activity is an essential element for students' success in their first year. FYS can significantly impact on students' learning ability by utilizing ePortfolio as a tool to cultivate their learning and growth. In FYS, the students are being facilitated to assess themselves using ePortfolio, a robust pedagogical tool. ePortfolio serves as a tool in which students can document their learning experience by engaging in reflective activities (Benander & Refaei, 2016). The authors also added that faculty and students both are able to measure and evaluate growth using ePortfolio tool (Benander & Refaei, 2016). Students who have used the ePortfolio tool to complete the reflective activities are able to define their goals.

ePORTFOLIO IN THE FYS

FYS is an example of a high-impact practice (HIP) that demonstrates a series of activities and experiences for promoting student engagement and success (Chen et al., 2016; Conefrey, 2017). In FYS, faculty implement a systematic approach to engage the students. As FYS faculty, our classes facilitate the students to work on their ePortfolio to cultivating their classroom experience. The experience also promotes discussion among peers, which is utilized to minimize isolation students may feel in their first year. ePortfolio allows the students to view each other's ePortfolios. Because ePortfolio in the 21st century is so dynamic, it offers a digital space in which students are able to communicate with their peers by commenting on their ePortfolio (Benander & Refaei, 2016). The FYS faculty strongly encourage the students to view and comment on each other's ePortfolio. This process not only built student investment in critical thinking process but also forced students to engage with writing and self-reflexivity that developed critical thinking skills and integration of knowledge. Such an activity allows the students to learn from their peers in various capacities.

Students' first years are usually stressful, thus the scaffolded approaches and reflective activities through ePortfolio guide them to identify and realize their goals based on realistic choices. Many students attend class in a passive capacity, not making connections to course, grades, graduation requirements and transfer options. They have not established an academic identity. Bastone et al., (2016) argued that the reflective practices enable the students to foster academic identity by involving in various projects from different courses. Furthermore, the features in ePortfolio help the students to understand the outcome of their academic courses across curriculum. Such endeavors guide the students to make connections across courses and see their personal growth. Some of our colleagues have taken the initiative to develop rubrics that have been introduced to the FYS students for reflective exercises. Because rubrics make the expectation clear to both faculty and students (Bastone et al., 2016), it guides the FYS students to meet the faculty's expectation to some extent. On a larger scale, the college has developed staged core competencies that are repeatedly visited in ePortfolio through reflection. There are many sections in the ePortfolio that students get an opportunity to explore, however, the educational page is the focus of our paper as it offers one of the most meaningful activities and reflection. The education section helps the students to reflect on their thinking and articulate their goals by creating a roadmap for graduation.

REFLECTIVE PEDAGOGY

We aimed to assist the students in developing a sense of responsibility through a SWOT analysis activity. The activity asks students to identify their strengths, weaknesses, opportunities and threats as business might. Students learn that Strengths and Weaknesses are internal and thus their responsibility, and Opportunities and threats are external and their responsibility to discover and obtain. Students relate this to their academic planning, considering for example a strength, like time management, that they can rely on to further their academic goals and a weaknesses, like poor writing, that they will need to actively address in order to pass their classes. In figure 1.1, one of the FYS students shared her academic planning and how her experience in this course contributed to personal development in understanding herself. Such reflective exercises teaches the students to analyze themselves be deeply involved in their own learning by articulating their major, career choice, academic goals, transfer option, and graduation plan using SWOT to help make decisions.

According to Bartlett et al., (2017), reflections can facilitate the faculty members to evaluate their students' performances, because the reflections are structured and collective conversation. Shaquid (2016) argued that over 40% institutions all over the United States have invested on ePortfolio usage in the classroom that resulted in increased retention, and student engagement. Based on the FYS survey feedback (Spring 2017), over 80% students reported "Building my ePortfolio helped me focus on planning my education", I know which semesters to take courses to get my degree", "In this course, I built my ability to gather my and evaluate information", "This course helped me learn about Laguardia".

Figure 1.1

CONCLUSION

Students exposed to reflective assignments in the ePortfolio have a better understanding of themselves (Crystal et al., 2017). At the end of the semester, students gain confidence and know about themselves better and are able to perceive themselves as part of the campus and part of their major. Students can pay close attention in articulating their academic goals, while understanding the self-responsibility in achieving their dream. As part of the SWOT activity, students become aware of the opportunities out there in the campus and needs to reach out the co-curricular activities. Past studies suggested how the reflective pedagogy through ePortfolio help the students to apply past knowledge to present situations. Because the learning is visible, students develop a sense of academic identity (Crystal et al., 2017). During their participation in the reflective activity, students expressed positive attitudes and valued the significance of their participation.

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THREE VIEWS ON FACILITATING ACCOUNTING STUDENT SUCCESS AFTER TRANSFER WITHIN HIGHER EDUCATION

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ABSTRACT

The goal of this paper is to highlight the situation of preparing community college and upper division college accounting majors for success. Students attending community college represent a broad continuum from various segments of the population; this promises some relief in terms of the input side with the identified “pipeline” shortage situation in the profession. Given the present and projected disruptions in the accounting environment, there are benefits to be derived to students, faculty, and employers if the outputs of the pipeline align to the quality expected of accounting professionals today. It is important that accounting faculty be fully informed of various issues and work to facilitate success.to help students reach their academic and professional goals. Several common critical success factors were noted across discussions of the perspectives of three accounting academics.

INTRODUCTION

This paper is an extension and reiteration of ideas originally expressed from 2012 through 2017 within annual national meeting panel discussions of the American Accounting Association (AAA). The various panelists at the meeting were individuals who held membership in the Two Year College Section of AAA. The annual discussions were particularly informative as the participating panelists represented perspectives of both community colleges and upper division public and private institutions of higher learning. This is a distillation of some of the thoughts expressed by three individuals, all from different institutions as they reflect on strategies that prepare accounting students for success.

This is an important topic for academics, business, and the public in general due to what has come to be known as the “pipeline” shortage of accountants, presently and in years ahead (Lilly, 2016). Another way to describe this is “too many jobs, not enough accountants to do them” (Gonzalez, 2017). The pipeline factor is accompanied by unprecedented disruption being faced in the profession, from the sources of technology changes, changing demographics, increasing standards and rules and regulatory complexity (Hood, 2017). The good news from the impending changes is that along with challenges there are opportunities to be derived – opportunities for accounting faculty at all levels, and many opportunities for what is hoped to become the next generation of accountants.

Choices available to study in the field of accounting include community colleges, private four-year schools, for-profit schools, and public universities. In addition to choice of institution is the choice of mode of learning: online, face to face, and blended courses. There is no shortage of decisions to be made in this area, and no one right choice. With that noted, let’s see what three different faculty members have to say about the strategies and areas used to help facilitate success with students.

PERSPECTIVE ONE: COMMUNITY COLLEGE TEACHING

My teaching began in the mid-1990s and has included public, private, two year and four year institutions, with experience teaching at the graduate level, as well as undergraduates. My thoughts expressed here are primarily focused on preparing community college students for the rigor to succeed once they leave my institution to experience whatever their choices might be.

Studying accounting at a community college enables students to expedite access to learning about the accounting profession, with a minimum of cost. In many instances, a two-year accounting degree provides students with enough knowledge to obtain entry level positions. In turn, this entry level employment in the accounting field can provide exposure and a paycheck to students while they assess whether the additional education obtained at a university or 4 year school is worth the investment. Some students will stop their accounting studies indefinitely, and others will decide to pursue a Bachelor’s degree in Accounting, and possibly a Master’s degree.

When considering whether to attend a community college, several factors must be considered. For many students, it is necessary to complete remedial coursework to satisfy basic requirements before taking college bearing courses. An investigation of 44 states found a majority of public two and four year colleges reporting more than half a million students who were not ready for college level work (Butrymowicz, 2017). Certainly student success will vary, but factors such as effective tutoring, supplemental instruction programs, and faculty- led workshops will facilitate a determined and highly motivated student to eventually satisfy course requirements. It will not be easy, but success is obtainable.

Community colleges traditionally have smaller class sizes. However as research has shown, it is not just class size that matters, but that combined with variables including teacher feedback, tutoring, and expectations that explain a large variation in school effectiveness (Dobbie and Fryer Jr., 2012). Knowledge obtained from data such as this can be used as a start for modifying programs which aim for improvement.

Since close to 40 percent of accounting students at two-year institutions reported plans to transfer into four-year programs, effective articulation agreements are recognized to be important (Montague, 2012). Articulation agreements facilitate the transfer of accounting students to participating institutions.

Other factors to consider when choosing to study accounting at a community college would be whether the community college has:

- An advisory board or committees to support and work with faculty
- An office, staff or program to assist students with becoming ready for employment
- Accounting or business clubs which meet weekly
- Other support services for students such as counseling
- Field trips or other activities to foster the importance of professional skills
- Working relations with high school programs to attract motivated students
- An interactive and effective web-site presence which shows accounting activity
- The level of integration of modern accounting technology

To ensure students have a good experience, the limitations and challenges must be identified and addressed through a variety of initiatives. Some of the challenges within community colleges are:

- Balancing the work force skill set with required curriculum content
- Financial aid access
- Validation of quality and rigor
- Different requirements for different four-year programs
- Cost of four-year programs
- Number of adjunct professors
- Improving assessment
- Student preparedness for college/remediation
- Lack of planning increases time to graduation
- Tracking students through system
- Student exposure to careers

Something I have wondered about relates to community college students who, due to lack of an articulation agreement with another institution or other reasons, are required to take selected material or courses for a second time. Do those attending a university and having to repeat courses perform better in those subsequent courses than the community college students who have not majored in accounting, and are seeing the course for the first time? Perhaps additional research can be performed in this area.

PERSPECTIVE TWO: COMMUNITY COLLEGE AND UNIVERSITY TEACHING

My experience dates back to 2001 and in that time I have taught at community colleges, private institutions and one public state university. I also have several years' experience with the Illinois Articulation Initiative and observed firsthand deliberations over articulation agreements. This is serious work for the individuals involved with this initiative, and I agree that it is important for the students affected. However my focus for this paper relates to some areas I see as more directly related to the professional development of students. How should curriculum change in this changing environment to facilitate student success?

Accounting students frequently have issues with ambiguity and often expect that there is only one right answer to a problem. Uncertainty and ambiguity must be introduced and pushed as early as freshman year. One example is rounding; students have to learn to accept variations in rounding and use their professional judgement to pick the correct answer. A second example involves the introduction of extraneous data into a problem which increases the level of difficulty of a given problem, creating uncertainty, but over time, will build students' confidence and create deeper understanding. Another technique I suggest is that after coming up with a computational answer, the student should play devil's advocate and defend the opposite position. Specifically, the student should address whether there is a qualitative reason to not pick a given quantitative solution.

A second issue critical to success is learning to do appropriate research. With students' perceptions that every bit of information is available at their fingertips, we must work to push research down to the freshman level. I aim to require all accounting students in the first two accounting classes to use the library for something. Included in this endeavor will be development of an understanding of what a good source is, how to cite it, how to do a literature review, and how to collect and gather information so that one can go back and use it. Students must learn to look at the varied sources of information that is available to them with skepticism. The library is one of our society's vibrant community centers. As current and future business participants and leaders, familiarity with these institutions will aid students in their pursuit of success. In addition to this goal of basic library research, all of my students in the Introductory Financial Accounting courses log into the Codification one time and get comfortable with the look and feel. I assign simple, basic questions with the objective that it is a "familiar" tool when they are ready to hit the upper divisional courses.

Third, this was a line in a sample syllabus I received many years ago "Classwork builds on previous coursework, facilitating self-discovery of knowledge and the development of professional skills and attitudes. This course focuses on working through and resolving complex accounting problems in a professional manner." There are so many aspects of these two sentences that are just perfect and dissecting them and really incorporating them into a course is what I think we all really want.

Fourth, students should be required to use tons of technology in the class, but not during it. Let us get those cell phones and computers put away and let's have a face- to-face conversation and re-learn the value of taking manual handwritten notes while being actively engaged with someone else-face to face.
Fifth, in my opinion, the debate related to using debits or credits in the first course or not teaching with debits or credits argument is over. Students must learn debits and credits in the first accounting class. With a variety of available teaching techniques and efforts all students can learn debits and credits. Debits and credits are the underpinnings of accounting and business vocabulary. Understanding this structure lays the foundation for success in higher level analysis. Students who move on to upper divisional courses without this foundation will be at a deficit. With that being said, we also must not ignore the automation of various accounting techniques and the role of accounting in management and decision making. This includes ethical decisions. This year, I will incorporate a "Big Data" problem into my Managerial Accounting course. Activities that include leadership and team work components, built into the curriculum, will also facilitate student success. Various activities requiring students to communicate individual and group decisions verbally and in writing will provide students with valuable practice that they will need for future success. Last, we must evaluate students using a variety of techniques. Relying solely on midterms and finals that are weighted heavily with multiple choice questions misleads students and focuses students away from skills they must develop for future success.

My participation over the years on these panels has helped me re-think my accounting courses and has improved them. I look forward to continued conversations.

PERSPECTIVE THREE: FOUR YEAR PUBLIC UNIVERSITY PROFESSOR

My experience with teaching accounting dates back 30 years, to include stints with a two year private college, a community college, several four-year private colleges, a for-profit doctoral granting institution, and two public universities. All of these things have informed my perspective on what it takes to be a successful student; primarily I am including thoughts related to the students seeking a Bachelor or Master degree from a public institution.

Much of what makes a community college student successful is similar to what helps any student, whether new or transfer. An important aspect is managing the student's expectations to ensure that the expectations are realistic. The essential ingredient is academic advising by a knowledgeable individual; students who approach the new institution without clarifying policies and norms make assumptions and often live to rue the day they did so. It is unrealistic for students to try to take four upper divisional accounting courses in their first semester of transfer. Issues that can cause a student to succeed or fail in an initial semester on campus include an appropriate mix of courses, as well as the anticipated sequencing of courses. Getting a good start and a good mix of courses in that first semester can set the tone for the future. What determines an appropriate mix of courses depends on the student's advance preparation in accounting and pre-requisite courses, the student's previous success or lack thereof, whether the student is a full-time student or working, and that student's subsequent goals.

An important part of managing expectations is acclimation to the university culture; academic advising is an instrumental part of this process, as well as faculty involvement and accessibility to students. In my institution, which is a 5,000 student public university, tenure-track faculty do advising pertaining to core degree course requirements, which is atypical of larger public universities. While accounting faculty are remiss in many details related to the lower division general education requirements, they have much to share related to the sequencing of courses and alignment to an individual student's goals. Not every student wants to be a CPA, and there are other certifications available to be introduced. Learning if a given student is pre-disposed to a particular industry, or geographical preference is relevant to helping students see the realities and to make manifest potential pathways available.

Because my institution was originally founded as an upper division and graduate school (an unusual model popular in the 1960s), even though this is no longer the case, one learned lesson has stayed within the culture; that lesson is the importance of what we call our "feeder institutions." We know our typical feeder community colleges and we know the faculty at those schools. This makes for advantageous discussions for both faculty groups when informally a few faculty from the university make an attempt, every year to 18 months, to get together and discuss curricular changes with our counterparts at the community college over lunch. Such meetings illuminate realities from both viewpoints, and a mutual respect for common challenges faced emerges.

The attempts at informal partnerships garnered from such meetings and gathering of evidence over the years was instrumental to a decision that the department made, involving selected feeder institutions. This decision was to accept the Intermediate Financial Accounting course transferred to the university, as long as the grade earned by the student was a B or above. Intermediate Financial Accounting is typically an upper division course, but sometimes taught at the community college. Over the years, we tracked students who transferred in this course from several feeder community colleges, and surveyed their subsequent performance. We observed the B grade cutoff to show those students' subsequent performance to be as effective as those who took the course within our university. A caveat is this was deemed acceptable because our faculty knew the faculty at select institutions and knew the books they were using; this decision would not necessarily apply to all community college transfer students. Other cases would require more information to be attained before such determinations would be allowed. Also because our School of Business has the AACSB accreditation, our department typically requires that core courses from other feeder institutions either be AACSB accredited schools, or schools with which we are familiar. Examples include regional area private four-year schools from which students may transfer to complete their BA, or possibly an MA degree where they are seeking to waive pre-requisite core courses in accounting. Clear communication amongst colleagues at various institutions works to the advantage of students.

To help students be successful in completing their accounting degree, it is crucial to make the profession itself relevant. One way is showing students the high salaries that accountants earn (Robert Half, 2018). This readily-available website affords a quick view of mid-point salaries in ten cities across the U.S. Beyond extrinsically motivating students with money, the relevance of accounting to students can be achieved by providing as much involvement as possible with accounting professionals and practice, whether the connections are informal or formalized arrangements. Informal events include situations such as "meet the firm" sessions, where resumes can be critiqued, a stand-alone accounting career fair that is run by our Student Accounting Society (SAS) each fall semester (must avoid the busy spring season!), and accounting department trivia nights and golf outings, that create interaction of students, faculty and alumni. The latter situation is achieved with the help of a strong Alumni Advisory Board. An important formal means of managing the student expectations is a required internship that is a part of every student experience within our university. All students are required to complete an "engagement" experience (i.e. internship), but accounting students are typically in higher demand so that this three to six credit hour experience represents a paid opportunity. This situation is a win-win for employers, students and the department. Employers can screen candidates without necessitating a commitment beyond eight to sixteen weeks, and students get some real-world experience. But the department also wins, as the feedback from these employers provides direct input in terms of what we need to change or update in the curriculum. The internship affords a direct closing of the feedback loop in the assessment or assurance of learning area.

A final point relates to the kinds of feedback received from employers. The soft skill of the ability to communicate appropriately in writing and speaking is a high request from employers. Beyond that, employers want worker adept with technology. Graduating students are expected to be proficient in Excel before they hit the work force. Additionally students will be able to utilize general ledger software, and databases; doing this facilitates the use of data analytics afforded by various software products (i.e., big data). Therefore, most upper division accounting classes require the use of such technology tools for varied assignments to demonstrate proficiency.

CONCLUSION

In summary, the journeys that accounting students take to meet their goals are varied and unique – it is clearly not a one size fits all. But there are some common success factors. Being motivated and disciplined to fully engage with their studies is imperative, as is their degree of readiness for core curricula. Becoming adept at interacting with other individuals sufficient to building effective networks is helpful to succeed. Where possible, students who volunteer for leadership opportunities, inside and outside the department, are in demand. Such extracurricular activities are evidence of skills of prioritization and time management. The presence of these critical success factors in accounting graduates indicate *balanced* individuals, which is only suitable and to be expected by the nature of some accounting work. Successful accountants not only have skills to *balance* the books and prepare a *balance* sheet, but also to lead as *balanced* individuals in an increasingly instable world.

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TAKING EMPLOYEE TRAINING TO THE NEXT LEVEL: A "FLIPPED CLASSROOM" APPROACH TO WORKFORCE DEVELOPMENT

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ABSTRACT

Professional development and employee training are central to the successes of any organization. Training modules, classes, and seminars allow employees to enhance their knowledge and skills in a particular content area resulting in more efficient and effective work output that helps the organization achieve its strategic goals. Advancements in technology and virtual platforms allow organizations to work smarter, not harder, in terms of delivering training programs to employees. The concept and practice of the "flipped classroom" has gained popularity in the past several years as a new model of delivering coursework, specifically in the K-12 educational setting. The pedagogy of the "flipped classroom" removes traditional lecturing and allows students to develop a deeper understanding of a subject by engaging in rich dialogue with one another. The purpose of this paper is to examine the "flipped classroom" as a model for workforce training and development in professional organizations. A review of associated literature will highlight employee training and the influence of online learning and technology of such training programs. The "flipped classroom" will then be examined as a model for employee training through a SWOT analysis. The paper concludes with implications for professional practice, as well as areas for continued research on the subject.

INTRODUCTION

Gregory Balestrero, former CEO of the Project Management Institute, said, "Employees cannot become more productive in every sense of the word unless they are provided with continuous on-the-job training." Employee training is vital to the successful operation of any organization. Training arms the workforce with the knowledge and skills to be a valuable member of the workforce. As industry trends change over time, so do the way companies operate in order to leverage and sustain competitive advantages within their market. Advancements in technology and their application within the industry require expertly trained employees to operate and manage the use of such technology within their organization.

Online education has become widely popular with many students and adult learners within the past two decades. Advancements in technology have greatly impacted the delivery and quality of online education to millions of learners globally. These advancements in the delivery of online distance education helped create the "flipped classroom" concept, which moves traditional classroom delivery online and focuses on collaborative learning inside the classroom (Milman, 2012). This mode of delivery has gained popularity in elementary and secondary education communities. With the increasing demand for online education, one can see how the "flipped classroom" can be an effective mode of delivery to meet student needs and market demand.

Companies are always exploring new innovative ways to streamline operations in order to work smarter, not harder. One can argue that workforce development and training can be quite tedious and time consuming. Employees may have to sit in a conference room listening to training lectures for hours or even days on end. Additionally, new practices may also require hands-on application outside of a training classroom in order to fully understand the concepts and practices being taught to employees. Albeit training is important to employee growth and performance, this can take time crucial away from the employee performing the duties of their job, which can hinder operational efficiency and effectiveness.

The purpose of this paper is to examine the use of the "flipped classroom" as a model for workforce development and training. A review of the literature will explore the theory and application of the "flipped classroom" in the delivery of education content to students. Additionally, the integration of technology and its impact on employee training and workforce development programs will be discussed to illustrate how the "flipped classroom" can be used in training programs. Finally, a SWOT analysis will show the benefits and challenges associated with taking a "flipped classroom" approach to workforce development and employee training.

THE "FLIPPED CLASSROOM" MODEL OF EDUCATION

The origins of the "flipped classroom" can be traced back to two Colorado high school teachers, Jonathan Bergman and Aaron Sams, in 2006 (Milman, 2012). The "flipped classroom" concept removes the lecture component from a classroom and delivers that content online, usually through a video or podcast created by the instructor (Milman, 2012). By doing this, the instructor creates more in-class contact time with students to foster learning by applying concepts and theories in a collaborative, hands-on environment. Examples of this can be student teamwork in groups or completing homework assignments in the classroom. The "flipped classroom" allows for the instructor to have more face-to-face contact with students, which may be more beneficial to students learning complex or abstract material (Milman, 2012). Through the "flipped classroom", the classroom dynamic shifts into an environment that promotes collaborative learning while still allowing students to gain the one-on-one attention needed to succeed in class. The "flipped classroom" model also emphasizes self-reflections and peer-to-peer discussion, instructor supported classroom activities, and student projects and presentations as modes to facilitate learning (Nederveld and Berge, 2014).

The "flipped classroom" not only allows for the instructor to place more focus on student collaboration and one-on-one attention, but it also allows the student to learn more about their individual learning styles. The main content of the course is delivered online, which gives students ultimate freedom to interact with the content according to their individual style of learning (Roehl, Reddy, & Shannon, 2013). Students can take course material delivered online and transform it to meet their learning needs. If a student is a visual learner, they can take course content and make flash cards or infographics to illustrate what is being taught. Online course delivery allows auditory learners to go back and re-listen to lectures and perhaps pick up on subtle information they may have otherwise missed from sitting in a lecture and taking copious notes. Roehl, Reddy, & Shannon (2013) point out that "educators must shift from a teaching-centered paradigm toward a learner-centered paradigm."

The current generations of young professionals (Millennials) and current students (Generation Z) are immersed in the technological advancements that have occurred so far. Both of these generations are connected 24/7 by the internet and social media. The use of digital platforms for education allow both Millennials and Generation Z students to focus more on developing hands-on practical skills and advanced aspects of social collaborative learning (Roehl, Reddy, & Shannon, 2013).

EMPLOYEE TRAINING AND PROFESSIONAL DEVELOPMENT

In order for an organization to accomplish its strategic goals, it needs to have a well trained workforce. As industry changes over time, so does the way employees think, work, and learn. In basic terms, Masalimova and Sabriova (2014) define employee training as teaching workers the knowledge and skills needed in order to perform a specific job or duty. Most newly hired employees go through some degree of employee training as part of the onboarding process. Employee training not only allows the employee to become more familiar with their position and expectations, but it also allows them to become familiar with the organization and its mission (Masalimova and Sabriova, 2014). In some industries, such as computer science and information technology, the complex nature of some positions require employees to be cross-trained in order to optimize employee output and efficiency. Cross-training employees allows them to further develop professional expertise in another content area and can be useful to an organization if staffing issues arise.

Companies are placing a great emphasis and allocating additional resources towards employee training and professional development programs. Regardless of offering employee training or professional development programs in-house or contracting those services out to a vendor, these types of programs can be quite costly to an organization. According to Merhar (2016), for example, it can cost upwards of $30,000 to hire and train a manager with an annual salary of $40,000. Developing intricate employee training and professional development programs can become quite expensive quickly. In an effort to reduce associated costs with these programs while keeping the same level of program quality, some companies have decided to offer professional development and employee training programs online. For example, in 1999, IBM began offering employee training and professional development offerings online for employees. By doing this, IBM has saved $200 million while providing five times the employee training and professional development opportunities to employees at one-third of the cost (Strother, 2002). Additionally, Dalton

(2000) found that 40 Global 2,500 companies were offering professional development and employee training programs in virtual formats online.

One major risk with moving employee training and professional development materials online is reducing the quality of the program and lower employee satisfaction with the program(s). Ozturan and Kutlu (2010) conducted a survey of 3,456 professionals at a Turkish e-learning company measuring employee satisfaction with online training materials and programs. Employees were asked questions about the quality and delivery of online training modules and were asked to rate their responses on a 5-point Likert scale (1-strongly disagree, 5-strongly agree) (Ozturan and Kutlu, 2010). Results of their study shows that employees were highly satisfied with the online delivery and content of employee training modules. The lowest mean of responses was 4.29 when employees were asked if the quality and delivery of training modules online fulfilled their expectations (Ozturan and Kutlu, 2010). It is also interesting to note that the respondents of Ozturan and Kutlu's (2010) survey had an average of 6.75 years of work experience and 62% of respondents identified themselves as managers.

"FLIPPED CLASSROOM" IMPACT ON TRAINING

Thus far, the concept of the "flipped classroom" has been discussed along with professional development and employee training programs. One main question this research aims to address is- how can the "flipped classroom" approach be integrated into employee training and professional development programs? Jacot, Noren, & Berge (2014) point out that the "flipped classroom" model to employee training blends online learning with hands-on training to further develop the skills being taught in web based modules.

In a "flipped classroom" employee training module, the employee would listen and/or watch an online training piece explaining the concept or skill being taught to employees. The next day, employees will have the opportunity to both discuss and practice with one another on the application of what was learned in the online module. This approach allows employees to maximize their time in applying their knowledge to their professional practice, which fosters a deeper, practical understanding of concepts and skills (Jehanzeb and Bashir, 2013). Additionally, "flipped classroom" employee training modules also reduces costs, increases employee accessibility to training, and allows employees more time to focus on their job rather than sitting in a training classroom (Jacot, Noren, & Berge, 2014).
In order to successfully transition training programs online, the organization must first have an action plan and support from top level administrators. Senior and mid-level leadership must be willing to respond and adapt to the great challenges the organization will face when changing to an online delivery method (Berge and Kendrick, 2005). In addition, Elnaga and Imran (2013) point out that online training can create high levels of employee productivity, which can increase employee job satisfaction and reduce employee turnover.

"FLIPPED CLASSROOM" SWOT ANALYSIS

In order to gain a deeper understanding on the true impact of a "flipped classroom" approach to employee training, the following SWOT analysis has been constructed to highlight the significance of this approach:

Strengths: 1.) Online delivery makes training accessible to employees at all times. The fact that training and professional development modules are offered online makes these modules readily accessible to employees with no limitations or constraints on time and geographic location. Also, online delivery is advantageous to organizations that have multiple offices that span regionally and globally, thus increasing the amount of employees served though online delivery of such training programs. 2.) Online delivery of training modules are significantly cheaper than traditional modes of delivery. The savings from shifting program offerings online can be reinvested in the organization in various ways to achieve operational effectiveness.

Weaknesses: 1.) Older employees may struggle with using online platforms. Sometimes, older employees struggle with the use of technology and are not willing to learn to use new technology. This resistance can reduce their level of employee productivity, which can negatively impact their division. 2.) Outdated information systems and computer networks can slow down or disable online training platforms for employees. The multitude of problems that can arise from inadequate computer systems can take a long time to fix and cost an exorbitant amount of money.

Opportunities: 1.) Some online training modules are free of charge and open to the general public. Massive open online courses, also known as MOOCs, are free online courses open to the general public for personal and professional enrichment opportunities. MOOC courses are offered across a broad spectrum of subjects to attract a larger target audience. 2.) Organizations can take industry best practices and transform them into training modules. By conducting market research on competitors, companies can see what how other organizations are operating, thus allowing them to create and/or updated training pieces that can help advance their organization within their industry.

Threats: 1.) Professional development and training companies can create online training programs rather inexpensively. This would eliminate the time and expertise needed for companies to create and launch online training programs in-house. These companies can then, in turn, sell training programs to companies at lower rates and still turn a profit. 2.) Constant updates will need to be made to online training modules as industry changes occur. Organizations need to stay current with market trends and practices, thus ensuring they maintain any competitive advantages within their industry.

CONCLUSION

The "flipped classroom" approach is a useful model of education in the K-12 education communities. The model of education creates unique student benefits and enhance student learning outcomes. The "flipped classroom" approach is very versatile and can be implemented into any facet of education and training programs. The use of this approach for employee training and professional development programs will help organizations streamline such programs and create an effective and efficient workforce, thus creating a significant competitive advantage within their industry.

Further research on this topic can include a comparative study examining employee satisfaction of traditional versus "flipped classroom" training programs. This would allow the researcher to gain further insights on employee satisfaction and overall productivity comparing the two methods of employee training. Additionally, further research can investigate if "flipped classroom" training is more effective on employee training in certain professions or industries. This would provide insight to senior level administrators as to industry best practices on training and developing the talents and skills of one's workforce.

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SHARK TANK: THE IMPACT OF TV APPERANCES ON ENTITIES POST-AIRING

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ABSTRACT

Shark Tank is a television series in the United States that holds a captive audience of over 7.5 million viewers who watch entrepreneurs pitch their business plans to potential investors in hopes of securing funding to launch or grow their company. The present study examines the impact on a company from appearing and being offered a deal on the ABC show, Shark Tank. This research will explore the overall economic impact on a company from appearing on the Shark Tank, such as variations in sales figures and income. Adversely, this study wants to also examine the impact on a company if they do not receive a deal from an investor and the associated outcomes on sales and financial figures. While this show remains widely popular with it mass audience, much remains to be studied to understand the true impact of the Shark Tank environment on the overall organizational health of a company.

INTRODUCTION

Shark Tank is undoubtedly one of the most popular television shows for aspiring entrepreneurs and business professionals. According to Business Insider.com, Shark Tank is averaging five million viewers (Nededog, 2016). The show allows entrepreneurs the chance to pitch their business concept to a group of investors in hopes of receiving a deal to help start or grow their company. Each “shark” investor is a successful multi-million dollar business professional who has specific areas of industry experience and expertise, which make them a valuable asset to any growing or developing business.

Shark Tank “sharks” have heard business pitches from companies ranging from technology firms to individually packaged wine by the glass and everything in between. Albeit there have been some innovative business ideas and pitches, not all of them have received deals and investments from the sharks. As a viewer of the show, one may ponder how appearing on the show really impacts the businesses seen on television. The purpose of this paper is to investigate what economic impact, if any, an appearance on Shark Tank has on the overall sales and finances of a company. This research will look at data compiled from Seasons 1-7 of Shark Tank to explore such economic impacts on companies post-airing. Also, future areas for Shark Tank research will be discussed as there is still much to learn about the true effect of Shark Tank as an incubator for entrepreneurship.

DATA COLLECTION

This paper is based upon data that was collected by Dr. Arthur Comstock and Dr. Christopher Speicher who are conducting research on Shark Tank and all data surrounding all episodes that have been aired to date along with individual participants or sharks on the show. Comstock and Speicher have allowed the author to use the data for the purposes of writing this paper. Any questions regarding data collection should be directed directly to Comstock or Speicher.

SHARK TANK DATA: SUMMARY STATISTICS

Prior to exploring the effects on a company post-airing, it is first important to understand some preliminary summary statistics about Shark Tank. According to a data set provided to the researchers, there have been a total of 644 business pitches presented to the sharks between Seasons 1-7. A total of 334 companies received an offer from one or more sharks on air, which equates to a 51.8% success rate. Sharkalytics examines data from Shark Tank and reports these statistics on their website. According to Sharkalytics, business owners, on average, give up 31% equity stake in their company when making a deal in the Shark Tank (www.sharkalytics.com, 2017). Additionally, deals made with the sharks on air reflect a $1,230,712 valuation of companies, which is 36% lower than what was originally sought after by entrepreneurs.

Staticbrain.com is a website that reports statistics on Shark Tank. The website looks at a wide array of data, such as deal amounts, valuations, and shark investments. According to their website, the average deal amount was for $164,738 (www.staticbrain.com/ shark-tank-investment-statistics/, 2017). The average equity taken by a shark in a deal was calculated to be 33.5%, which is comprised of seven sharks (www.statisticbrain.com/shark-tank-investment-statistics/, 2017) The sharks who receive the most and least average equity per deal are Lori Greiner (61.2%) and Kevin O'Leary (15.6%) (www.statistcbrain.com/shark-tank-investment-statistics/, 2017). See Appendix A.

Life after Shark Tank

Shark Tank is a show that can help transform the lives of entrepreneurs and help take their companies to new heights, perhaps in ways they never dreamed of. Although, almost half of those who enter the Shark Tank walk out without a deal from an investor, one question seems to linger in the minds of viewers- how does simply appearing on the show effect the businesses that appear after airing? In order to answer this question, the researchers were supplied with data from Seasons 1-7 of Shark Tank. Out of the 664 companies that appeared on Shark Tank, 365 (54.96%) are still up and running and/or experiencing growth, which includes 199 (54.52%) companies that received deals on air and 166 (45.47%) companies who did not receive a real. After Shark Tank, 51 (7.68%) companies have ceased operations. Of those 51 companies that shut down operations, 25 (49.01%) firms received a deal on air and 26 (50.98%) firms did not receive a deal. No data was available for 34 companies that appeared on Shark Tank and five companies are still in the research and development (R&D) stage, therefore, no further information was available on those firms. Four deals between Seasons 6-7 after offers were made on air. One company reported agreeing to a private investment from a shark post-airing.

SAP Analytics Cloud is a firm dedicated to providing clients with cloud computing analytical software to meet the needs of the organization. SAP Analytics Cloud has a section on their website that looks at data from Shark Tank and the most successful investments (See Appendix B). The top thirteen companies saw an average 4,107.30% increase in revenue one year after airing on Shark Tank www.sapanalytics.cloud/ resources-shark-tank-analytics/, 2017). The range of increase in revenue was between 250% (Kisstixx), and 9,666.66% (GrooveBook) (www.sapanalytics.cloud/ resources-shark-tank-analytics/, 2017). SAP Analytics Cloud (2017) showed the company that saw the largest dollar amount of increase in revenue one year after airing was Scrub Daddy, which increased $18 million one year after airing from a $200,000 investment from Lori Greiner.

When looking at Appendix B at the thirteen most successful deals, the average sales return on investment (ROI) is calculated to be 42.8%. Within this list, Barbara Corcoran led the sharks with five of those investments. The remaining sharks within the thirteen most successful deals are as follows- Cuban (4 investments), Grenier (3 investments), O'Leary (3 investments), and Herjavec (2). The shark's individual average sales ROI are calculated to be as follows- Cuban (22.17%), Grenier (52.9%), O'Leary (46.23%), Herjavec (13.4%), and Corcoran (41%). The largest single sales ROI was on the deal that Kevin O'Leary entered with Groove Book, which saw a 96.66% sales ROI. It is also interesting to note that among the most successful deals, Mark Cuban invested the most of all the sharks, a total of $580k, and saw one of the lowest sales ROI percentages. It can be concluded that entrepreneurs should target deals with Lori Grenier, Kevin O'Leary, and Barbara Corcoran inside the Shark Tank. Although Mark Cuban invested the most cash overall, his average sales ROI is second to last among his fellow sharks.

The use of digital marketing, such as websites were central to the successes of many companies that appeared on Shark Tank. A total of 422 companies (63.5%) that appeared on Shark Tank have an operational website. Within the 422 companies that operate a website for their business, 199 (47%) did not receive a deal from a shark and 223 (53%) received a deal. Additionally, only 46 (10.9%) firms who have a website for their business report declining business or have ceased operations. Lindsay Kolowich, a writer and blogger for HubSpot, wrote an article looking at website traffic for a business post-airing on Shark Tank. In an interview she had with Brittany Hodak, co-founder of ZinePak who aired on Shark Tank in April 2015, Kolowich discovered what Shark Tank entrepreneurs were experiencing after their episode aired. ZinePak is a firm geared towards providing exclusive merchandise VIP packages and box sets for sporting teams and concert venues/events. Hodak said she read reports about companies that had massive increases in website traffic, between 1,000-2,000%, and firms that were receiving between 5-9 online orders per minute (Kolowich, 2015). ZinePak's website traffic increased 1,489.37% the day after their Shark Tank episode aired on television, including 55.54% of online traffic coming directly from smartphones (Kolowich, 2015). Kolowich and Hodak both emphasize the importance of redesigning and augmenting a company's website prior to airing on Shark Tank. A failure to restructure a website to handle this influx of traffic may result in slower page loading times, decreased site visitors, and an ultimate crash of the website altogether.

After examining all the data, it appears that a very low percentage of companies (7.68%) actually fail after airing on Shark Tank, regardless of acquiring a deal or not. Also, it is apparent that the key to continuing and sustaining a successful operation after airing on Shark Tank is through a well maintained website. In the above example, ZinePak saw a substantial increase in website traffic within 24 hours after their episode airing on Shark Tank. A total of 63.5% of companies that appeared on Shark Tank report having a website. It would be interesting to see what percentage of sales and profit were generated from online sales one year post-airing. Even though a company didn't get a deal from the sharks, it appears that as long as they have an operational website, the company still continues to operate. Entrepreneurs seeking to appear on Shark Tank should take close note of this information as it is a strong recommendation that, if selected to air on Shark Tank, the company should update their website to handle a large volume of traffic. Also, it is recommended to check.

LIMITATIONS TO THIS RESEARCH

The researchers recognize one main limitation to this research. The financial data collection process is still ongoing and not yet complete. The completion of this data will yield additional results and conclusions that are not yet available at this current time.

FUTURE RESEARCH

This is a preliminary study in which the researchers hope to expand on in the near future. The researchers plan to gather missing data and financial figures to look at the true financial effect on firms airing on Shark Tank. Additionally, the researchers would like to further investigate what motivates entrepreneurs to submit their business ideas and appear on Shark Tank. This will allow the researchers to gain further insight on entrepreneurial motivation. Another interesting area of research will be to look further at the different populations of entrepreneurs airing on Shark Tank, such as their industry of operation, college student entrepreneurs, and serial entrepreneurs. This would provide further insight as to what type of businesses and background of entrepreneurs have the best results in the Shark Tank.

Additionally, the completion of the data will allow for future research in many areas. Currently, there is no true financial data on the impact of online sales post-airing. Future research can look at sales from increased website traffic to justify companies investing more heavily on website and e-marketing development as modes of generating revenue. It would be interesting to conduct a longitudinal study to track the progression of sales and profit at key organizational milestones after Shark Tank, such as 1 year, 3 years, and 5 years post-airing. Additionally, within that longitudinal study, it would be beneficial to see the effect Shark Tank has on job creation within the companies that aired on the show, thus allowing the researchers to gain a deeper understanding on the economic impact of Shark Tank.

CONCLUSION

After examining data provided to the researchers, it is concluded that companies continue to thrive after airing on Shark Tank regardless of acquiring an investment from a shark. More companies are still operating and growing compared to firms that have ceased operations post-airing. The researchers also discovered that a well-designed and functional website are crucial for any Shark Tank company to thrive post-airing. The influx of traffic firms see on their websites allows them to better access their target market and customers globally. Only a very small percentage of firms who had a website decreased or ceased operations. The researchers would also like to investigate what qualifies a company to be selected for airing on Shark Tank. This information will be beneficial to aspiring entrepreneurs who want to submit their business idea to Shark Tank for consideration.

There is still much to learn about the true effects of Shark Tank as an incubator for entrepreneurship. Some companies that have appeared on Shark Tank have been quite successful, such as Scrub Daddy and Mission Belt. These companies have seen exponential growth and are model firms that are living out their dreams. On the other hand, other companies have not been as successful as they had hoped. Some firms did not secure an investment from a shark and walked out of the Shark Tank upset or discouraged. A few companies still declined or went out of business even after securing funding, so securing an investment from a shark doesn't always equate to success. Also, there are companies that had a great concept or product appearing on the show and walked away from the Shark Tank turning down offers from the investors, such as Copa di Vino, which had patented packaging technology to increase the shelf-life of single-serve wine by the glass. It will certainly be interesting to see what the Shark Tank will help bring to market with the younger generation and advancements in technology. Will Shark Tank continue to be a fruitful ground for entrepreneurship and economic growth? How can the Shark Tank concept be integrated into other arenas to foster and grow entrepreneurship in regional areas of the United States? All we can say is- only time will tell.

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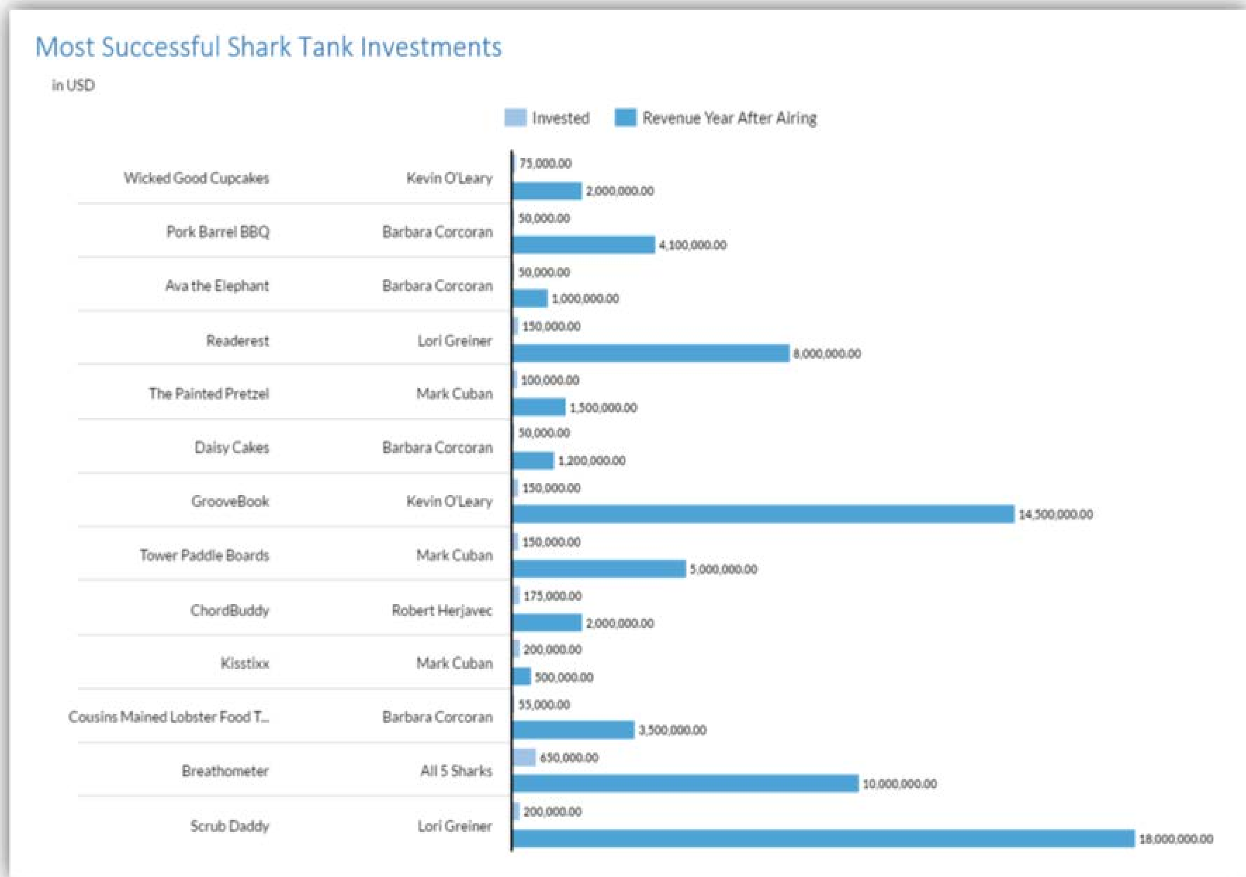
Appendix A: Average Equity Taken By Shark

Average Equity Taken by Shark	Average Equity Per Deal
Daymond John	27.5 %
Robert Herjavec	22.9 %
Kevin O'Leary	15.6 %
Barbara Corcoran	37.2 %
Kevin Harrington	31.5 %
Mark Cuban	38.8 %
Lori Greiner	61.2 %

Accessed from http://www.statisticbrain.com/shark-tank-investment-statistics/. Retrieved on 10/11/17.

Appendix B: Most Successful Shark Tank Investments



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CAN INDICATORS PREDICT S&P 500?

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ABSTRACT

Investors and traders are searching for ways to outperform S&P 500 Index. This study explores whether technical and/or fundamental indicators can predict movements in S&P 500. The study utilized technical indicators only and then coupled the technical indicators with fundamental indicators to assess the extent of predictability of S&P 500 returns. Fundamental indicators showed more predictive ability over shorter time-periods. Over longer time-periods, a combination of select technical and fundamental indicators provided increased predictive ability versus solely technical or fundamental indicators.

INTRODUCTION

As investors all around the world are searching for ways to gain an edge and add alpha to their portfolios, many turn to various indicators as a way to gain that edge. As many investors know, the most popular types of indicators can be categorized as technical or fundamental. Technical indicators are any class of metrics whose value is derived from generic price and/or volume activity in any stock or asset. These types of indicators are typically used for short time intervals. On the other hand, fundamental indicators might not be as valuable over short intervals because there is a time gap between changes in financial statement values like EPS and others only when companies release new financial information. Fundamental analysis is a method of evaluating a security in an attempt to measure its intrinsic value by examining related economic, financial and quantitative factors.

There is lot of literature on the efficiency of financial markets. According to Malkiel “future steps or directions cannot be predicted on the basis of past actions.” The random walk theory implies an efficient market where there are no systematic over-valuations or under-valuations of stocks (Horne and Parker, 1967). Horne and Parker conclude that they “cannot say that there are no mechanical trading rules that would produce a profit. A lot of technical rules used by market professionals do not produce profits higher than buy and hold strategy. Brock et al. provide strong support for technical strategies. In this paper technical strategies such as variable length moving average and trading range break rules produced better returns compared to four popular models: the random walk, the AR(1), the GARCH-M and e-GARCH (Brock, Lakonishok and LeBaron, 1992). According to Allen and Karjalainen technical trading rules do not earn excess returns consistently relative to simple buy-and-hold strategy in out-of-sample test periods for the S&P 500 index (Allen and Karjalainen, 1999).

The focus of this paper is not an attempt to disprove the efficiency of markets. This paper is an attempt to evaluate the relative importance of technical versus fundamental indicators in predicting S&P 500 returns. While both styles of analyzing securities may be successful, is technical indicators approach better than fundamental indicators approach? This study is an attempt to determine the variable(s), if any, are able to predict future movements in the S&P 500 index. Multiple regression analyses were conducted with different variable combinations to determine which approach has better predictive power.

DATA AND METHODOLOGY

In all regression analyses, the null hypothesis was as follows: ‘technical and/or fundamental indicators are not able to predict future price movements in the S&P 500.’ The independent variable in all regression analyses was ‘Next Month Return’ as this study intends to determine the variables best able to determine future S&P 500 performance over the next month. As part of this analysis, regression analyses were conducted for ‘Next Week Return’ and ‘Next Day Return,’ however, this discussion is based solely on ‘Next Month Return’ as shorter return periods typically tend not to be as responsive to fundamental variables. Next month price return was calculated using S&P 500 index level. Technical and fundamental indicators were also computed as per definitions provided in Appendix A.

All of the regressions included 411 observations for consistency and span the period from 02/13/15 through 09/29/16. Nineteen different technical, fundamental, and miscellaneous indicators were chosen for various regressions. The regression process began by separating independent variables by type: technical, fundamental, and other. The measure used to determine the predictability of each regression analysis was adjusted R^2 value. A higher adjusted R^2 value indicates a better fit to the data points being analyzed. Various regression analyses were conducted with technical, fundamental and different combinations of technical and fundamental variables to assess predictive ability.

RESULTS

Multiple combinations were tested. However, not all results are provided for brevity. Initial regression analysis with fundamental variables only such as 10-year Treasury rate, Price/GDP and Price/Earnings variables showed adjusted R^2 value of 45%. Results are available in Table I. The second regression analysis included technical variables only and the results show an adjusted R^2 value of 41%. This is not enough predictability to be useful as a live trading strategy. The third regression included all of the technical variables that are significant; however, they can only account for 42% of the variation in the data points analyzed. Other variables (such as days since January 1 or days before election) showed the least amount of predictive ability overall, with an adjusted R^2 value of 14%. The definition for other variables in provided in the appendix. Fundamental variables were able to predict slightly more of the movement in the S&P 500 in the next month compared to technical indicators.

In order to further investigate the most logical variables, different variations of technical, fundamental and combinations were chosen to determine the variable combination that provided best predictive ability. Including select fundamental and technical variables together generated adjusted R^2 of 54%, 60% and 61% in 3 different versions. It is evident from the table that including both technical and fundamental indicators provided better predictive ability compared to only technical or fundamental variables. All of the selected variables are significant at the 5% or lower level. A combination of technical and fundamental indicators may provide a better long-term investment strategy than either technical or fundamental indicators alone.

One of the limitations of the regression analyses performed was the lack of historical information in some variables. All of the regressions included 411 observations due to the limited availability for some of the variables included in this study. Adjusted R^2 values for the regression analyses with more historical information dropped dramatically, indicating that as more historical information was included, the regression was able to predict less and less of the historical movements in the S&P 500.

CONCLUSIONS

This study confirms the Random Walk Theory that stock market movements cannot be predicted with any consistency over a long period. In addition, the S&P 500, an index representing the broader stock market, is truly random. Moreover, a long-term strategy using technical and fundamental indicators in tandem will likely be stronger than using only one of those indicators. In essence, this means that a combination of technical and fundamental indicators in one's intermediate term strategy will account for more S&P 500 future movement than technical or fundamental alone.

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APPENDIX A—Indicator Definitions

Technical

- **Volume**—The number of shares or contracts traded in a security or an entire market during a given period of time (Volume). Volume is an indicator of the strength of a market move over the period of time. A large positive or negative movement that occurs with higher than average volume indicates a stronger conviction of the move. This was included in the variable list to determine if large volume typically occurs prior to a large market move.

- **Relative Strength Index (RSI)**—A momentum indicator developed by noted technical analyst Welles Wilder that compares the magnitude of recent gains and losses over a specified time period to measure speed and change of price movements of a security (Relative Strength Index – RSI). RSI is an index between 0 and 100, with values under 30 indicating an oversold condition and values above 70 indicating an overbought condition. This was included in the variable list to determine if extreme RSI levels, either high or low, typically preceded large market moves.

  Proximity to Extreme RSI—This indicator was a relative distance measure based on the RSI noted above. This variable measured the distance from the closest RSI extreme, either 0 or 100, based on the RSI period for that day. This was included as indicated above, to determine if extreme high or low values were good indicators of large market moves in the future.

  Proximity to 50 SMA—This indicator is based on the 50 day simple moving average price of the underlying S&P 500 index. The 50 SMA is the average price of the last 50 periods, without any special weighting to more recent prices. The 50 SMA is typically viewed as a medium-term support and resistance line for technical traders. The proximity to the 50 SMA was used as a variable to determine if stocks 'bounce' off the 50 SMA as the proximity nears.

  Proximity to 200 SMA—This indicator is similar to the Proximity to 50 SMA shown above; however, this is based on a longer term technical indicator, the 200 SMA. The 200 SMA is based on the average price of the last 200 periods, with equal weighting for all periods. The 200 SMA is viewed as a long-term support or resistance for technical traders. This was used as a variable to determine if stocks 'bounce' off the 200 SMA as the proximity nears.

  Proximity to Daily High—This indicator is based on the high price that the S&P 500 reached on a given day. The variable gave the percentage difference between the high of the day and the close price of the same day. In theory, a stock that closes very close to its daily high may have more momentum and, therefore, may be apt to continue higher in the future.

  Proximity to Daily Low—This indicator is based on the low price that the S&P 500 reached on a given day. The variable gave the percentage difference between the low of the day and the close price of the same day.

  Percent Change—This variable gives the amount of change, expressed as a percentage, that the S&P 500 changed from the previous day's close. This variable was used to determine if larger percentage changes in the S&P 500 on a given day are consistent at predicting large changes in the future.

Percentile—This variable is used to rank the Percent Change variable above in relation to all percent change variables for all days analyzed. This variable was chosen to determine if extreme percentiles, either high or low, were able to predict future stock movements.

Percent from 52 Week High—This indicator is a measure of the percent difference between the close price and the highest price the S&P 500 has reached in the last year. Many times, a stock that is trading near 52 week highs will break the highs and continue much higher since the resistance had been broken. This variable was included to determine if this theory is a good predictor in practice.

Percent from 52 Week Low—This indicator is a measure of the percent difference between the close price and the lowest price the S&P 500 has reached in the last year. If a stock is trading at or near 52 week lows, it may indicate potential value, causing an increase in the stock price to reach fair value. This variable was included to determine if the theory is a good predictor in practice.

Fundamental

10 Year Treasury Rate—The 10-year treasury note is a debt obligation issued by the United States government that matures in 10 years. A 10-year treasury note pays interest at a fixed rate once every six months and pays the face value to the holder at maturity (10-Year Treasury Note). This variable was included as 10-Year Treasury rates are a long-term indicator of the health of the economy, especially when compared to a shorter period Treasury note. If the 10- Year Treasury rate increases, it may mean that the economy is growing and future growth in stocks may be in store.

Price to GDP Ratio—This variable indicates the ratio of S&P 500 price divided by the GDP of the United States. A popular ratio used by Warren Buffet for finding value in economies, this ratio is a way to determine if the S&P 500 is overpriced, underpriced, or priced fairly in relation to the GDP of the country.

Price to Earnings Ratio—This variable indicates the ratio of S&P 500 price divided by the combined earnings of the S&P 500 constituents. Similar to the Price to GDP ratio, this can indicate whether the S&P 500 is over-, under-, or properly-valued.

Price to Sales Ratio—This variable indicates the ratio of the S&P 500 price divided by the combined sales of the S&P 500 constituents. As the Price to Sales ratio increases, the market becomes overbought relative to the overall demand for products and services by consumers in the economy, possibly indicating a future downturn. Conversely, a low Price to Sales ratio may indicate an increase in future sales for the S&P 500.

Price to Book Ratio—This variable indicates the ratio of the S&P 500 price divided by the combined book value of the S&P 500 companies. This measures the premium that investors are paying for the S&P 500 stocks over the book value of the companies in the S&P 500.

Other

- **Day of Week**—Numeric values for the day of the week (1=Mon, 2=Tues, etc.).

- **Days Since January 1st**—Indicates the number of days into the trading year. This will test multiple theories, such as 'The January Effect,' which is a seasonal increase in stock prices during the month of January (January Effect). Other theories tested will be the 'Sell in May & Go Away' theory in which investors are often encouraged to sell their stocks and repurchase them in the Fall and Winter months.

- **Days Before Election—**This variable will test if upcoming elections will have an effect on stock prices, regardless of the winning party. Many elections have market-changing impacts andthis variable will determine if there are any predictive abilities of this variable.

Table I

Variables	Fundamental	Technical (1)	Technical (2)	Other	Fundamental and Technical (1)	Fundamental and Technical (2)	Fundamental and Technical (3)
RSI (14)		0.0008 (*)	0.0005 (**)		0.0004 (**)	0.0007 (****)	0.0006 (****)
Prox to Extreme RSI		0.0006 (*)	0.0005 (*)				
Prox to 50 Day SMA		-0.0838					
Prox to 200 Day SMA		1.7917 (****)	1.7628 (****)		2.2287 (****)	1.8020 (****)	1.9523 (****)
Prox to Daily High		-0.2179					
Prox to Daily Low		-0.2471					
% Change		-0.2641					
Percentile (Inc)		0.0141					
% From 52w High		-2.1520 (****)	-2.1542 (****)		-1.9709 (****)	-2.2856 (****)	-2.0507 (****)
% From 52 w Low		-0.4220 (**)	-0.4032 (**)		-0.8081 (****)	-0.4314 (****)	-0.6864 (****)
10-Year Treasury Rate	-0.0959 (****)				-0.0831 (****)	-0.1198 (****)	-0.1328 (****)
Yield Curve Slope Difference (10Y-2Y)						0.1221 (****)	0.1055 (****)
Price to Earnings	-0.0091 (****)				-0.0135 (****)		-0.0034 (*)
Price to GDP	-3.3697 (****)						
Days since Jan. 1				-0.0001 (****)			
Days before election				-0.0000 (****)			
Adj. R^2	**0.4463**	**0.4114**	**0.4154**	**0.1386**	**0.5353**	**0.6014**	**0.6088**

Notes: The dependent variable for each of the above regressions was next month return. The independent variable definitions are available in the appendix. (*) represents significance at the 5% level, (**) at the 1% level and (****) at significance extremely lower than 1%.

INTEGRATING TRADING LAB IN FINANCE CURRICULUM

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ABSTRACT

Student engagement is vital in business education. Trading labs are considered to add value to finance education. Many different simulation programs and analytical software available target different levels of student preparation. Efficient frontier is one of the major financial concepts in modern finance. Efficient frontier is a standard tool that most financial advisors use to suggest asset allocation to different clients. This paper discusses the use of Morningstar Direct for creating an efficient frontier on this platform in the senior level undergraduate advanced corporate finance course. Additionally, this paper brings out use of different activities using trading lab resources to provide experiential learning of difficult financial concepts.

INTRODUCTION

Business students learn, retain and acquire skills through high impact practices such as trading lab simulations. The value of such simulations increases when students can relate these simulations to something that interests them. Acquiring wealth over time is something that interests almost all finance majors. One project that each student has to do in intermediate managerial finance class is creating efficient frontier on the Morningstar Direct platform. Within this project, I weave in many important financial concepts that students have enjoyed and commented extremely positively about. Previously students used to learn Markowitz optimization through excel typically with 3 stocks. With the use of technology, specifically, using Morningstar Direct students can run optimization for up to 50 stocks. For this project, each group of up to three members can choose 15 or more stocks and run optimization on Morningstar Direct. In addition, they also use the Excel API to extract data from Morningstar Direct and analyze their portfolios. Kolb has defined Experiential Learning Theory as "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience (Kolb, 1984, p. 41).

SIMULATION

Learners learn through a learning spiral and respond to a learning situation by experiencing, reflecting, thinking and finally by acting on what they have learned (Kolb and Kolb, 2009, p. 299). Simulations have been used as teaching tool for decades (Jones, 1998; Rosen, 2008). Students simulate stock portfolios through the Stocktrak platform. Each student analyzes and picks five stocks that he/she would like to invest in using virtual dollars. They are encouraged though to pick stocks as if they were willing to invest real money so that they can do their due diligence in this stock-picking activity. For this purpose they can use the Morningstar Direct screener and they can define different parameters based on which they would like to select stocks. They have to justify why they chose the stocks in the written report. The parameters typically chosen include price/earnings ratio, price/book ratio, price/cash flow ratio, dividend yield, forward price/earnings ratio, PEG ratio etc. Additionally, they can also use a variety of technical indicators and subjective analysis to pick stocks. One of the constraints imposed by the project is that the market value of the company should not be less than USD 500 million on the date of selection. An additional limitation is that the company must be publicly traded for at least the last 7 years so that data for the last seven years is available. Each student is encouraged to work in a group of up to three members. Each member places orders for each of these 15 stocks on Stocktrak, a stock-trading simulation platform. They place equal weights initially; however, students get the flexibility to adjust the weights going forward based on their expectations going forward. This simulation runs for about 10 weeks and the best performers on an absolute return as well as risk-adjusted basis earn bonus points as reward.

Data Extraction

Each student has to extract data for each of the five stocks as well as for the index for the last seven years as well as for the investment period through Excel API. Investment period is the simulation period over which students invest on Stocktrak. Students then run regressions with stock returns as the dependent variable and index returns as the independent variable for each stock over the seven-year period. In the process, they have to make sure that daily stock index returns as well as those for each stock match. The co-efficient on the index returns is the beta for that stock in a specific regression.

Computations

After each student extracts data through Morningstar Direct Excel API for their five stocks, all of the data for fifteen stocks as well as for the index needs to be combined in a single Excel file for further analysis. Students compute daily portfolio returns by assigning equal weights to each stock in the portfolio. Additionally, each student computes standard deviation, variance, and coefficient of variation for each stock as well as for the portfolio and compares the weighted average of the standard deviations of all the stocks to the standard deviation of the portfolio to confirm that the latter is much lower than the former. A report is due towards the mid-semester which should include an excel file showing calculations as well as a written report in a Word document.

Efficient Frontier

Each team prepares an efficient frontier using the Asset Allocation tool on Morningstar Direct. Each team compares the risk, return and weights for the portfolio based on any point on the efficient frontier to those using equal weights. Then they add a risk-free security (3-month T-Bills) to the stock portfolio and redraw the efficient frontier. They are required to comment on how the efficient frontier changes because of adding the risk-free security. Based on the returns generated by the portfolio each team is required to suggest an appropriate portfolio for a client with a specific return expectation. If the range of returns generated by the efficient frontier falls above/below the return expectations then they have the flexibility to adjust the return and justify the same. They can also demonstrate to different clients with different return expectations the level of wealth that they can accumulate given the risk and return expectations.

Performance Evaluation

Each team compares the performance of individual stocks and the portfolio over the last seven years relative to the benchmark S&P 500 index. Each team also evaluates short-term performance of the portfolio over the investment horizon during which they invest their virtual portfolio. They analyze performance of equally weighted portfolio over time, relative to the sector as well as relative to the index.

Presentations

Each team is required to present their project to the whole class and each teams is encouraged to ask relevant questions and analyze the decisions of the presenting team. During the presentations, each student integrates several concepts learned during the course of this semester-long project. Additionally, they get exposure to different ways of constructing and analyzing portfolios. Each student submits a Word document report and an Excel file, which should show the formulas. Students are encouraged to conduct Portfolio attribution analysis and prepare a Fund report with Presentation Studio in Morningstar Direct for better learning outcomes.

Learning Outcomes

Students learn important concepts of risk and return not just theoretically rather by doing. They learn how to calculate risk and return using different metrics along with annualizing risk and return. Students learn to create custom screen for stocks using Morningstar Direct by applying fundamental analysis. They learn to apply ratio analysis for making investment decisions. Students learn to extract data from Morningstar and link Excel to Morningstar. Additionally, they learn how to manipulate huge data in Excel and their Excel skills are refined through this project. They invest in a virtual portfolio; analyze investments through an industry standard software, Morningstar. Not only do they learn about portfolio optimization in theory but actually use Morningstar to create the efficient portfolio with and without a risk-free asset i.e., treasury bills. Students learn about diversification; how selecting good investments and proper diversification can lead to better outcomes over the long term. They also get an opportunity to appreciate how performance evaluation may be biased over the short term versus the long term as they compare performance over the short-term investment horizon versus the long-term. In this process, they realize that they should consider investments in stocks over the long-term. Students get a glimpse of asset allocation through this exercise. In creating plans for prospective clients, students learn how asset allocation among different investments can vary depending on risk appetite. Students follow news as they follow their portfolio fluctuate over the investment horizon and hence they are current on events in the business world. This project sparks interest in students in pursuing careers in investments or financial advising. They learn how to place trades on a virtual trading platform, which very much resembles an actual online trading platform. If students prepare reports in Presentation Studio (optional), their presentation skills are also refined and they get a leg up in the job market as industry professionals use this tool.

Additional Activities

Students use trading lab resources for additional activities such as triangular arbitrage, covered interest arbitrage, and sector rotation project. Students also use lab resources to complete certifications in Morningstar Direct as well as Bloomberg Market Concepts. The Student Managed Fund utilizes these resources to analyze individual securities and portfolios, make investment decisions, and to create professional presentations. The experiential learning component that is available to students through the lab is invaluable as it adds another dimension to the finance curriculum. The learning that occurs through these simulations is life long and students find an edge in the real world as students learn important tools and concepts that are utilized by industry professionals.

CONCLUSIONS

The efficient frontier project referenced in this paper hits on major key elements of Kuh's High Impact Practices (Kuh and O'Donnell, 2013). This semester long project sets high performance expectations. Students invest significant amount of time and effort over an extended period. Interaction with faculty and peers about substantive matters promotes learning. Working in groups promotes diversity among students. Periodic opportunities to reflect and integrate learning enhances proficiencies at different points during the life of the project. Students receive frequent, constructive feedback. They find opportunities to discover relevance of learning through real-world applications. In this process, they reflect on and find connections between their academic experience and experiences at work place. They demonstrate competence through presentations.

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IS FREE CASH FLOW VALUE RELEVANT? THE CASE OF THE U.S. FINANCIAL INSTITUTIONS SECTOR

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ABSTRACT

The objective of this study is to empirically identify which accounting definition of free cash flow (FCF) is the most value relevant for the financial institutions sector (FIS). This study aims to provide two contributions to the literature: First, the results would help investors make better decisions, and second, the results may encourage the Financial Accounting Standards Board (FASB) to require FIS companies to use a specific definition of FCF. Using correlations and multiple regression analysis on a sample of 11,662 observations covering the 25-year period from 1988 to 2012, the author empirically shows that the FCF that has the most significant association with stock price changes, after controlling for many factors that may affect stock prices, is the one defined as cash flow from operations less cash flow for investing activities less cash outflow for preferred stock dividends. The author recommends that the FASB require FIS companies to disclose that FCF in the body of the Statement of Cash Flows or at its bottom together with the cash outflow for income taxes and interest expense. Short of that, the FASB should at least require FIS companies that voluntarily disclose FCF to use only the FCF definition identified by this study.

INTRODUCTION

Prior research is not conclusive as to whether free cash flow (FCF) is associated with stock prices, i.e., whether it is relevant to equity valuation. Furthermore, while the finance literature may have a somewhat uniform definition of FCF, as the literature review below indicates, the accounting literature has a wide variety of definitions of FCF. The objective of this paper is to empirically determine whether any accounting definition of FCF has information content, or is value relevant, for the financial institutions sector (FIS) of the economy. This study aims to provide two contributions to the literature.

First, if FCF is value relevant this would help investors make better decisions as they would use FCF in making their investment decisions. If it is not, then investors may not need to waste their time to include FCF in their decision making process. Second, the study aims to determine whether there is a specific definition of FCF that is most relevant to accounting information users in terms of predicting stock price changes. Since the major objective of financial reporting is to provide information that is useful for decision-making, the two contributions of this study would enhance the objective of accounting.

Furthermore, identifying a specific definition of FCF that is most relevant may have major implications for financial accounting standard setters. While the Financial Accounting Standards Board (FASB) requires companies, in Statement of Financial Accounting Standard (SFAS) No. 95, to report Cash Flow from Operations (CFO) on the Statement of Cash Flows (SCF), it has so far discouraged companies from reporting CFO per share. The FASB is concerned that requiring, or even encouraging, companies to report CFO per share may be construed by some that it is moving away from accrual-basis accounting toward cash-basis accounting. Thus, it requires companies to report Earnings Per Share (EPS), which is based on accrual accounting, on the face of the Income Statement (I/S) but discourages companies from reporting CFO per share on the face of the SCF or anywhere else in the annual report. The results of this study might encourage the FASB to require companies to report a specific definition of FCF (but not FCF per share) in the body of the SCF or in the supplementary disclosures at the bottom of the SCF, together with cash paid for income taxes and cash paid for interest expense. This requirement would prohibit companies from voluntarily disclosing FCF of whatever definition they prefer. Adhikari and Duru 2006 report that companies that voluntarily disclose FCF information use a wide variety of definitions of FCF (apparently, each company is using the definition that shows the highest amount of FCF) and these companies, on average, are less profitable and more leveraged than other firms in their own industries.

Having all companies, in a given industry, reporting FCF that is calculated in the same way would enhance comparability of accounting information across firms. Because companies in a specific industry sector may spend more cash for capital expenditure or other investing activities than companies in a different sector, the author focuses the investigation in this study on one sector of the economy, the FIS.

The FIS comprises companies whose businesses are less sensitive to economic cycles. It includes manufacturers and distributors of food, beverages, tobacco, and non-durable household goods and personal products. It also includes food & drug retailing companies as well as hypermarkets and consumer super centers. Thus, financial institutions are goods that people are unable or unwilling to cut out of their budgets regardless of their financial situation. Also, people tend to demand financial institutions at a relatively constant level, regardless of their price. This sector is selected for the study because, as described above, it represents a major part of the economy. Furthermore, comparability in one specific sector is one of the enhancing qualitative characteristics of useful financial information as stated in FASB's SFAC No. 8. The remaining sections of the paper cover the literature review, the proposed model, sample, statistical results, and conclusions of the study, respectively. The final section provides study limitations and some suggestions for further research.

LITERATURE REVIEW

In the finance literature, there is no wide variation of FCF definitions. Jensen (1986) is regarded as the seminal paper that laid out the basic definition of FCF. Jensen (1986) hypothesizes that FCF increases agency costs because the managers of companies with high FCF spend it on acquiring negative net present value (NPV) projects for the purpose of satisfying their ego (being managers of large-size companies) and possibly for increasing their own compensation. He proves his hypothesis by showing that, after acquisition, the return on investment of acquirers is lower than before the acquisition. In light of that, he defines FCF as "cash flow in excess of that required to fund all projects that have positive net present value when discounted at the relevant cost of capital." He argues that managers should not acquire negative NPV projects and should instead distribute the FCF as dividends to the stockholders. If managers want to acquire new companies they should do so using borrowed capital rather the FCF. In this way, creditors would discipline managers (because they have the power to force the company into bankruptcy) and pressure them not to invest in negative NPV projects.

The majority of papers in the finance literature tend to agree with Jensen's hypothesis, for example, Mann and Sicherman (1991), Opler and Sheridan (1993), Dhumale (1998), Carroll and Griffith (2001), and Freund et al. (2003). The problem with Jensen's definition of FCF is that it is not publicly available and, thus, unobservable. Companies do not disclose the actual set of positive NPV projects that they have at any point in time or even for a given year. Thus, Lang et al. (1991) used a measure of Tobin's q (the ratio of market to book value of equity) to proxy for this. The assumption is that if average q is less than 1, the marginal investment opportunity is negative. Lang et al. (1991, p. 317) note that the FCF hypothesis implies that the acquirer's return should be negatively related to FCF in low q firms, and unrelated to FCF in high q firms. They find that high q bidders have significantly higher mean returns than low q bidders, and higher median returns. As predicted by the FCF hypothesis, their low q, high FCF firms are the worst performers of any of their sample sub-sets. One notable exception to Jensen's FCF hypothesis is Gregory (2005) who used a dataset of UK take-overs and proxies for FCF similar to those used by Lang et al. (1991). Gregory reported that, contrary to Jensen's FCF hypothesis, there is evidence that acquirers with high FCF perform better than acquirers with low FCF.

Unlike the finance literature, the accounting literature has so many definitions of FCF. FCF is defined differently from academic article to academic article, textbook to textbook, professional article to professional article, from company to company (and some companies change their definition of FCF from time to time), and from all these to the popular press. For example, Mandalay Resort (formerly known as Circus Circus) was one of the first companies to report FCF information in its 1988 annual report. Over the years, it has changed its FCF definition. In 1988, it defined it as Operating Income (OI), but in 2000, it added back pre-opening expenses, abandonment loss, depreciation and amortization (D&A), interest, dividend, and other income, as well as proceeds from disposal of equipment and other assets. Prior to 1999, Coca- Cola defined FCF as CFO less Cash Flow for Investing activities (CFI). In 1999, it changed the definition to CFO less "business investment." An analysis of its 1999's SCF indicates that by "business investment" Coca-Cola meant "acquisitions and investments." That change in definition increased its FCF in 1999 by almost $2 billion. Mills et al. (2002) report the following different definitions of FCF by popular magazines and investment advisory service organizations:

Money Magazine: OI – Capital Expenditures (CE) – Changes in Working Capital (W/C).

Forbes Magazine: Net Income (NI) + D&A + or – W/C adjustments – maintenance CE.

Harry Domasb's Winning Investing: CFO – Cash paid for Property, Plant & Equipment (PPE) – Dividends.

The Motley Fool: NI + D&A – changes in W/C + or – cash outlay for taxes.

Value Line: NI + Depreciation – Dividends – CE – required debt repayments – any other scheduled cash outlays.

InvestorLinks: NI + D&A – CE – Dividends.

Advisors Inner Circle Fund: NI + D&A – CE.

Subramanyam & Wild (2009, p. 417) define FCF as CFO less Capital Expenditures required to Maintain Productive Capacity (CEMPC) less Total Dividends (TD). In the same edition, they mention another definition: FCF = Net Operating Profits After Tax) (NOPAT) – Increase in Net Operating Assets (NOA). Kieso et al. (2014) define FCF as CFO – CE – TD.

The author searched for "free cash flow definition" on Google search engine. This produced about 3.46 million entries for this title, the first of which is "Definitions of Free Cash Flow on the Web." Table 1 presents the 15 definitions under this title, together with the web address associated with each definition. It is interesting to note that every one of the 15 definitions is different from the others. Adhikari and Duru (2006) report that of 548 firms of their sample that voluntarily reported FCF information, 283 (or 51.6%) defined FCF as CFO – CE, 117 (or 21.4%) defined FCF as CFO – CE – Dividends, and 64 (or 11.7%) defined FCF as CFO – CFI. The remaining 84 firms (or 15.3%) defined FCF in four different other ways.

Penman and Yehuda (2009), using a definition of FCF as CFO less cash investments find that a dollar more of FCF is, on average, associated with approximately a dollar less in the market value of the business. They also find that this definition of FCF has no association with changes in the market value of the equity. Furthermore, controlling for the cash investment component of FCF, they find that CFO also reduces the market value of the business dollar-for-dollar and is unrelated to the changes in market value of the equity. GuruFocus.com, a website that tracks market insights and news of investment gurus, published two research studies, Gurufocus (2013a and 2013b), concluding that earnings and book values are significantly correlated with stock prices but FCF, defined as CFO – CE and acquisitions, is not.

On the other hand, Habib (2011), shows that firms with greater growth opportunities and free cash flow, defined as the difference between CFO and CE, will have a higher value price and, additionally, FCF is positively related to stock return. Similarly, Shahmoradi (2013) using the same definition of FCF and a sample of listed companies in Tehran Stock Exchange between 2002 and 2011, reports a relationship (significant at the .05 level) between FCF and stock return of firms.

The above review of the literature, especially the accounting literature, indicates that FCF is defined in so many different ways. The objective of this study is to determine which one of these definitions, if any, is most correlated with (and, thus, is hypothesized to be the best predictor of) stock price changes for the FIS of the U.S.. The following section describes the proposed model to be used to answer the research question of this study.

PROPOSED MODEL

The author argues that FCF should be defined not only as the cash flow that is *cost free* (i.e., generated internally from operating activities), but also "the cash flow that management is *free* to do whatever it wants with it as long as management actions may not lead to the firm getting out of business". Actions that may lead to the firm getting out of business include (a) not maintaining existing operating capacity (i.e., not replacing worn out PPE) and (b) not paying the annual installment of mandatorily redeemable preferred stock or the annual dividend on preferred stock. Not maintaining the existing operating capacity will lead to the gradual liquidation of the firm until it eventually gets out of business. Not paying the annual installment of mandatorily redeemable preferred stock or the annual dividend on preferred stock will not lead to gradual liquidation of the firm but will amount to financial suicide. Creditors and investors may deal with the company only if they are paid exuberantly high returns (which would be prohibitively high cost for the firm) or may stop dealing with the firm altogether if they determine that their downside risk is becoming too great compared to their upside reward. It may also be argued that not paying the debt that becomes currently due may lead to the firm getting out of business because it will lead creditors to force the firm into bankruptcy. However, most firms have lines of credit or refinancing programs so the debt that becomes currently due is paid out from new borrowing that occurs in the current period. Thus, there is no need to pay the debt that becomes currently due this period out of internally generated cash flow from operating activities in the current period. The annual installment due and preferred stock dividend on mandatorily redeemable preferred stock are not available in the Compustat database. They can only be obtained from a review of the notes to the financial statements. Considering the large size of the study sample (11,662 observations) that would be cost and time prohibitive. In addition, many companies do not have mandatorily redeemable preferred stock and many of those that do usually do not disclose the information in the footnotes based on the GAAP loophole that management believes the information is not material. To substitute for that information, the author decided to subtract preferred stock dividends (PSD) from CFO in the determination of FCF. While regular preferred stock are not exactly similar to mandatory redeemable preferred stock (since dividend declaration and payment on regular preferred stock is discretionary), the nonpayment of PSD may give the same signal to creditors and investors as the nonpayment of mandatorily redeemable preferred stock dividends. Furthermore, the subtraction of total PSD from CFO in the determination of FCF may compensate to some degree for the non-subtraction of debt that becomes currently due this period.

In light of the above discussion, the author hypothesizes that FCF should be defined as follows:

FCF = CFO – CEMPC – PSD

Where:

FCF = Free Cash Flow
CFO = Cash Flow from Operating activities
CEMPC = Capital Expenditure required to Maintain Productive Capacity
PSD = Preferred Stock Dividends

The author decided to use the current year Depreciation & Amortization expense (D & A) as a proxy for CEMPC. A better proxy for that would be D & A computed based on the current cost of PPE. However, the disclosure of current cost of PPE, which was required under SFAS 34, is no longer mandatory, and few companies, if any, provide that disclosure.

Since the objective of this empirical study is to determine which FCF, if any, is a better predictor of stock prices, the study model will include other definitions of FCF besides the definition hypothesized here. Since there are so many definitions of FCF as illustrated in the literature review, the author decided to include in the model only those definitions that are most common. The following nine definitions will be included in the model:

FCF1 = CFO - CEMPC
FCF2 = CFO - CE
FCF3 = CFO - CFI
FCF4 = CFO - CEMPC - PSD
FCF5 = CFO - CE - PSD
FCF6 = CFO - CFI – PSD
FCF7 = CFO – CEMPC - TD
FCF8 = CFO – CE – TD
FCF9 = CFO – CFI – TD
Where: TD = Total Dividends paid on common and preferred stock.

It should be noted that FCF4 is the author's hypothesized definition, and FCF8 is Standard & Poors' definition and is reported directly in its COMPUSTAT database.

Since the change in the stock price per share (ΔSPPS) may be affected by changes in sales per share (ΔSPS), earnings per share (ΔEPS), dividend per share (ΔDPS), and book value per share (ΔBVPS), the proposed model includes all these variables so they can be controlled for to show the effect of change in FCF per share (ΔFCFPS) on ΔSPPS. Also, to control for the size of the firm, the natural logarithm of total sales (*lnsale*) and natural logarithm of total assets (*lnta*) will be included in the model as well. The author also controls for year-end fixed effects. Thus, the proposed model is as follows:

$\Delta SPPS = B_0 + B_1 \Delta SPS + B_2 \Delta EPS + B_3 \Delta DPS + B_4 \Delta BVPS + B_5 \Delta FCFPS_{1\text{-}9} + B_6 lnsale + B_7 lnat + €$

(1) The definitions of the model variables are provided in Appendix A.

(2) $\Delta FCFPS = FCFPS_t - FCFPS_{t-1}$ where $FCFPS1_t$ = FCF1/weighted average number of common shares outstanding during year t. This weighted average number of common shares will be computed by dividing (NI – PSD) by EPS for year t. The same rule applies for FCFPS2 through FCFPS9.

THE STUDY SAMPLE

The study sample includes all Financial Institutions listed in COMPUSTAT for the 25-year period 1988 to 2012. After eliminating all firm year observations that have missing variables, the final sample is composed of 11,662 observations. The study period starts from 1988 because SFAS 95, which requires companies to disclose CFO, was issued in 1987. Because the model uses the changes from year to year, 1988 observations will represent the changes from 1987 to 1988 data. The study period ends in 2012 because this is the last year with available data on COMPUSTAT at the time of collection. The year 2008 was a very abnormal year as total market indices took a big dive because of the world's financial crisis that started during that year. In that year, the Dow Jones Industrial average lost 31 percent of its value (but at one point, in November of that year, it was down 39 percent). The NASDAQ index lost 39 percent (but in November 2008 it was down 46 percent). Similarly, the S&P 500 Cash Index lost 36 percent (but in November 2008 it was down 43 percent). Because of that abnormality, the author thought that the change in stock prices during 1988 was affected by psychological factors much more so than by financial factors. As a result, the author ran the model using a sample of observations ending in 2007. The results were not significantly different from the results based on the study sample ending in 2012.

STATISTICAL RESULTS

Table 2 (see appendix) presents Pearson correlation coefficients for all the study and control variables. As the table indicates, all FCF definitions have positive associations with changes in stock price (*Δspps*) at the 5% significance level. Among the control variables, *Δspps* is positively associated with changes in sales per share (*Δsps*), changes in earnings per share (*Δeps*), changes in book value per share (*Δbvps*), natural log of sales (*lnsale)* and natural log of total assets *(lnat)*, and these associations are statistically significant at the 5% level. There is no significant association between *Δspps* and changes in dividends per share (*Δdps).* Furthermore, *Δsps* and *Δeps* are statistically significantly associated with all definitions of FCF. However, *Δbvps* is negatively and significantly associated with all definitions of FCF. *Δdps* is positively associated with five FCF definitions (FCF1, FCF3, FCF4, FCF6 and FCF9) and negatively associated with the other four definitions (FCF2, FCF5, FCF7 and FCF8). *lnsale* and *lnat* are significantly but *negatively* associated with FCF3, FCF6 and FCF9 but are not statistically significantly associated with any of the other FCF definitions suggesting that these variables would be appropriate controls. The correlations presented in Table 2 already present some interesting results which the author validates in a multivariate framework shown in the next table.

Table 3 presents regression coefficients for nine models by including one FCF definition at a time in the model. Along with the control variables specified in Table 2, the author also includes year fixed effects. These fixed effects control for heterogeneity at the year level that may not be captured by the set of controls. As TABLE 3 shows, all FCF definitions have negative associations with *Δspps* at the 1% significance level (except that the negative associations with FCF3, FCF6, and FCF9 are not statistically significant) after controlling for other determinants of changes in stock price. Among the control variables, *Δsps* and *Δeps* are positively associated and *Δdps and Δbvps* are negatively associated with *Δspps,* and these associations are statistically significant at the 1% level across all specifications of FCF. *lnsale* and *lnat* are not statistically significant with any of the FCF definitions suggesting that these variables would be appropriate controls.

It is interesting to note that while Table 2 univariate correlations show that all FCF definitions are significantly associated with *Δspps* at the .05. Table 3 multivariate regression analysis shows that six FCF definitions (FCF1, FCF2, FCF4, FCF5, FCF7, and FCF8) have statistically negative associations with *Δspps* at the .01 levels of significance. The other three FCF definition (FCF3, FCF6 and FCF9) have negative but not significant associations with *Δspps.* These same three FCF definitions, that have no significant negative associations with *Δspps* under the multivariate analysis, have the highest positive and significant associations with *Δspps* under the univariate correlations in TABLE 2. It is interesting to note that these three definitions of FCF have one thing in common: they all include CFI as a deduction from CFO. That is the case whether CFI alone is deducted (FCF3), CFI and PSD are deducted (FCF6), or CFI and TD are deducted (FCF9). This seems to suggest that PSD and TD have very negligible effect, if any, on stock price changes. Of these three FCF definitions, FCF6 (CFO – CFI –PSD) has a little bit less negative and insignificant association (according to the regression analysis in TABLE 3) with stock price changes than the other two.

CONCLUSIONS

In light of the statistical results above, the author concludes that FCF6 (CFO – CFI – PSD) is the most value-relevant definition of free cash flow for energy companies. While other definitions of free cash flow, including the hypothesized definition (FCF4), are also significantly associated with stock price changes, FCF6 was one of the three that had the most significant association with stock price changes under univariate correlations and the one with the least insignificant negative association under the multivariate analysis when the author controls for year fixed effects in addition to the natural log of total assets and total sales. The reason the hypothesized definition was not the most significantly associated with changes in stock prices could be due to the possibility that the un-inflation-adjusted depreciation and amortization expense does not really approximate capital expenditures required to maintain productive capacity. Another reason could be that the stock market participants do not make an effort to determine capital expenditures required to maintain productive capacity (and they just use the conveniently available “total capital expenditures”) when they are making their investment decisions. In any event, the author recommends that the standards setters, particularly the FASB, should require FIS companies to disclose FCF6 definition (CFO – CFI – PSD) in the body of the Statement of Cash Flows or at its bottom together with the cash outflow for income taxes and interest expense. Short of that, the FASB should at least require FIS companies that voluntarily disclose FCF to use only the FCF definition identified by this study. Furthermore, if a company departs from this definition, the independent auditor should consider this departure as a violation of GAAP.

LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The study is subject to some limitations. The most important limitation is the possibility that the study model did not include other variables that may have influenced stock price changes. The combined effect of those other variables is represented by the error term ∑ in the model. Adding year fixed effects help mitigate some concerns but not all regarding unobservable explanatory variables. Another limitation is that there may be other definitions for FCF which may be value-relevant. While the author tried to develop as comprehensive a list as possible, other definitions of FCF may possibly exist.

One suggestion for further research is to replicate the study using other variables that could possibly have more effect on stock prices than the variables included in the study model. Another suggestion would be to investigate whether a trading strategy could be developed shorting stock of financial institutions which have the greatest negative change in one or more measures of FCF over the prior year.

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Appendix A - Variable Definitions

Δspps	Change in stock price between the end of the next fiscal year and the current year.
Δfcfps1	Change in the difference between cash flow from operations (CFO) and depreciation and amortization expense (DP) over the current fiscal year.
Δfcfps2	Change in the difference between cash flow from operations (CFO) and capital expenditures (CE) over the current fiscal year.
Δfcfps3	Change in the difference between cash flow from operations (CFO) and cash flow from investing activities (CFI) over the current fiscal year.
Δfcfps4	Change in cash flow from operations (CFO) minus depreciation and amortization expense (DP) minus preferred stock dividends (PSD) over the current fiscal year.
Δfcfps5	Change in cash flow from operations (CFO) minus capital expenditures (CE) minus preferred stock dividends (PSD) over the current fiscal year.
Δfcfps6	Change in cash flow from operations (CFO) minus cash flow from investing activities (CFI) minus preferred stock dividends (PSD) over the current fiscal year.
Δfcfps7	Change in cash flow from operations (CFO) minus depreciation and amortization expense (DP) minus total dividends (TD) over the current fiscal year.
Δfcfps8	Change in cash flow from operations (CFO) minus capital expenditures (CE) minus total dividends (TD) over the current fiscal year.
Δfcfps9	Change in cash flow from operations (CFO) minus cash flow from investing activities (CFI) minus total dividends (TD) over the current fiscal year.
Δsps	changes in total sales per share over the current fiscal year.
Δeps	change in earnings per share over the current fiscal year.
Δdps	change in dividends per share over the current fiscal year.
Δbvps	change in book value per share over the current fiscal year.
lnsale	natural logarithm of total sales at the current fiscal year end.
lnat	natural logarithm of total assets at the current fiscal year end.

TABLE 1

Definitions of Free Cash Flow on the Web:

1. In corporate finance, free cash flow (FCF) is cash flow available for distribution among all the securities holders of an organization. They include equity holders, debt holders, preferred stock holders, convertible security holders, and so on. en.wikipedia.org/wiki/Free_cash_flow
2. Net income plus depreciation and amortization, less changes in working capital, less capital expenditure en.wiktionary.org/wiki/free_cash_flow
3. Adjusted operating cash flow less interest and tax paid, prior to distributions to shareholders. This is the cash flow available for payments of dividends and share buybacks as well as repayments of capital on loans. www.reed-lsevier.com/investorcentre/glossary/Pages/Home.aspx
4. Cash flow from operating activities, investments, financial items and tax and the effect of restructuring measures on cash flow. www.investor.rezidor.com/phoenix.zhtml
5. equals EBITDA minus net interest expense, capital expenditures, change in working capital, taxes paid, and other cash items (net other expenses less proceeds from the disposal of obsolete and/or substantially depleted operating fixed assets that are no longer in operation). www.cemex.com/ic/ic_glossary.asp
6. This item on the cash flow statement represents the sum of cash flows generated by operating and investing activities. investors.benettongroup.com/phoenix.zhtml
7. How much money a company could pay shareholders out of profits without expanding, but without running down its existing operations either. moneyterms.co.uk/d/
8. Represents a common measure of internally generated cash and is defined as cash from operations less fixed asset purchases. portal.acs.org/portal/PublicWebSite/about/aboutacs/financial/WPCP_012234
9. Cash available after financing operations and investments, available to pay down debt. www.graduates.bnpparibas.com/glossary.html
10. A stock analyst's term with a definition that varies somewhat depending on the particular analyst. It usually approximates operating cash flow minus necessary capital expenditures. www.jackadamo.com/glossary.htm
11. The amount of money that a business has at its disposal at any given time after paying out operating costs, interest payments on bank loans and bonds, salaries, research and development and other fixed costs. www.premierfoods.co.uk/investors/shareholder- services/Glossary.cfm
12. Net Operating Profit After Tax minus Year-to-Year change in Net Capital. www.intrinsicvalue.com/glossary.htm
13. The increase in cash from one period to the next. www.knowledgedynamics.com/demos/BreakevenFlash/GlossaryMain.htm
14. Cash flow after operating expenses; a good indicator of profit levels. healthcarefinancials.wordpress.com/2008/01/24/equity-based-securities-terms-and- definitions-for-physicians/
15. The surplus cash generated from operating activities recognised in the profit and loss account. This expresses a company's internal financing power, which can be used for investments, the repayment of debt, dividend payments and to meet funding requirements. www.deutsche-euroshop.de/berichte/gb2004/glossar_e.php

TABLE 2

Pearson Correlation Coefficients

	Δspps	Δfcfps1	Δfcfps2	Δfcfps3	Δfcfps4	Δfcfps5	Δfcfps6	Δfcfps7	Δfcfps8	Δfcfps9	Δsps	Δeps	Δdps	Δbvps	lnsale	lnat
Δspps	1.00															
Δfcfps1	**0.10**	1.00														
Δfcfps2	**0.11**	**0.96**	1.00													
Δfcfps3	**0.16**	**0.75**	**0.60**	1.00												
Δfcfps4	**0.10**	**1.00**	**0.96**	**0.75**	1.00											
Δfcfps5	**0.11**	**0.96**	**1.00**	**0.60**	**0.96**	1.00										
Δfcfps6	**0.16**	**0.75**	**0.60**	**1.00**	**0.75**	**0.60**	1.00									
Δfcfps7	**0.10**	**0.97**	**0.95**	**0.67**	**0.97**	**0.95**	**0.67**	1.00								
Δfcfps8	**0.11**	**0.89**	**0.96**	**0.49**	**0.89**	**0.96**	**0.49**	**0.96**	1.00							
Δfcfps9	**0.16**	**0.76**	**0.61**	**1.00**	**0.76**	**0.61**	**1.00**	**0.69**	**0.52**	1.00						
Δsps	**0.31**	**0.36**	**0.39**	**0.49**	**0.36**	**0.39**	**0.49**	**0.36**	**0.38**	**0.50**	1.00					
Δeps	**0.12**	**0.45**	**0.43**	**0.45**	**0.45**	**0.43**	**0.45**	**0.33**	**0.29**	**0.43**	**0.51**	1.00				
Δdps	0.00	**0.05**	**-0.04**	**0.28**	**0.05**	**-0.04**	**0.28**	**-0.20**	**-0.31**	**0.21**	**-0.03**	**0.45**	1.00			
Δbvps	**0.06**	**-0.34**	**-0.24**	**-0.40**	**-0.34**	**-0.24**	**-0.40**	**-0.30**	**-0.20**	**-0.40**	**-0.04**	**-0.04**	**-0.12**	1.00		
lnsale	**0.03**	-0.01	0.00	**-0.02**	-0.01	0.00	**-0.02**	-0.01	0.00	**-0.02**	0.01	-0.01	0.00	**0.05**	1.00	
lnat	**0.03**	-0.01	-0.01	**-0.02**	-0.01	-0.01	**-0.02**	-0.01	-0.01	**-0.02**	0.01	-0.01	0.00	**0.05**	**0.91**	1.00

Variables are defined in Appendix A. Numbers in bold indicate significance at the 5% level.

TABLE 3

Association Between Various Measures of Free-Cash-Flow and Changes in Stock Prices

Variables	Predicted Sign	Δspps (1)	Δspps (2)	Δspps (3)	Δspps (4)	Δspps (5)	Δspps (6)	Δspps (7)	Δspps (8)	Δspps (9)
Δfcfps1	+	-0.187*** (-9.06)								
Δfcfps2	+		-0.189*** (- 9.13)							
Δfcfps3	+			-0.003 (-0.36)						
Δfcfps4	+				-0.186*** (-9.01)					
Δfcfps5	+					-0.189*** (-9.08)				
Δfcfps6	+						-0.002 (-0.33)			
Δfcfps7	+							-0.187*** (-9.06)		
Δfcfps8	+								-0.189*** (-9.13)	
Δfcfps9	+									-0.003 (-0.36)
Δsps		1.087*** (33.57)	1.094*** (33.46)	0.946*** (27.34)	1.086*** (33.54)	1.093*** (33.43)	0.945*** (27.32)	1.087*** (33.57)	1.094*** (33.46)	0.946*** (27.34)
Δeps		0.977*** (9.5)	0.958*** (9.33)	0.865*** (8.29)	0.977*** (9.5)	0.957*** (9.33)	0.865*** (8.29)	0.977*** (9.5)	0.958*** (9.33)	0.865*** (8.29)
Δdps		-2.806*** (-8.91)	-2.781*** (- 8.83)	-2.987*** (-9.46)	-2.806*** (-8.91)	-2.781*** (-8.83)	-2.987*** (-9.46)	-2.993*** (-9.52)	-2.97*** (- 9.45)	-2.99*** (- 9.45)
Δbvps		-0.128*** (-8.46)	-0.128*** (- 8.46)	-0.117*** (-7.65)	-0.128*** (-8.46)	-0.128*** (-8.46)	-0.117*** (-7.65)	-0.128*** (-8.46)	-0.128*** (-8.46)	-0.117*** (-7.65)
lnsale		-0.824 (-0.29)	-0.837 (-0.3)	-0.444 (-0.16)	-0.821 (-0.29)	-0.835 (-0.3)	-0.442 (-0.16)	-0.824 (-0.29)	-0.837 (-0.3)	-0.444 (-0.16)
lnat		2.826 (1.01)	2.832 (1.02)	2.57 (0.92)	2.825 (1.01)	2.831 (1.02)	2.569 (0.92)	2.826 (1.01)	2.832 (1.02)	2.57 (0.92)

Table 3 (Cont'd)

Intercept	-19.414 (-0.94)	-19.429 (-0.94)	-18.991 (-0.92)	-19.412 (-0.94)	-19.427 (-0.94)	-18.99 (-0.92)	-19.414 (-0.94)	-19.429 (-0.94)	-18.991 (-0.92)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	11,662	11,662	11,662	11,662	11,662	11,662	11,662	11,662	11,662
Adjusted R^2	0.1127	0.1128	0.1065	0.1127	0.1128	0.1065	0.1127	0.1128	0.1065

This table provides the results of regressing the change in future stock prices of a firm (Δspps) on various measures of changes in free cash flow (Δfcfps1 - Δfcfps9) and control variables. Coefficients are provided with t-statistics in parentheses below. Variables are defined in Appendix A. ***, **, and * represent two-tailed p-value significance levels of 0.01, 0.05, and 0.1 respectively.

BIG DATA ANALYTICS IN TAX FRAUD DETECTION

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ABSTRACT

Big data is the term applied to datasets exceeding the normal confines of traditional database technology. Datasets collected range from all professional fields, including taxation. One use of big data analysis – or analytics – in the taxation field is discovery of tax fraud. Big data is characterized by the terms volume, velocity, variety, and veracity. The characteristics mean that big data employs large amounts of storage space, gathered from diverse sources, stored in diverse formats, and updated at different intervals. The specific processing used in tax fraud analysis of big data is data mining; the process is now often referred to as analytics. Datamining itself is one step in a larger process referred to by practitioners as knowledge discovery in databases (KDD). Two key groups of datamining tasks employed in fraud discovery are predictive tasks and descriptive tasks. Predictive tasks make a prediction for each observation, whereas descriptive tasks essentially describe the data examined.

Various agencies impose numerous taxes on society, all of which are subject to fraud. Fraud exists in many forms and the Internal Revenue Code defines fraud in several places. Investigators use various methods to detect fraud including direct and indirect procedures. Direct methods include the matching of reported data to information returns received by the Internal Revenue Service. Indirect methods include analytical procedures, review of documents, observation and informants. These traditional methods of finding fraud can be greatly enhanced using analytics.

INTRODUCTION

Big data is a buzzword that has infiltrated every sector of business, including taxation. Emerging from the computing field, big data is the term applied to datasets that exceed the normal confines of traditional database technology. The datasets collected range from all fields – healthcare, manufacturing, retail, and the public sector (Manyika, 2011). The area of finance and accounting is also affected by the big data revolution, including taxation. Fraud is a significant problem in today's world especially in the area of taxation. The Internal Revenue Code defines various types of fraud but does not address the issue of finding it. There are several means of discovering fraud including both direct and indirect means of detection. It is essential to gather evidence to prove the fraud perpetrated. The quality and quantity of this evidence should be sufficient to meet the investigator's goals. Analytics can be used to aid the tax practitioner, accounting firm and governmental unit trying to discover the fraud.

BIG DATA AND ANALYTICS

The characteristics of big data lead to the need for new storage and analysis techniques. The three most commonly described characteristics of big data are volume, velocity, and variety, with some researchers adding a fourth characteristic, veracity (Mills, 2012). Volume refers to the amount of data collected from myriad devices. Velocity is the speed with which the data can change. Variety references to the sources of data (mobile, social media, videos, chart, genomics, and sensors) as well as format (structured data, unstructured data, semi-structured data, and complex data). Veracity indicates the quality of the data (Mills, 2012). Essentially, big data employs large amounts of storage space, gathered from diverse sources, stored in diverse formats, and updated at different intervals. The characteristics of big data require use of new processing methods. The processing methods used for big data are commonly referred to alternately as analytics or data mining.

Data mining is the process of analyzing volumes of data to discover previously unrecognized patterns in the data set. The patterns discovered are generally "unsuspected associations" (Thillainayagam, 2012). Considered a step in the larger overall process of knowledge discovery in databases (KDD), data mining leverages statistical analysis and database technology to find these patterns (Chen, 1996; Fayyad, 1996). The steps in the KDD process are: 1.) data cleansing or data cleaning – removal of erroneous or irrelevant data, 2.) data assimilation – consolidation of data from diverse data sources, 3.) data assortment – retrieval of data selected for analysis from the overall dataset, 4.) data transformation – conversion of data into form necessary for chosen analyses, 5.) data mining – extraction of useful discovered associations, 6.) pattern evaluation – identification of patterns and definition of measurements for the patterns, and 7.) knowledge representation – data visualization to enable better understanding of patterns (Thillainayagam, 2012). The data mining process alone requires several stages: 1.) problem definition – identifying the goals of the specific analysis, 2.) data exploration – ensuring data collected is suitable for analysis selected; if not, recommendations for changing collection process are developed, 3.) data preparation – ensuring rules exist for missing and invalid data as well as consistency of valid data, 4.) modeling – selecting data mining algorithm (analysis techniques), and 5.) evaluation and deployment **--** conducting and interpreting the analysis (Thillainayagam, 2012).

TAXATION AND TAX FRAUD

Several types of taxes exist in society today. Taxation is a necessary means of raising revenue so that government can provide goods and services (Hopwood, 2012). The taxes include individual income taxes imposed by both the federal and state governments. Corporate income taxes are also levied by both levels of government. Income received by the taxpayer, as adjusted by certain deductions and credits allowed by the law, is used to calculate income taxes, including individual and corporate taxes. While tax laws change over time (and political administrations), the laws are a constant in society. Other types of taxes exist, including sales and use taxes, employment or payroll taxes, estate, gift and excise taxes, but income taxes have consistently been the largest part of our government's tax collections ("Policy basics: Where do Federal tax revenues come from?," 2016).

Fraud is a serious problem currently causing financial hardship. The fallout of the Enron Corporation financial accounting scandal was estimated to be in excess of $63 billion dollars (USA Today, 2012). The Enron disaster rocked the United States economy for years. While the financial fraud has been well publicized, it pales in comparison to the hidden, almost socially acceptable cost of tax fraud. The Internal Revenue Service (IRS) estimates that tax fraud costs our federal government an average of $458 billion per year between 2008 and 2010 (Matthews, Fortune 2016). The University of Wisconsin-Madison estimates that the cost could be as high as $600 million per year (Clark, 2014). Tax fraud is perpetrated by professional criminals and by ordinary citizens as well. It is a seriously overlooked problem facing the government, all citizens and the accounting industry alike.

Black's law dictionary defines fraud as "all multifarious means, which human ingenuity can devise, and which are resorted to by one individual to get an advantage over another by false suggestions or suppression of the truth. It includes all surprises, tricks, cunning or dissembling, and any unfair way which another is cheated" (Garner, 2016). The essential elements in this definition are deception and the intent to deceive (Liuzzo, 2013). It is not enough for the target to be taken advantage of; it is essential that the perpetrators intent was to deceive the victim.

Fraud takes place in various types of financial transactions, including taxation. The Internal Revenue code defines tax fraud under IRC section 7201. Under this provision, "any person who willfully attempts to evade or defeat any tax imposed by [the IRS] or the payment thereof shall, in addition to other penalties provided by law, be guilty of a felony" (26 USC §7201). The IRS criminal investigation division generally mentions several types of fraud that are currently being focused upon. These include deliberately underreporting or omitting income, overstating the amount of deductions, keeping two sets of books, making false entries in books and records, claiming personal expenses as business expenses, claiming false deductions and hiding or transferring assets or income ("Types of fraudulent activities: General fraud," 2016).

More specifically, the statues define different types of tax fraud and other offenses including:

1) willfully failing to pay tax – 26 USC §7202
2) willfully failing to file a tax return – 26 USC §7203
3) furnishing fraudulent statements and/or not filing essential information – 26 USC §7204
4) furnishing false identification numbers – 26 USC §7205(b)
5) false statements on returns requiring declarations of information – 26 USC §7206(1)
6) aiding or advising in the preparation of false tax returns – 26 USC §7206(2)
7) attempting to evade tax collection by hiding assets – 26 USC §7206(4)
8) falsifying or destroying essential taxpayer records – 26 USC §7206(5)
9) willfully delivering returns, statements or other documents – 26 USC §7207
10) interfering or threatening officers or the IRS – 26 USC §7212(a)
11) failure to collect or pay trust funds – 26 USC §7215
12) conspiring to commit a fraudulent offense against the United States – 18 USC §371
(all references are to the Internal Revenue Codes of 1939 and 1954 as amended).

The IRS has several divisions within its framework. These include the wage and investment division, the small business/self-employed division, the large and mid-size business division and the tax-exempt and government entities division (Hopwood, 2012). More importantly, the IRS Criminal Investigation Division was created to investigate potential criminal offenses and assure the collection of tax revenue. The above offenses exemplify the types of issues the IRS Criminal Investigation Division must address within the realm of tax fraud. Finding this fraud is a difficult charge for often-overburdened governmental resources.

Fraud has been discovered by utilizing several different methods including direct and indirect procedures (Hopwood, 2012). Direct methods include specific identification of items listed on tax returns. These are the most infallible methods utilizing the matching of information IRS already has to information reported by the taxpayer. An example would be matching of information returns such as W-2's, 1099's and other statements provided by reporting agencies to the amounts listed on each specific tax return. These types of checks and searches by IRS are relatively easy, and the IRS is very good at identifying incorrect data reporting. However, matching data within the tax system does not address the problem of falsely reported data to begin with. That requires the use of more indirect methods of investigation.

Indirect methods of detecting fraud require investigation and analysis. Sometimes these are referred to as analytical procedures. Three main methods have been used to provide what can be best described as circumstantial evidence of wrongdoing. The first method is the "net worth" type of analysis. Here the examiner looks at the change in a taxpayer's net worth over a year period to see if it is reasonable based on the amount of income reported. The second method is the "cash expenditures" analysis, which compares the taxpayer's known sources of income and comparing that to the taxpayers spending habits. The third indirect investigation method is called the "bank deposit" analysis. Here the investigator looks at all bank deposits and eliminates transfers between accounts to see how much actual money is flowing in to the taxpayer's accounts. Each of these methods are effective but much harder to accomplish than directly comparing numbers reported on returns.

All of these indirect methods of finding fraud have a common theme – a search for reasonableness (*IRS Internal Revenue Manual, Part 4, Chapter 10, Section 4 - The examination of income*, 2016). Tax practitioners and Internal Revenue agents come across fraud often in the regular course of tax compliance duties. The trouble is not in finding the fraud; it is in the enforcement. By its very nature, reasonableness is a fluid judgment, and judgment needs proof. Proof of fraud requires evidence which can be a difficult task for the IRS and its Criminal Investigation Division. Evidence comes in many forms, but all the different types of evidence must be collected to build a strong case.

The types of evidence needed to prove fraud include physical evidence such documents and records (*IRS Internal Revenue Manual, Part 4, Chapter 10, Section 4 - The examination of income*, 2016). This includes original documents such as accounting records either in paper form or on computer hard drives, flash drives and servers. All documents can prove incidents of fraud whether they exist in filing cabinets or on the internet. Helpful information not traditionally associated with accounting records can include personnel files, resumes, court and real estate records. Larger companies have numerous filings with securities authorities. Commercial databases also exist that provide a great deal of financial information that can be compared to accounting and tax records. Banks are required to file certain financial disclosure reports based on the size and nature of deposits. Documents are not, however, the only means of proving tax fraud.

Observational evidence is also key to proving fraud (Hopwood, 2012). Counts of inventory are not the only way of finding observational evidence. Auditors base heavy emphasis on testing procedures within a company. Investigators can use these techniques as well in finding fraud. Merely observing how many people exist within a business can be determinative of so many items included on a tax return. Procedures used within the business are also helpful in testing the accuracy of the information given by the taxpayer. As easy as it seems to say that just looking at the business itself can tell so much about the value of the disclosures reported on the tax returns, the most effective method of indirect fraud detection may still be as simple as talking to people. The IRS has provided several publications that be used by taxpayers, tax preparers and businesses to aid in the prevention and detection of fraud. Primary among this information is IRS publication 4524: Security awareness for taxpayers and publication 4557: Safeguarding taxpayer data.

As hard as the IRS Criminal Investigation Division works to find fraud, still one of its greatest resources are informants. The so-called "Whistleblower" statutes of 7263 were changed in 2008 to give more incentives to citizens to provide information on tax fraud. Information provided to the IRS must lead to a judicial or administrative action (an audit or an investigation) resulting in the collection of delinquent tax (26 IRC 7623). The statue provides incentives for informants of up to 15% of the underpayment, up to $10 million dollars (26 IRC 7623(a)). Many rules relate to the payout of the awards, such as the informant not participating in the creation of the underpayment. However, there exists a very large incentive to provide information on tax fraud. The IRS provides a specific form allowing informants to report and follow the correct procedures for attesting to information (IRS Form 3949-A). The incentives are becoming more popular in bringing fraud to the Criminal Investigation Division's attention (Novack, 2009).

All of these methods of finding and proving tax fraud are labor intensive and need to be undertaken with the caution required to preserve proper trails and backup to demonstrate the underlying felony of fraud in a court. If items of evidence are to be taken to court, a proper litigation trail must be established to prove the veracity of the information provided. It can be an overwhelming task for our government and the accounting industry as a whole. The introduction of analytics into an already overburdened system would aid in the pursuit of tax fraud. The use of big data has slowly been introduced to some state revenue agencies, such as Maryland, to great success (Shacklett, 2016). Politicians are fast to cut budgets on the IRS. The agency is an easy target for blame when there are not enough resources to go around. Aiding in the enforcement of our current tax system can, however, generate more revenue while using less resources. Making our tax and accounting systems more efficient through the use of big data and analytics is the correct next best step to making sure that everyone pays their fair share.

BIG DATA ANALYTICS AND TAX FRAUD

Data mining tasks and techniques are used to find patterns indicative of financial fraud. The patterns discovered could be used either in detection or prevention of financial fraud. Two broad subgroups of data mining tasks are predictive tasks and descriptive tasks. Predictive tasks are so named because along with machine learning and related technologies, these tasks make a prediction for each observation. Descriptive tasks, which include association rules and cluster analysis, describe the data being examined (Gupta, 2012).

Prediction utilizes regression analysis to examine relationships between one or more independent variables and dependent variables (Thillainayagam, 2012). The complexity of financial situations requires the volume of variables provided by big data to make more accurate predictions. The statistical techniques for these include linear regression, multivariate linear regression, nonlinear regression, and multivariate nonlinear regression, as well as the more complex logistic regression, decision trees, and neural networks (Thillainayagam, 2012). Neural networks are comprised of sets of connected input/output units, each of which has a connected weight. The weight is adjusted in the network analysis during the "learning phase" to allow the network to extract patterns which can be used in prediction (Thillainayagam, 2012). Other, more complex predictive techniques of data mining appropriate to fraud detection or prevention include rule-based fuzzy reasoning, genetic algorithms, Bayesian belief networks and fuzzy neural networks (Jans, 2009).

Descriptive tasks can be used to create models of behaviors or transactions that could be suspicious. The descriptive tasks might be types of association rule analysis including multilevel association rules, multidimensional association rules, and quantitative association rules (Thillainayagam, 2012). Association rule algorithms generate rules that describe potentially fraudulent situations. Cluster analysis collects data into related subsets patterns, or "high quality clusters with high intra-class similarity and low interclass similarity" (Gupta, 2012). As with association rules, cluster analysis or clustering involves discovery of patterns; the patterns discovered can be used to discover or prevent financial fraud.

Analytics requires big data, meaning use of multiple data sources. In a company audit, it would previously be typical to examine only the data of the company being audited with some limited exploration of "industry norms" (*IRS Internal Revenue Manual, Part 4, Chapter 10, Section 4 - The examination of income*, 2016). An audit undertaken to discover fraud would integrate large internal and external datasets, including such data as demographics, taxpayer or corporate profiles, previous filings, call center data, and audit histories (Opentext, 2015). The data analyzed could therefore include many years of historical data as well as external data. The volume and variety of data would be difficult to analyze without the analytics toolset.

All the tasks and techniques used in data mining emerge from the fields of statistics and computer science. Application of the techniques, therefore, will require analytical skills based in these fields. Ability to use statistical software packages and advanced spreadsheet applications should be sufficient for most processing. For some applications cited (e.g., neural networks, rule-based fuzzy reasoning, genetic algorithms), computer programming skills would be needed. New software packages are also now emerging that are specialized for the task of fraud analytics; many of these will likely still rely on ability of the user to interpret statistical analyses.

Infrastructure considerations must be made when considering the adoption of analytics to fraud detection and prevention. The big datasets typical in big data analytics requires larger capacity than regular analysis. Larger companies may have the resources and staff to manage larger systems. Small to mid-sized firms can employ cloud computing to access the infrastructure needed for analytics (Purcell, 2013). Many vendors provide cloud services for a reasonable fee, usually based on level of usage (Purcell, 2013). Types of cloud services provided are public, private, and hybrid. The public cloud is cloud services used at a vendor's site; the private cloud is an internal company data center based on cloud technology inaccessible to the public; the hybrid cloud is use of an outside vendor for cloud technology that is secured, with access to data protected from unauthorized users (Purcell, 2013). Small to medium-sized businesses could leverage cloud computing for big data technology implementation to reduce hardware and processing costs inherent with big data processing.

RECOMMENDATIONS FOR USING ANALYTICS IN TAX FRAUD DISCOVERY

Accounting firms and government agencies will increasingly be called upon to use analytics in audit work. Considerations for a firm moving to analytics use involve employee skillsets and the firm's infrastructure. Some of the skills and infrastructure will remain the same. The accounting skills and infrastructure are essentially unchanged – the ability to plan an audit, review accounting and tax data, communicate the information obtained and report the findings. The new skillset will be the need for statistical analysis ability and computer skills. Several means of adding these skills exist. A firm could train existing staff members showing an aptitude in working with numeric analysis. Statistics and computer courses are available at universities, online, and through professional associations. The educational opportunities range from university credit courses in analytics to certificates for continuing professional education (CPE). When considering courses for employees, look specifically at the course content to ensure the course teaches the skills required. Another option is to hire new employees with the statistics and computer backgrounds. Many accounting students are taking coursework that adds the statistical and computer skills needed for analytics. A larger firm could consider hiring someone with the needed skills only (little or no accounting background) to add to an audit team.

Infrastructure considerations depend on the level of analytics the firm plans to employ. Cloud computing is a viable option for most small to mid-sized firms. An increasing number of vendors provide software and cloud services specific to fraud detection (Opentext, 2015; SAS, 2016; Teradata, 2016). Examination of infrastructure needs and service options provided by the software vendor (including cloud computing options) will provide a basis for determining infrastructure needs.

Before considering infrastructure and skills acquisition, decision makers at the firm should understand the options. Professional societies are beginning to address the need for big data analytics in accounting. Attending society meetings and reading related publications will aid professionals in learning how to examine their needs and develop a solution that is a best fit for the particular firm.

CONCLUSION

Analytics uses statistical and computing skills to study financial big data to determine previously undiscovered patterns of activity – some of which could be used in detection and prevention of tax fraud. The tasks used in tax fraud detection and prevention are predictive or descriptive in nature. Skills needed for performing these tasks go beyond the typical accounting and taxation skillset present in firms to include statistical and computer analysis. Infrastructure considerations can be grounded in the choice of analytics platform adopted; choices often involve cloud computing-based platforms provided by the vendor. Decision makers need to understand the terminology and options available to them. Actively engaging with professional societies with an understanding of the options addressed will allow decision makers to determine the best tax fraud analytics option for the firm and governmental agency.

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STRATEGIES TO MITIGATE OCCUPATIONAL BURNOUT

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ABSTRACT

There is an increasing amount of employee turnover and loss of production due to occupational burnout. An increase in change management initiatives and continued downsizing policies for organizations require a need to look at strategies to mitigate employee burnout. The participants for this study, chosen for their profession as an HR professional, consisted of three HR professionals with direct knowledge or experience of occupational burnout. Additionally, internet research material on occupational burnout supplemented the interview responses to triangulate the study data. The results of that data analysis produced six themes consisting of lack of motivation, behavior modification, employer intervention, reassigning employees, the employee responsible for identifying occupational burnout, top-down approach to and occupational burnout program intervention. The findings from this study reinforce prior studies that there are negative outcomes for employees as well as organizations.

INTRODUCTION

Previous research established that occupational burnout is a problem, perhaps a growing one, in organizations (Hsiah & Wang, 2012; Weber & Jaekel-Reinhard, 2000). While much of this research focused on individuals in "helping" industries (such as nursing, social work, etc.), there is growing consensus that occupational burnout has become an issue in all industries, regardless of type (Maslach & Jackson, 1981; Weber & Jaekel-Reinhard, 2000). An early definition for occupational burnout remains applicable for use in the current study. This definition indicates that occupational burnout refers to "a unique type of stress syndrome, characterized by emotional exhaustion, depersonalization, and diminished personal accomplishment" on the job (Cordes & Dougherty, 1993, p. 621). This syndrome has been proven to result in varying degrees of disconnect between what an employee is capable of, and what an employee is willing and able to do for his/her organization (Maslach, 2003). Human Resource (HR) professionals should, therefore, be interested in understanding occupational burnout and how it impacts organizational outcomes. Additionally, an understanding of occupational burnout should lead to attempts to prevent it, or at a minimum, reduce its magnitude within the organization.

For the purpose of this study, we have examined attempts that HR professionals make to mitigate the impact of occupational burnout. Prior studies confirm that occupational burnout is a problem that has negative implications concerning the employment relationship (Maslach & Leiter, 2008; Matin, Kalali, & Avari, 2012). Maslach & Leiter (2008) conducted a longitudinal study to assess predictors of job burnout and engagement. Their findings indicated a reduction in the negative effects of job burnout if employers identify and intervene appropriately. This confirmation leads to the need to investigate further whether and how HR practitioners are addressing the problem (Maslach & Leiter 2008; Pross, 2006). Prior studies indicated that individuals in industries in which a strong personal connection to work was prevalent often experienced a sense of burnout as a result of the nature of their jobs (Maslach & Jackson, 1981). In 2014, Fernet, Genevieve, Lavigne, & Austin explored how different types of passion potentially lead to job burnout and stress. Despite the inconclusive nature of their findings, indications suggested that for employees to experience job burnout, they must first experience a passion for their position (Fernet et al., 2014). Further studies showed that the changing nature of the employment relationship and employees inability to "turn off" their jobs led to burnout experiences in organizations of all types (Jourdain & Chenevert, 2015).

Occupational burnout is considered, by some researchers, to have three components: emotional exhaustion, depersonalization, and diminished personal accomplishment (Cordes & Dougherty, 1993). Individuals experiencing one or a combination of all of the components of occupational burnout demonstrate workplace behaviors that negatively impact the company (Hakanen, Bakker, & Schaufeli, 2006). For the purpose of this study, we examine the workplace outcomes of occupational burnout; however, this includes an acknowledgment that researchers connected burnout to negative outcomes in an individual's personal life as well (Huang, Chen, Du, & Huang, 2012). Chronic stress associated with working in a fast-paced, "flexible" work environment can lead to feelings of exhaustion, disconnect, and apathy towards a company (Jourdain & Chenevert, 2015). When these feelings arise, employees are less likely to contribute to organizational goals and turnover may result. We attempted, in this study, to look at ways that HR practitioners intervene to either prevent occupational burnout or react to symptoms of occupational as they become evident.

Discussions of burnout indicated that employees or HR professionals have not easily identified solutions to the problem (Maslach & Jackson, 1981). This acknowledgment adds a layer of frustration to the concept of occupational burnout. Also, adding further complication, some individuals are predisposed towards feelings of stress, anxiety, and burnout (Maslach, 2001). As a result, HR practitioners are combatting a problem that is multi-faceted. Despite the existence of an accepted definition for occupational burnout, researchers must continue to analyze precursors to the problem in an attempt to prevent it (Maslach & Leiter, 2008; Weber & Jaekel-Reinhard, 2000). When individuals experience occupational burnout, they perceive a disparity between what managers expected of them and the resources that they have available to meet those expectations (Beheshtifar & Omidvar, 2013). This perceived disparity requires intervention, often on the organization's behalf, to prevent negative outcomes (Maslach, 2003).

Manifestations of occupational burnout include lower levels of organizational commitment, job satisfaction, absenteeism, intentions to leave, and actual departure from the organization (Matin et al., 2012; Schaufeli, Bakker, & Van Rhenen, 2009). HR strategists focus on ways to engage employees to maximize their satisfaction so that their commitment to the company is high (González-Romá, Schaufeli, Bakker & Lloret, 2006). As such, research focus has shifted to the need to predict antecedents to occupational burnout to prevent the syndrome from occurring when possible (Chong & Monroe, 2015; González-Romá et al., 2006). The goal of this prediction is to develop and implement strategies that reduce job burnout and associated negative outcomes.

Organizational factors contribute to the experience of occupational burnout (Schaufeli et al., 2009). Stressful job situations in and of themselves do not necessarily lead to the experience of occupational burnout. Rather, burnout results from the combination of factors, including personal and organizational characteristics that negatively affect employees over time (Maslach & Leiter, 2008). This finding, while complex, also indicates that several approaches may be effective when combatting occupational burnout. The unique nature of individuals results in unique experiences with occupational burnout, suggesting that a "one-size fits all" approach may be ineffective (Swetz, Harrington, Matsuyama, Shanafelt, & Lyckholm, 2009).

The goal of the current study is to build upon existing knowledge about occupational burnout. Through an assessment of organizational practices, we determine whether leaders are proactively addressing the issue of occupational burnout within their organizations. Further, we examine how they address burnout to assist practitioners as they develop strategies to prevent the negative effects of this societal "disease." In our study, a paradigm shift is represented from talking about the concept of occupational burnout to implementing strategies to prevent, minimize, or negate its harm in organizations.

METHOD/STUDY DESIGN

Our goal in using qualitative research was to achieve a greater understanding of the phenomenon of occupational burnout. The use of a qualitative method allows for an in-depth understanding of a topic from a person's personal experience (Moustakas, 1994). We wanted to obtain a deeper, understanding of occupational burnout from people who work with those that experience it. A narrative design allows for an understanding as told by the person who experienced the phenomenon (Creswell, 2013).

There is a growing need to identify and mitigate occupational burnout. In today's current business climate of change management initiatives and low employee headcounts, it was important for us to capture the feelings of employee burnout across all industries. To ensure, we could reach a broad group of industries. Our only requirements to participate in this study were to be a human resource professional and to have at least five years of human resources experience. The focus of this study was to determine strategies organizational leaders use to determine occupational burnout as notably through the lens of human resource professionals.

The use of human resource professionals and their personal experience along with independent statistical data was essential to determining how to develop best strategies to mitigate occupational burnout (Allwood, 2012). Having multiple sources of data collection strengthened the purpose and outcome of the study through triangulation of the data from independent sources (Denzin, 2012). Three participants were picked randomly to participate in semi-structured, open-ended interviews about occupational burnout. The different methods for obtaining participants included LinkedIn, Facebook, and professional contacts. Secondary sources such as statistical data from independent sites were randomly picked and used to triangulate the outcomes of other occupational burnout research and policy implementation. At the completion of the interviews, the transcripts were given back to the participants to check for accuracy.

Table 1: Interview Questions

Interview Questions	Evolved themes
How would you define occupational burnout?	1
In what ways have you witnessed or experience occupational burnout in your employees?	1
What impact does occupational burnout have on Employees in your organization?	1
What has your organization done to reduce occupational burnout	2
What are some examples of successful or failed attempts at reducing burnout? Is there anything you would like to add about occupational burnout that has not been covered or you feel you can add to the topic?	1

FINDINGS

The data collection for this research consisted of three human resource professionals and external statistical data found on the internet related to organizational burnout. It is essential for qualitative research to be able to take multiple research data and triangulate the data to formulate themes (O'Reilly & Parker, 2013). While it is always important to use peer-reviewed data, it is equally important to use statistics to validate positively or negatively the findings of research. There is a value in reliability in research not just to be able to duplicate research but to extend research for the further understanding of the subject (Ali & Yusof, 2011).

Theme 1: Lack of Motivation

The first emerging theme that developed from the data was the lack of motivation by employees. The human resource professionals viewed the lack of motivation by employees in the study as a sign of burnout by the employees. Comparatively, in an online study by Talent Management, employees were found to be satisfied with their job and moderately engaged (Zappe, 2014). However, what the researcher cannot explain in the study is that turnover is increasing according to The United States Bureau of Labor (U.S. Department of Labor, Bureau of Labor and Statistics, 2016). HR2 mentioned the idea of a lack of motivation when HR2 identified occupational burnout by stating "I feel in my opinion what that means is somebody who is disengaged. They feel exhausted or stressed, they lack motivation" (HR2, personal communication, September 18, 2015).

The human resource professionals that participated in the study supported the idea of high turnover and the relationship to occupational burnout. The common theme among the human resource professionals in their discussion of turnover was the concept that occupational burnout led to employees leaving. However, the turnover description among participants varied in how the employees left. For example, some employees left the department but stayed with the company where others outright left the company. In another online study by Staples Business Advantage, four out of 10 employees admitted that burnout is their motivator for looking for another job (Staples® Business Advantage, 2016, para. 5).

HR3 indicated that in the definition for occupational burnout, there was a decrease in the level of enthusiasm for employees performing their job. The loss of enthusiasm in their job led to employees missing work or time away from their job. An online study by The American Institute of Stress indicated the results of an online survey showed 12% of employees admitted to calling off sick as a result of stress (Workplace Stress, n.d.). Prolonged absence from work, as related to stress can also contribute to high turnover rate. In HR1's description of occupational burnout, HR1 talked about losing the passion and having the idea of a loss of interest and morphing into bigger issues. Within the theme of lacking motivation, a product of losing motivation came with negative behavior. As stated by HR3 on negative behavior "negative behavior and negative attitude can be contagious as just as much as a positive attitude can" (HR3, personal communication, September 30, 2016). HR1 supported the idea of negative behavior by reflecting on the toxic nature of it and how if prolonged, negative behaviors lead to organizational burnout.

There are many contributing factors to occupational burnout. All three human resource professionals indicated that a lack of motivation has a large impact on employee burnout. There was such an emphasis put on a lack of motivation that HR2 and HR3 in part defined occupational burnout with the word motivation (HR2, personal communication, September 18, 2015; HR3, personal communication, September 30, 2016). The general agreement among the human resource professionals in the study suggested engaging the employees and challenging them at other areas of expertise. If managers can identify a motivational problem with an employee, the manager may create creativity in the employee.

Theme 2: Behavior Modification

As discussed in the first theme, changing the work of an employee can rejuvenate the creativity in the employee. The responses from the human resource participants in this study indicated that employees changing their behavior in a negative way were an indication of occupational burnout. HR2 noted some changes in behavior such as coming to work late or not coming in at all, as some of the most common issues. HR3 went further in explaining how negative behavior spread to others in social network groups at work when the burnt-out employee exhibits negative behavior. These reports are supported by data from the American Institute of Stress which indicated in their study that 10% of employees had seen physical violence in their workplace and of that 42% said yelling and verbal abuse is common (Workplace Stress, n.d.).

While the responses of the participants in the study would indicate there is reason for alarm with negative employee behavior, all three mentioned measures managers and employees are taking to mitigate it. HR1 said many employees have been in their organization for 30 years or longer. As a result, there is a difficult time transitioning to new employees into those roles because the most senior employees have a difficult time relinquishing those duties. Leadership moved those employees into training and other roles helping to ease the burnout issue with those senior employees. HR3's responses reinforced the same sentiment with programs in their organization guiding employees to cross training and other areas of specialty.

There are identifiable behavior characteristics exhibited by employees, and according to our HR professionals, steps are being taken by management in organizations to address those concerns. It takes both the manager and the employee within organizations to identify behavior changes and create a roadmap to determine how to fix them. Just changing the scenery of one employee may not be enough. After adding training and changing job requirements, skills, and work duties, management may determine that the employee who is lashing out or causing problems may not fit in the organization.

Theme 3: Employer Intervention

Information provided by the three interviewees indicated there was at least some effort towards intervening when employees appeared to show warning signs of burnout. While there was no unanimous cause of occupational burnout, the HR professionals indicated that attempts were being made to intervene to minimize, counteract, and/or eliminate the negative outcomes that result from the condition. Interestingly, respondents to the interview questions indicated that burnout is often best mitigated through revising an employee's work responsibilities or challenging them with different/new tasks. New/different tasks or changing responsibilities is in some contrast to responses from a 2015 Staples® Advantage Survey in which 49% of respondents indicated that a "decrease in workload or providing more time to complete tasks would minimize burnout" (Staples® Business Advantage, 2016, para. 5).

Upon review of responses to interview questions three, four, and five, the HR professionals provided examples of attempts made to intervene when managers identified burnout. The emphasis of many efforts was on engaging employees in an attempt to re-energize them and re-focus them on the positive aspects of their jobs. When asked about the impact of occupational burnout on the organization, HR2 indicated that it is important to communicate with managers about the need for work-life balance while also acknowledging the challenging aspects of each job. Additionally, HR2 provided an example of an employee who is being developed to try new tasks to prevent the employee from leaving the organization.

Employer intervention, in the responses received for this study, seems to focus efforts on reducing turnover and preventing other negative employment outcomes related to unengaged employees. In fact, according to a Gallup poll in 2015, 70% of workers report being unengaged (Zappe, 2014). If this is the case, then time spent on reducing issues such as occupational burnout seems well-justified. Interestingly, the HR professionals interviewed for the purpose of this study indicated that while researchers have identified the problem, the task of intervening is falling on the shoulders of burnout employees themselves, their direct managers, and HR professionals. HR1 referred to occupational burnout as "toxic" when asked about its effects in the organization (HR1, personal communication, August 30, 2016). This toxicity leads to workplace stress which has been connected to occupational burnout, dating back to at least the early 2000s (The American Institute of Stress, n.d.).

One of the approaches to burnout intervention suggested by HR3 was setting clear goals so that employees understand what leadership expects of them. Through a goal-setting process, managers and employees can agree on what is important for the employee and what strengths/weaknesses managers and employees can develop. Additionally, HR3 indicated the need for time off from work; emphasizing the importance of stepping away from responsibilities to refresh. Accordingly, HR3 stated that when managers take steps toward intervention, employees may respond by increasing in negativity, reducing their contributions, or acting disinterested towards their work (HR3, personal communication, September 30, 2016).

Theme 4: Reassigning Employees

The HR professionals were asked to give some examples of failed or successful attempts at reducing burnout in employees. A common emerging theme with this question was the reassigning of employees by job scope, assignments, projects or an entirely new job altogether. HR1 emphasized the changing of job duties was an effective way of keeping employees happy and reducing burnout. HR2 reinforced the idea of reassigning employees to different assignments, especially for high achievers who needed constant challenges in their career to keep them going in a positive direction. All HR professionals agreed on the importance of having to do something to maintain the interest of the employees.

According to the study by Talent Management, 80% of employees are not matched correctly with their job and subsequent skill set, creating problems of frustration leading to burnout (Zappe, 2014). Employer intervention is mentioned in the same study by the Talent Management as a positive and productive use of cutting off the stressor of job and skill mismatches. We discussed the same topic in Theme 3 as a part of the intervention. The ability of an organization's leadership and even the employee themselves help to identify the onset of burnout.

The responses from the HR professionals gave a broad range of options for reassigning employees. HR2 thought it was a good idea to keep giving employees new assignments to keep them fresh. HR1 was supportive of the idea by giving an example of changing projects for employees to keep them engaged. HR3 responded in a different and positive approach to reassignment by engaging the employees in volunteerism or taking on a project out of the employee's expertise and strength. The idea is to give them new and different ways to expand them by getting a chance to stay engaged.

Theme 5: Employees Responsible for Identifying Occupational Burnout

Through the course of discussions with the interviewed HR professionals, it became clear that the responsibility for identifying occupational burnout typically falls on either the individual, the individual's direct manager or HR professionals. Unfortunately, as indicated by HR1, it is often only when an employee is terminating the employment relationship that HR becomes aware that burnout was a problem. As previously stated, the symptoms of occupational burnout were many and varied but included a negative attitude, disengaging from work, and exhibiting symptoms of being overwhelmed. When management acknowledged burnout systems, there were ways the HR professionals stated that management could identify the problem, but the identification process is not always easy.

HR1 stated that when employees come to the HR office with issues, it is possible for the management team, in conjunction with the HR staff, to try strategies to reduce burnout. However, many employees do not say anything until they have decided to leave the organization. HR2 reflected on a scenario when an employee was considering leaving the organization due to feelings of burnout. HR2 and another manager offered the employee a promotion to change the work arrangements and create a new challenge for this person. As a result, the working relationship continues. This reflection showed another example of the employee "self-identifying" as an individual experiencing burnout. Forty percent of workers, according to the American Institute of Stress, report being extremely stressed on the job (n.d.). If this stress leads to burnout, employers have to create an environment where employees feel comfortable communicating issues so that management can address them appropriately.

It is not enough for an employee to determine burnout or for management to identify the burnout in the employee. Management and the employee need to recognize the burnout and then act on it. Early intervention is important for saving the employee's job and for saving the organization money. According to Talent Manager (2015), it takes 24.5 days to replace a worker that leaves and with the increase in time to replace the employee is the increased cost to bring the employee up to the speed of doing the work. HR3 discussed in part a method their current leadership is using to touch as many employees as possible with an approach to recognize and cut off burnout. Their program helps HR professionals and managers recognize different talent and imposes peer-to-peer coaching in out-of-disciplinary job duties. By introducing more inclusion in interdisciplinary job functions, they can offer a higher level of engagement by the employee. The intent by management is to capture a larger crowd and cut off any incident of burnout before it gets started.

Theme 6: Top-Down Approach to Occupational Burnout Program Intervention

In our conversations with HR professionals, it was clear that occupational burnout is a problem identified and acknowledged by organizational leaders at all levels. This acknowledgment, however, did not always translate into action on the part of top managers. In some cases; however, the high-level leaders took an active interest in participating in programs to intervene to prevent and/or mitigate the effects of occupational burnout. When asked about attempts at reducing occupational burnout, HR3 indicated that it's something the owner of the company takes very seriously through an emphasis on taking time away from work. A poll conducted by the American Institute of Stress indicated that 20% of respondents struggle with balancing work responsibilities with personal responsibilities. Additionally, 48% of respondents feel pressured by their workload (The American Institute of Stress, n.d.). When this is the case, it is difficult for employees to step away from work and allow themselves to disengage from responsibilities. HR3 indicated that organizational leaders emphasize the need to "step away" from work to recharge and refresh (HR3, personal communication, September 30, 2016).

Additionally, while the responsibility for executing plans to reduce occupational burnout tended to fall on the shoulders of direct managers or HR professionals, all three interviewees indicated that high-level leadership is aware of the growing problem. At this time HR1 indicated that there is no organizational-level action being taken to intervene when occupational burnout occurs; however, management recognizes its influence on the workplace. With turnover rates increasing, and employee engagement/retention a source of near constant struggle in organizations, it seems leaders are not unaware of the many sources of challenge they face in the employment relationship, including occupational burnout (Zappe, 2014). HR2 stated that top managers recognize the value of work-life balance and are reiterating the importance of balance to employees. This emphasis is challenged by the demanding nature of the work performed at HR2's organization. From all interviews, it seemed the struggle was apparent, but the path to intervention was not clear-cut.

At this point, all three HR professionals admitted that there is no formal initiative aimed at preventing occupational burnout from the top down. The problem has been evident in all of the represented organizations in different ways and with different outcomes. HR1 reflected on the use of the annual performance review process as a way to identify opportunities to help employees learn and develop their skills in an attempt to negate the effects of occupational burnout. The highest level of management must support initiatives such as these to have their intended consequence. As in HR3's organization where the owner emphasizes the importance of time off, or in HR2's organization where top-level managers help to identify potential in burnout employees, further development of programs to engage these individuals is needed. The development of programs is especially true when four out of ten employees are indicating that burnout is leading them to look for a new job (Staples® Business Advantage, 2016, para. 5).

LIMITATIONS

We strived to achieve validity and transferability throughout our paper. Many researchers find it difficult to achieve both due to sample size, sources, and design in a qualitative design (Marshall & Rossman, 2011). There were similar limitations in our study. Specifically, there are some limitations to this study that researchers can address in future research. We chose to use random industries to get a broad idea of where workers in the United States are with occupational burnout. Future researchers can benefit from choosing a more specific industry to get a better idea of a specific industry's actions with occupational burnout. The only criteria for participants in our study were they had to be human resource professionals for at least five years. Future research may benefit from using human resource professionals that are in control of changing policy or have a direct impact on occupational burnout policies.

CONCLUSION/RECOMMENDATIONS

As a result of our discussions with three HR professionals, it is evident that occupational burnout continues to be an issue for organizations in all industries. Based on our interview responses, HR professionals or management are not addressing this issue through specific initiatives aimed at eliminating the problem. Previous research established that occupational burnout exists and has many negative outcomes for the employment relationship (Hsiah & Wang, 2012; Weber & Jaekel-Reinhard, 2000). This study further solidified that assertion. Additionally, our study contributes to the current body of knowledge on this topic by further developing our understanding of what HR professionals are doing to intervene on behalf of their organizations. All three interviewees indicated that attempts are being made to mitigate the effects of occupational burnout. These attempts ranged from changes in job duties, personal time away from work, to reassignment or promotion.

Through our study, it is evident that HR professionals and managers continue to struggle with ways to identify, prevent, and intercede in the face of the burnout challenge. There seems to be a disconnect between knowing that occupational burnout is a problem, and acting to eliminate the issue. Throughout the interviews, there was a sense that communication with employees is key to addressing occupational burnout. Each respondent, however, indicated different intervention methods utilized by the represented companies. These responses indicate that there is no "one-size fits all" solution to burnout management. Overall, we achieved our goals of determining whether occupational burnout is an issue and further understanding of how companies are handling that issue. Further research is required to study specific burnout intervention strategies and their effectiveness. Additionally, while our study focused on the HR professionals identifying and dealing with burnout, further research should incorporate the views of those experiencing burnout.

As with many employment problems, occupational burnout is complicated and dependent upon factors that organizational leaders can and cannot control (Maslach & Leiter, 2008). We recommend further examinations into either personal and professional factors, perhaps taking a more quantitative or objective look at the organizational implications. Our study advances the body of knowledge about occupational burnout by specifically addressing the challenges of HR professionals dealing with the outcomes of the issue. Through our interviews, it is clear that the human resource department is playing a critical role in identifying the problem and defining the solution. Further research aimed at helping them complete this task is warranted.

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AUTHENTIC SIMULATED STARTUP: BRINGING THE REAL WORLD INTO THE CLASSROOM

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ABSTRACT

In our changing world, college graduates need a new set of skills in order to be successful in jobs that may not exist yet. In particular, the ability to work on a team and with diverse people are important as jobs become more collaborative and as our country becomes more diverse (Hugh & Jones, 2011). This case study examines an innovative approach to teaching organizational behavior grounded in Kolb's model of experiential learning (Kolb, 1976) and features of problem-based learning (e.g., Rossano, Meerman, Kesting, & Baaken, 2016). Specifically, the class uses a student-centered approach that is scaffolded across the semester by having student teams create and remain part of an authentic simulated start-up business and includes continual reflection of their experience. Data comes from surveys of 151 undergraduate students across six semesters taken after course completion. Results indicate that the top skill students' report they developed through this course is the ability to work on a team. This is statistically significantly higher than any other skill students reported they developed. The next highest skills developed through the course include ability to work with diverse people and understanding oneself. Qualitative analysis of students' open-ended responses parallel quantitative findings. In addition, students stated that the course helped them develop an understanding of business in the real world. The paper will fully outline the design of the course, how the course elements impact engagement, and the skills as reported by students and desired by employers.

INTRODUCTION

In our changing world, college business graduates need a new set of skills in order to be successful in jobs that may not exist yet. In particular, the ability to work on a team and with different people is important as jobs become more collaborative and as our country becomes more diverse (Hugh & Jones, 2011). Success in the workplace requires a set of skills that go beyond the knowledge obtainable through conventional lecture-based higher education. Rather, students must be able to understand and apply what they learn on the job. The opportunity is to align teaching methods at the undergraduate level with these shifting competencies to support students' success post-graduation.

In this paper, we examine an innovative approach to teaching organizational behavior. The course is grounded in Kolb's model of experiential learning (Kolb, 1976) and features of problem-based learning (e.g., Rossano, Meerman, Kesting, & Baaken, 2016). Though these models have been used in higher education, rarely have they been utilized for a semester-long immersion into applied learning which directly simulates business. Also by forming teams which persist across a semester, different aspects of teamwork are able to be experienced. Specifically, the class uses a student-centered approach that is scaffolded across the semester by having student teams create and remain part of an authentic simulated start-up business and includes continual reflection of their experience. To investigate the potential impact of this teaching innovation for students, we ask: 1) Does this course help students learn new ideas and prepare to enter the workforce? 2) What skills do students believe they learn about most through this course? 3) What course features do students believe contribute to their future success? We first describe the theoretical underpinnings as well as the content of the course. Next, we report of quantitative and qualitative findings that support the potential of this course to develop students' business competencies. We conclude with a discussion of implications for this work.

SIGNIFICANCE OF INSTRUCTIONAL INNOVATION

To prepare for today's changing business world, students need to focus on skills that can be applied to real-world settings. As outlined by the National Association of Colleges and Employers (NACE), the top competencies for business leaders of the 21st century include teamwork, problem-solving and communication skills (Job Outlook, 2017). The ability to work on a team has implications for how successful an individual may be in the business sector given the collaborative nature of work (Hughes and Jones, 2011). Working in a team and knowledge application are two essential skills to be developed among undergraduates for their future job success.

Predicating the class design on student-created simulated start-ups within the classroom parallels Gartner, Bird, Starr (1992) perspective that entrepreneurship is a process of emergence. Creating authentic simulated start-ups in the classroom also taps into the trend found by a 2015 MBA.com Survey by the Graduate Management Admissions

Council (GMAC) that 28% of prospective students were aspiring entrepreneurs. Thus, authentic start-ups provide a context to not only learn about individual topics but allows for the application of content to become personal.

Learning theory suggests particular instructional strategies and classroom structures may support the development of skills, such as working on a team and the ability to apply business concepts learned. First, Kolb's (1984; 2014) experiential learning model includes a cycle of concrete experiences, reflection, abstraction, and application. Concrete experiences are intentionally designed to reflect real-world situations related to content to be learned. After engaged in the concrete experience, students are prompted to reflect on the activity and abstract the knowledge embedded in the experience. Importantly, students are then pushed to apply the knowledge and skills learned to content in the business curriculum, to future in-class activities, and to actual real-world experiences. Research shows this model not only increases student engagement. Kolb & Kolb (2009) suggest deep learning moves from specialization to integration and is a process where the learner experiences, reflects, thinks and acts. In traditional lectures "registrative" learning occurs where content (abstraction) and reflection (assessment) have minimal relation to personal experience. When additional learning assessments and small group projects are utilized in a classroom the learning experience further deepens conceptual learning. The missing element in Kolb's definition of deep integrative learning is achieved by increasing the authentic nature of the simulated start-ups, the learning experience becomes more personal. The impact of deep learning also includes greater likelihood that it will be transferred to future applications for the student.

Second, problem-based learning is a pedagogical approach that research suggests may support the development of business competencies important for students' future success (Gibb & Hannon, 2006). In PBL, learners are presented with a challenge and then must learn what they need to know to compete the task at hand (Newmann, 1995). This approach is learner-centered meaning that students take on the responsibility of learning and applying knowledge for themselves (Land, Hannafin, & Oliver, 2012; McKeachie, 1954; Weimer, 2014). Similar to Kolb's model, PBL also highlights authenticity and is focused on real-world experiences, tasks, and problems often with some guidance from a professor (Strobel & Barneveld, 2009). In undergraduate business courses, this approach is associated with increased motivation to learn and the development of business competencies, such as entrepreneurial thinking (Davey, 2015; Gibb & Hannon, 2006; Rossano et al., 2016)

The instructional innovation described in this paper draws on Kolb's model and PBL in two key ways. First, students engage in a concrete and authentic experience throughout the semester by creating a simulated start-up business. This highlights the concrete experience described by Kolb and the authenticity highlighted in PBL. Second, collaboration is integral to the learning environment. In Kolb's model, the entire learning cycle is completed in a team such that students are able to support one another's reflection, abstraction, and application of knowledge. PBL also incorporates teamwork to solve authentic tasks and thus requires the use of collaboration. In the next section, we will describe this instructional innovation in more detail.

DESCRIPTION OF INSTRUCTIONAL INNOVATION

The course studied in this paper is a core organization behavior course for business majors at a small liberal arts university. As a core business course it covers typical topics such as individual differences, motivation, change, structure, talent management, conflict, communication, leadership and team work. The innovative aspects of the course can best be classified into four different aspects: 1) each class session based on Kolb's model of experiential learning, 2) authentic nature of simulated start-ups which bring "real" business into a classroom, 3) topics which are scaffolded across the semester and 4) teams which span across the semester (see Table 1). Each of these innovations will be touched upon as the flow of the class is discussed.

In terms of the flow of the class, the content is divided into three distinct units, 1) Individual Differences, 2) Business Plan Development and 3) Leadership (see Table 2). In the first unit, Individual Differences, using indices such as the Myers/Briggs, Learning Styles and Howard Gardner's survey of multiple intelligences allow students to have small group experiences with peers of a similar style. During this unit, students increasingly become comfortable with the experiential nature of class and the continual cycle of the Kolb model where each class includes a common metaphor activity, reflection, mini-lecture and application to an assignment.

Table 1

1)	Kolb's Model of Experiential Learning	• Each class includes o a concrete metaphor activity in which all students participate o individual, group and class reflection o abstract mini-lecture on topics o application to a business plan
2)	Authentic Nature of Simulated Start-ups	• Each semester, teams of 5-6 students form a business and develop an on-going business plan, which includes their application of organization behavior topics • Businesses compete within the class on activities and for points on the business plan • Continual presentations are made on their business increasing ownership
3)	Scaffolding	Topics are scaffolded throughout the semester to illustrate different applications, implications and a deeper learning. Example topics include: • Entrepreneurial Formation • Presentation Skills • Decision and Problem Solving • Group Formation and Group Process • Talent to Task – Social Technical Systems • Feedback and Reflection • Competition and Collaboration
4)	Teams span across semester	• Teams remain constant with the exception of when teams must lay-off off one member due to simulated "changing economic circumstances." Teams must hire a new member who is then on-boarded. • Teams integrate their experience by creating a final presentation highlighting one element of a leadership model providing closure.

Table 2

Class Unit	Topics	Sample Activities
Individual Differences	Myers Briggs Learning Styles FIRO-B Gardner Multiple Intelligence MODE Five Languages of Love	• Building Activity • Skit/Song and Graphic of Myers/Briggs Temperaments • Commercials • Drawing of Nature Metaphors
Business Plan	Business Formation – Vision/Mission/Goals Business Dynamics – Market/Branding Organization Structure Roles and responsibilities Problem-solving/Decision-making Socio-technical Systems Motivation - benefit systems Lay-offs, hiring and on boarding Feedback and performance systems Culture – Power – Conflict Negotiation	• Trust Walk • Commercial • Telephone • Hollow Squares • Cookie Production • Spaghetti Tower (building) • Metaphor for feedback • Lay-off and hiring • Ugli Orange • Strategic New project with another team

Leadership	Collaboration and Strategic Alliances Teams present entire sessions on elements of Situational Leadership and Kouzes/Posner Models	• Student generated activities to support content

Additionally, foundation concepts about entrepreneurship are introduced through various activities during the Individual Differences Unit. For example, when learning about the importance of including all components of learning styles (auditory, tactile, kinesthetic and visual) in a product pitch, teams present a tower they have built that represents something that is needed to solve a problem on the campus. Inevitably there are multiple towers addressing the parking issues on campus, truly a need on most campuses. This is the first example of how the class is designed to scaffold topics and concepts. In this example the concepts of diverse learning styles and how they are relevant in a business setting as well as entrepreneurship are introduced to students.

From the unit focused on individual differences, the class transitions into the Business Plan unit. To produce authentic teams and start-up concepts, teams come together after a “speed dating” of sorts where students identify their interests along three questions which parallel how traditional start-ups might begin based on passion, solving a problem or filling a need. The specific questions posed to students follow and are aimed to allow for interests in both profit-oriented entrepreneurship as well as social entrepreneurship. Questions include: 1) How might you solve a social problem in our community? 2) What are your passions? 3) How might you create something that would be profitable in our community? Students are instructed to find people with similar answers to the questions for three rounds, each focused on one question. Once the speed dating ends, students are asked to form teams of six with people who they have encountered and who share their interests in one of those areas. This method allows students to build on the lessons of the Individual Differences unit suggesting that team diversity leads to higher performance. This particular class is the beginning of the team staying together for the rest of the semester.

The Business Plan Development unit is focused on building an organization to deliberately align to the vision, mission and goals of the simulated business that students create. In essence, building a business plan involves elements of problem based learning. Throughout the Business Plan unit, activities reinforce market dynamics of choices around organizational behavior topics by design. To reinforce the reality of the simulated companies, a competitive market dynamics culture is built. To increase the sense of authenticity, students develop their own brands and format of presenting. They receive team points for activities as well as points for their business plans.

Many parallels to the real world are incorporated into the Business Plan Development unit to help bring relevancy to the students’ experience of what they are learning. First, attendance is based on “heart” points received when all members of the team are present and ready to learn. This is aligned with the expectation that workplace attendance is critical so that a team can function fully.

Second, relevancy is reinforced through daily reflection sheets in the Business Plan Development unit. Each student receives a reflection sheet that typically has a metaphoric graphic representing the topic or learning. There are three elements incorporated in the reflection sheets: 1) what did you learn about the topic, 2) how does this apply to the real world and 3) what did you learn about yourself. Students work with their reflections as the class progresses to capture learning in the moment. Class-wide reflection and debrief also reinforces connecting the learning to aspects of the course content, including models previously learned as connection to the real world. Finally, in every class individual teams are required to do a team reflection where they consider their strengths during the activity, areas to improve and how learning relates to the real world. The repetition of reflecting on how classroom and activities relate to the real world builds towards relevancy for students.

Finally, the Business Plan unit includes a real-world hiring and firing simulation. Teams formed in the Business Plan unit remain together throughout the semester with one exception. At the midpoint of the unit, there is a simulated economic downturn and each team must lay off a member during a class period. Those team members are literally told to leave the room and head to the “unemployment office,” which is a table outside the classroom. Coincidentally, once they leave, the economy turns up again and the team must develop a new product or service to take advantage of the upturn. This is another example of using the simulated start-up as the basis of problem based learning. The team is then instructed to determine the skills and knowledge needed to be hired in order for the new venture to be successful. During the next class, a hiring process occurs. The laid off workers come to the hiring day with actual resumes and must do a pitch on why they would add value to a new team. The only rule is that a team cannot re-hire the person they laid off. The design of this topic forces teams to have to reform with those members they hire. Based on semester-end reflection papers, these two class periods stand out as being a dose of real life and quite memorable. During this phase of the class, students really do not know what to expect and thus teachable moments become plentiful. Going through challenges and changes which the team faces each class period creates tighter groups than those formed only for short term projects.

The third unit, Leadership, is designed for students to integrate what they have learned throughout the course and to perform at a transformative level. The task for each team is to fully conduct a class experience on one element of the Kouzes Posner Leadership model (Kouzes & Posner, 2007). The class replicates the format they have experienced all semester by taking an experiential approach to learning. They develop creative conceptual presentations, metaphor activities to enhance learning objectives, and a reflection sheet and mini quiz. The teams also must align their presentations to their businesses reinforcing the integration. The final presentations give students an additional opportunity to develop something new from scratch which further enhances learning. By using the Kouze Posner model the class also ends on "Encouraging the Heart" which is a step to closure and adjourning for groups through celebration of accomplishments.

In each unit of the course, in addition to tapping into the energy of entrepreneurship and relevancy to the real work by having student create start-up companies, the class is designed to scaffold topics across all course sessions. For example, Tuckman Theory of Group Formation (Tuckman, 1965 & Tuckman & Jensen, 1977) is experienced for roughly twelve weeks allowing enough real time to experience each of the five stages inclusive of adjourning at the end of the semester. Examples of how various topics are scaffolded are illustrated in the Table 3. Teams learn about the balance of quick decisions versus slower decision making by competing on "first to market" challenges. Social technical lessons are learned as the failure to align the physical environment to the task results in failure to "win" at an activity. Another concept that is scaffolded across the business planning unit is the concept of talent to task –an alignment we learn from sociotechnical system theory. By reinforcing the value of individual differences in style and skills, teams develop an appreciation of how each member can contribute. Talent to task also is reinforced when the concept of organization structure and roles are discussed. Each simulated company has a CEO, Marketing, Operations, Finance, Human Resource and Creative role that is filled by one of the team members.

Table 3

Examples of Scaffolding Topic	**How topic scaffolds**
Tuckman	• Teams form to start-up business • Activities designed to highlight elements of Tuckman • Teams lose a member to lay-off • Teams onboard new members and form again • Subset of a team forms with another subset from another team to form a new strategic alliance • Teams are allowed to revert to original composition • Last class designed to adjourn
Individual Differences and Talent to Task	• First unit uses tools and surveys to establish context for differences • Activities reinforce that each talent is needed from presenting to problem-solving • Organizational roles are assigned based on talent • Skills are progressively built upon during semester
Entrepreneurship	• Process of identifying needs or problem to be solved • Actual start-up of company • Building of company products, market, structure over semester • Creation of another new company as a strategic alliance
Oral Presentation Skills	• Every class includes presentation that contains elements of auditory, visual and kinesthic

- End of activity presentations
- Team Proposals
- Video commercials (Company and Culture)

Across the four years the innovative course has been studied, students anecdotally report that they develop and form teams that are more significant than those formed in other class contexts. In this study, we use quantitative and qualitative data to substantiate this anecdotal evidence and to investigate the potential impact of this course. To do this, we ask three research questions: 1) Does this course help students learn new ideas and prepare to enter the workforce? 2) What skills do students believe they learn about most through this course? 3) What course features do students believe contribute to their future success?

FINDINGS

Sample and Procedures

The sample for this study includes 151 undergraduate students across six semesters in a small four-year liberal arts university in a Northeastern town. Upon course completion, students took a survey, including close- and open-ended responses, via an online link distributed by the professor of the course. Coders of the open-ended responses included a faculty, a doctoral student, and an undergraduate business student. We engaged in several iterations of coding. Coders first independently open-coded the data allowing themes to emerge. Next, coders compared responses and came to a consensus on a set of codes, and a definition of these codes, that best fit the data. We then coded open-ended responses using the scheme created and finally we discussed each discrepancy and came to consensus on how each code applied to all open-ended responses.

As indicated in Table 4, students were majority business majors (73%), male (55%), and an average of 21.55 years old. Most students started as freshmen (65%) and about a quarter of the sample currently worked more than 15 hours a week. The sample has had a largely positive college experience. The majority (85%) of the sample planned to find a job after graduation.

Table 4. Descriptive Statistics

	N	M / %	SD	Min	Max
Major					
Business Major	150	73%	45%	0	100%
Non-business Major	150	25%	43%	0	100%
Demographics					
Female	138	45%	50%	0	100%
Age	139	21.55	3.86	19	56
Entrance into College					
Freshman Start	150	65%	48%	0	100%
Transfer	150	29%	45%	0	100%
Work Experience					
Worked before	150	15%	35%	0	100%
Work now > 15 hours	150	27%	44%	0	100%
College Experience	137	8.35	1.18	4	10
Goal after graduation					
Get a job	139	85%	0.41	3	5
Start a business	134	16%	1.36	1	5
Graduate School	133	8%	1.24	1	5
Internship	133	21%	1.25	1	5

RQ1. Does this course help students learn new ideas and prepare to enter the workforce?

To understand students' perceptions of learning from this course we asked, "In this course, I engaged in experiences that subsequently helped me learn ideas or skills that were new and unfamiliar to me." Responses were on a 5-point Likert scale from 1 ("strongly disagree") to 5 ("strongly agree"). We found that, on average, students strongly agreed with this statement (M = 4.68, SD = 0.47). In an open-ended question, we asked students how they would change the course to increase their success after graduation. Out of the 151 respondents, 52% said they wouldn't change the course. Students said things like, "The class activities were well-planned and integrated numerous learning objectives;" and, "This class has been the most helpful to me for graduation by far" (See Table 5 and Table 6).

Table 5
Top student-reported skills developed through class

	N	M	SD
Ability to work on a team	140	0.90*	0.12
Ability to work with diverse people	140	0.84	0.14
Understanding yourself	140	0.84	0.13

* statistically significantly greater than all other skills, t (139)=-4.88, p<0.001

Table 6
Other student-reported skills developed through class

	N	M	SD
Leadership	140	0.83	0.13
Confidence	140	0.81	0.15
Creativity	140	0.81	0.17
Oral communication	140	0.8	0.13
Ability to prioritize and/or focus	140	0.8	0.15
Work related knowledge and skill	140	0.78	0.16
Professionalism	140	0.78	0.16
Time management	140	0.78	0.17
Innovation	140	0.78	0.15
Critical/analytic thinking	139	0.77	0.16
Organization	138	0.76	0.16
Applying theoretical knowledge	139	0.73	0.17
Written communication	140	0.68	0.19

RQ2. What skills do students believe they learn about most through this course?

To answer this research question, we first asked students to indicate the extent to which class experiences helped them develop skills in 16 different competencies (e.g., working with a team, creativity, problem-solving). The responses were on a 5-point Likert scale from 1 ("did not develop") to 5 ("mastered") and we standardized scores on a scale of 0 to 1. Results indicate that the top skill students report they developed through this course is the ability to work on a team. Using a paired samples t-test between working on a team and the next highest skill, we find this is statistically significantly higher than any other skill students reported they developed, $t(139)=-4.88$, $p<0.001$. The next highest skills developed through the course include ability to work with diverse people and understanding oneself.

We also asked students to write an open-ended response about how the class experience impacted them. Qualitative analysis of students' open-ended responses parallel quantitative findings (Table 6) Specifically, students described that they learned applied strategies for how to work on a team. For example, one student commented that the course "taught me how important it is for everyone to be very clear on their contributions, while still collaborating and checking in frequently to see if anyone has fresh ideas or feedback." In addition, students stated that the course helped them develop an understanding of business in the real world and how to apply these skills. One student said, "The overall class experience had a great impact on me. I feel better prepared for the world. I know how to apply the concepts from a text book to a real situation. This is crucial. Basically through [this course], I have gained some real-life experience." Some students talked about working on a team and understanding the real business world as both necessary for future job success (e.g., "[the course] made me realize how important working in a team really is in an actual business job;" and "This project has impacted me in the way that I learned how to work with others more effectively and how real-life businesses can work." Taken together, students' responses indicate that students learn important competencies and how to apply them through this course.

See **Table 6,** below:

Table 6

Code	Definition
Class activities	
Final presentation	Culminating experience of class
Business plan	Doing a business plan, creating a plan; process of creating and planning a business
Activities	One-time learning activities
Real-world skills	
Roles	Choosing an organizational role (CEO, marketing, etc.)
Work with a team	How to work with other people
Same team	Working with a same team throughout the semester
Working with diverse people	Working with diverse people
Negotiating skills	Working with other teams
Life-long learning	Learning how to learn
Talent to task	Applying individual talents to optimally complete a task
Public speaking	Speaking in front of a group
Personal skills	
Self-Reflection	Reflecting on one's own learning
Self-awareness	Self-awareness
Voice	Contributing opinions to a group or individual project
Confidence	Believing in oneself

RQ3. What features of the course do students believe contributes to their future success?

To understand the important features of the course, we asked students to describe the features of the course that will contribute most to their success after graduation in an open-ended response. We found that the top responses related to working on a team and developing an understanding of how to apply skills learned in class to the "real world." The top three course activities students mentioned would contribute most to their future success were: creating a business including a business plan (17% of codes), working on a team throughout the whole semester (9% of codes), giving multiple class presentations (8% of codes). The course activities mentioned all relate to the application of business knowledge as well as working on a team.

DISCUSSION

In this study, we investigated the potential impact an innovative approach to teaching organizational behavior based in Kolb's model of experiential learning and theories of problem-based learning. Using data from closed- and open-ended survey responses, we found evidence that this course may help students learn how to work on a team and how to apply business concepts to real-world situations. Our first finding is that students overwhelmingly agreed the course helped them learn new skills related to their success after graduation. More specifically, students report that the "ability to work on a team" is the top competency they developed through this course. In addition, students open-ended responses suggest that this course promotes students understanding of how to apply the knowledge and skills learned. Finally, the most important features of the course was creating a business, including a business plan.

As stated, the course is grounded in Kolb's experiential model and problem-based learning (Kolb, 1984). A main feature of both theories includes problem-solving in a team. Our findings suggest that incorporating these two features can indeed support the development of competencies related to working on a team. One important aspect to consider related to teamwork, is the support provided by the professor (Mayer, 2004). In this particular course, the professor provided structured scaffolds and frequent feedback to support teams' success in completing their projects. It is important that future research examines the effective strategies used by professors in this kind of learning environment.

A second main feature of Kolb's experiential model and PBL is the authenticity of activities. In this course, students engaged in a semester-long project in which they planned and created a business. Indeed, this was the course activity students cited most as important for their success after graduation. The authenticity allowed students to apply the knowledge related to organizational behavior that they learned in class to a real-world situation. As stated in Kolb's theory, this helps learners to learn more deeply and potentially transfer this knowledge to future work settings.

A discussion would not be complete without the implications for the style of teaching needed to successfully balance an experiential approach with a problem based focus. The instructor needs to be continuously facilitating within groups and across the whole class and maintain a student-centered orientation as individual learning needs vary across the classroom.

LIMITATIONS

One limitation of this study includes the question of the degree to which the instructor uniquely engages with the students in ways beyond a description of course activities. This limitation could be potentially explored by implementing the teaching models and flow of the class across instructors and schools. Another limitation might include the learning profile of the students attending the studied class as well as the profile of the students at the institution studied. Once again, student differences could be controlled if studied across schools and instructors. Finally, data for this study comes from a convenience sample of students that took the course. This sample is appropriate given the goal of the study, which was to investigate the impact of this particular course. Future research could include an experimental or quasi-experimental design to test for the effectiveness of this innovative approach to an organizational behavior course.

CONCLUSION

In our changing world, students entering the business world must be adept at a new set of competencies. Thus, innovative instructional approaches in higher education are essential for the future success of students. This study indicates that an organizational behavior course grounded in Kolb's model of experiential learning and problem-based learning may be effective in supporting the development of the skills including the ability to work on a team and the entrepreneurial skill of applying knowledge to practice. In particular, the concrete and authentic activity of creating a simulated business startup with scaffolded cycles of experiential learning are particular course features that may support the development of these competencies. The instructional innovation described in this paper provides an alternative to traditional lecture-based methods of higher education and adds to our understanding of how to support students' professional development.

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USING A VIRTUAL LAB TO TEACH AN ONLINE BUSINESS ANALYTICS PROGRAM

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ABSTRACT

Significant advances in cloud computing technology and the ubiquity of consumer electronics devices, such as, tablets and smart phones, which are connected to the Internet have made it possible to develop flexible and cost effective virtual lab systems to support online learning courses that require a computer laboratory component. In this paper, the authors describe their experience of designing and using a virtual computer lab for teaching an online business analytics class. The virtual lab provides an opportunity for students to do hands-on assignments in navigating business data warehouses, creating data cubes, writing SQL queries, creating dashboards and other visualizations, writing reports, and using descriptive and predictive models for data mining. The authors describe alternative cloud architectures for designing virtual labs and discuss their criteria for selecting the optimal deployment method.

INTRODUCTION

Virtual computer laboratories (virtual labs) represent an interesting emerging technology for online learning in courses that traditionally required the use of campus-based computer laboratories (Son, Irrechukwu, & Fitzgibbons, 2012; Fulmer & Johnson, 2014). By means of these virtual labs, students can interact with the required software applications anytime of the day, from any location, and using any personal computer or smart mobile device provided that they have Internet access. Furthermore, instructors can remotely assist users in the virtual labs in real-time when required. This emerging development is also part of the blended learning revolution in education which seeks to provide students with convenient options for accessing learning materials (Neacsu & Adascalitei, 2016). All this has been made possible by significant advances in cloud computing technology and the ubiquity of consumer electronics devices, such as, tablets and smart phones. In this paper, the authors describe their experience of designing and using remote labs and then virtual labs over several semesters for teaching an online business analytics class. A virtual lab system provisioned in the public cloud provides a flexible and cost effective solution for students to do hands-on assignments in navigating business data warehouses, creating data cubes, writing SQL queries, creating dashboards and other visualizations, writing reports, and using descriptive and predictive models for data mining. The authors describe alternative cloud architectures for designing virtual labs and discuss their criteria for selecting the optimal deployment method.

LITERATURE REVIEW

Virtual labs, according to Son et al. (2012), are hands-on laboratories that are built using virtualization technology. They describe how virtual labs have been used in technology-based courses, such as information security courses. In other fields, particularly in engineering and the physical sciences, virtual labs have been defined as environments where student experiments can be simulated through the use of software (Chan & Fok, 2009), while remote labs allow students to access the physical lab equipment at a distance via the Internet in order to perform real-time experiments (Auer, 2001). Extension of use of these labs is also now evident in business courses such as Design Thinking and Innovation where visual experiments form a key component of the students' learning experience. We will use the definition by Son et al. (2012) and will describe remote labs as computer labs where all of the software tools for the hands-on exercises are installed directly on a student's personal computer. Burd, Seazzu, and Conway (2009) describe an implementation of a virtual computing lab in one college of a large public university and they compare this type of computer lab to the traditional physical computer labs.

In terms of deployment, there are three types of clouds: public clouds, private clouds, and hybrid clouds (Jadeja & Modi, 2012). With the public clouds all of the computing servers, network infrastructure, and software applications are managed by a service provider. Users select the applications that they need and only pay for the time duration that they use these applications, it is a pay-per-use model. The primary limitation with public cloud deployments is that they are less secure than the other two options. The private clouds on the other hand are provisioned within the organization's internal data center, all of the computing servers, network infrastructure, and software applications are managed by the organization's IT staff. The hybrid cloud is a combination of the private and public clouds, where primarily the private cloud is used and when additional computing resources are needed then external public clouds maybe engaged on an ad-hoc basis. From an end user's perspective, the deployment model is of no consequence since end users get the same benefits regardless of the deployment model, however from the organization's perspective there are significant differences between the deployment models with regards to costs, security, and time to deploy applications. Despite its security limitations, the public cloud is considered more useful than its private counterpart based on the costs and deployment flexibility (Vikas, Gurudatt, Vishnu, & Prashant, 2013).

BACKGROUND

This paper discusses the use of virtual labs for an online class in the MBA program at a college of a large public university in the spring semester of 2016. The college's MBA program offered both a full-time residential MBA option and a completely online MBA option. Since the fall semester of 2013 the residential option had been offering a business analytics course as a core course. This course was hands-on based and as such it required the use of a computer lab for all class meetings. A couple of factors drove the need to explore ways to offer this course in the online option. Firstly, in order to remain competitive in the online MBA space there was a growing need to quickly offer one or more analytics courses as part of the core. Secondly, a strategic decision was taken by the college to harmonize the core course offerings in the two MBA options.

Three technology options on how to take the residential business analytics course and make it available to students taking classes via the online option were studied. Below we discuss these options.

The first option was to try and use university-hosted virtual labs (UVlabs). This would involve the provisioning of virtual labs using desktop virtualization (VDI) technology that would be hosted in the university's data center (University of Southern California, 2017; University of Arkansas, 2017). In other words, with this option a virtual lab would be created in a private cloud. The advantages with this option were that it would facilitate compliance with the university's data policies and if successful could be scaled to the online offerings campus-wide. However, the campus IT department would need to acquire additional IT personnel to support this options, as well as, additional computer hardware and software resources. As such, the challenges with this option were the high direct costs, together with the long lead time required to get this option approved via the university inter-departmental processes.

The second option was to try and use university-supplied remote labs (URlabs). This would involve the campus IT department creating images of the campus computer labs and placing those images as virtual machine files on portable USB (flash) drives or DVDs (Casini, Prattichizzo, & Vicino, 2007). Each student taking the business analytics course via the online option would then be mailed a flash drive together with instructions on how to access their personal computer lab using the home machine. This option had the advantage that students can use their personal computer labs in situations where they have limited Internet connectivity and all of the students' data would be stored locally and so minimizing the risk of violating the university's data policies. The challenges with this option centered around the cost of creating and maintaining the virtual machine images over time, together with the licensing for the operating system and productivity applications, such as, Microsoft Office® that were installed on the image. There was also a concern about the potentially long lead time required to get this option approved via the university inter-departmental processes.

The third option that was reviewed involved the use student-built remote labs (SRlabs). This required the development of detailed install instructions for all of the software applications to be used in the course. The 10 software applications that were used for the exercises in this course are described in the Implementation and Course Description section below. Using this option students would then be required, with some support from the instructor, to install all of the software applications onto their personal computers before the start of the course. This option meant that students were responsible for acquiring the software licenses for the operating system and productivity applications, such as, Microsoft Office® on their personal machine. The install software and software licensing information for the analytics applications application for the course would be provided as part of the install instructions. This option could be implemented quickly as it did not require any University inter-departmental approval processes. This option required that the course instructor have a background or some experience in IT support. Furthermore, both students and the instructor would spend a significant amount of time working on issues that were not related to the course content. A major limitation of this option was that the business analytics course could not be offered as a core course since there was the possibility that some students due to technical or personal limitations may not be able to build their own remote labs.

The SRlabs option was selected primarily due to its lower direct costs and the shorter timeframe for implementation, as shown in Table 1. The direct costs for the UVlabs and URlabs options could have been offset by adopting a technology fee for students enrolling in the business analytics course. However, such a decision would have required approval at the university-level. The UVlabs and URlabs options were also dependent on the IT department's resource availability. Phase 1 section below discusses the implementation of the SRlabs option and the issues that were encountered.

Table 1: Remote Labs versus Virtual Labs in the Private Cloud

	UVlabs	URlabs	SRlabs
Pros	– Students can use any device – No software installs by students – University's data policies can be strictly enforced – The instructor does not provide tech support.	– Students only have to install a VMM – The instructor does not provide tech support.	– IT department is not required to setup the remote labs – No 'technology fee' is required for the course
Cons	– Costs of setting up private cloud – IT department required to setup each virtual lab – - Costs have to be offset by a 'technology fee'	– Costs of distributing the drives – IT department required to setup & duplicate the imaged drives – Costs have to be offset by a 'technology fee' – Licensing issues since software in VMs not installed by the user.	– Students have to install 10 applications – The instructor has to provide tech support.

IMPLEMENTATION AND COURSE DESCRIPTION

The course offered an introduction to business intelligence (BI) with emphasis on the BI infrastructure, as well as, the processes used to get data into data warehouses and the data mining tools used to search for patterns in the data. It was a single semester 14-week course. Concepts were introduced through lectures and assigned readings, and they were assessed using quizzes. Application of the concepts was taught via twelve in-class hands-on exercises using different commercial and open-source BI tools. Students were first introduced to Structured Query Language (SQL) to extract and manipulate data in production relational database systems and data warehouses. Queries were written and executed using the Oracle SQL Developer tool (Oracle, 2017). Next, students studied the need for data warehouses and they learned about the different architectures that were available for data warehouses. In the hands-on exercises students used a SAP Business Warehouse (https://www.sap.com/products/business- warehouse.html) to create a data cube and to load data into the cube from external data sources. Students were then able to slice-and-dice the data in their cubes using the SAP Business Explorer Query Designer (BEx) and SAP BusinessObjects Analysis for Microsoft Office (https://www.sap.com/community/topic/businessobjects-analysis-ms-office.html). Students then developed two dashboards using SAP BusinessObjects Dashboards - https://www.sap.com/products/dashboards.html. Using data from a database students wrote a report using SAP Crystal Reports (https://www.sap.com/products/crystal-reports.html). Several data mining algorithms were introduced: apriori for association mining problems, decision trees for classification problems, linear regression and exponential smoothing for estimation problems, and k-means for clustering problems. Students completed a market basket analysis exercise using a Teradata data warehouse with historical retail data from Sam's Club and the SAP Predictive Analytics application (https://www.sap.com/products/analytics/predictive-analytics.html). Several scenarios were presented with different data sets for the data mining hands-on exercises that were completed using SAP Predictive Analytics and R software. Text mining was introduced using the concept of regular expressions (Friedl, 2006) and students used the open- source GNU Grep tool to mine text files and emails for patterns of interest (https://www.gnu.org/software/grep).

Phase 1: Using Student-Built Remote Labs

The online version of the Business Analytics course was rolled out in the fall semester of 2014. The course was taught by an instructor whose experience included IT technology support and database development. The course was also taught by the same instructor in the spring and fall semesters of 2015. In all three semesters the course was taught using the student-built remote labs. Students could email questions to the instructor or post them on a discussion board in the online classroom. We categorized these inquiries into two categories; lab-setup related and course-content related. Table 2 shows the student inquiries data, together with the course enrollments for each semester. In the fall of 2014 students were encouraged to install all of the applications and thus build their complete remote lab at the start of the course, however, some students chose to install the applications separately. They installed an application as and when it would be needed for each upcoming hands-on exercise. In subsequent semesters the setting up of the complete remote lab by the students was made into a graded assignment which was due in the first week of the course. Students used personal computers (Windows and Mac), as well as, employer-provided laptops (Windows). Since most of the commercial analytics applications used in the course only run on the Windows platform, students using Macs needed to have a virtual machine running Windows 7 or later hosted in a virtual machine monitor (VMM), such as VirtualBox (https://www.virtualbox.org/wiki/VirtualBox) or Parallels Desktop for Mac (http://www.parallels.com/products/desktop). Common problems encountered with the setups of the remote labs were:

- Firewalls and anti-virus software restricting the installs and access to the hosted data warehouse servers.
- Lack of administrative rights to perform the installs on employer-provided laptops.
- Misconfigured environment variables
- Missing operating system device drivers or incorrect versions of device drivers.
- Missing pre-requisite applications, such as, Java or Microsoft .NET frameworks

Most problems were diagnosed via screen shots in email exchanges between the instructor and students. A few more difficult cases required that the instructor remotely access the student's computer using a WebEx session. On a few occasions a student's computer with a functional remote lab broke down during the semester which resulted in that student needing to rebuild their remote lab.

Phase 2: Using A Public Virtual Lab

The student-built remote labs solution that was implemented in Phase 1, while successful still had a significant downside; the solution was not scalable. It required that the instructor have the dual roles of teaching and providing technical support, and that the students spend time doing software installs which were not part of the course content. Furthermore, students who were not using the latest versions of Microsoft Windows on their personal computers faced significant challenges in taking this course online. All of these limitations did not affect students taking the course in the residential MBA option since the course was taught in a computer lab that was supported by the IT Department.

Table 2: Student Inquiries by Type and Semester

	Fall 2014	Spring 2015	Fall 2015	Spring 2016
Enrollment	19	31	18	16
Lab Setup Inquiries	140	69	64	29
Course Content Inquiries	50	109	75	77

In the spring 2016 semester a public cloud-based virtual lab solution was trialed for this course in the online MBA option. This solution did not require the IT Department's resources and it addressed the limitations discussed above. All of the required software was installed in the virtual lab by the vendor and each student only had to configure a single app on their personal computer or mobile device in order to access virtual lab, as shown in Figure 1. The virtual lab could be accessed from any computer or mobile device that was running any of the following operating systems: Microsoft Windows 7® or later, Mac OS X®, Android® or iOS®. Using the Microsoft Remote Assistance® feature in the virtual lab the instructor could access a student session in the virtual lab in real-time via a student-initiated invitation. This allowed students to receive personalized assistance with the hands-on exercise when needed.

Security

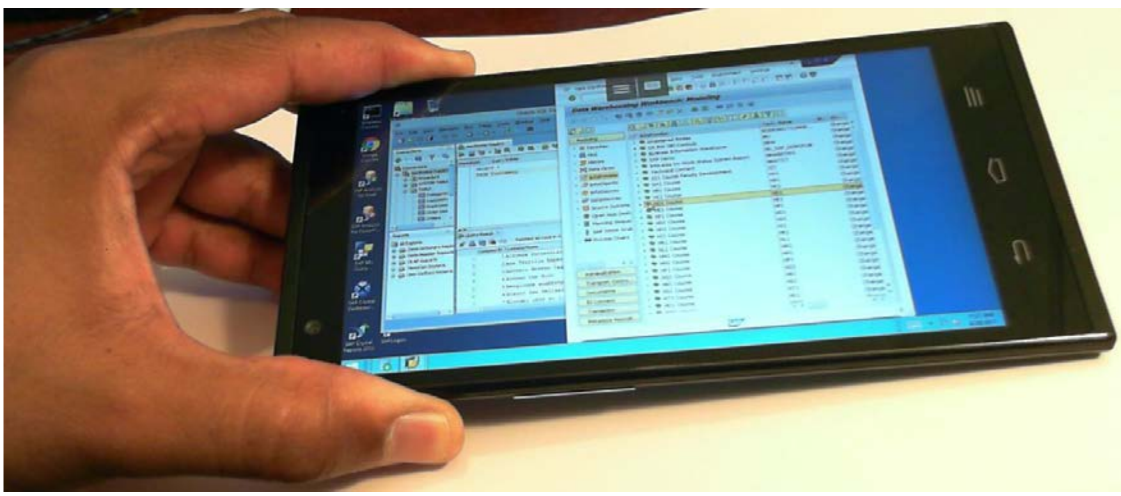
Potential security threats were the main issue noted against the public cloud deployment model (Jadeja, & Modi, 2012). Below we discuss some of the actions were taken in the implementation of the virtual lab in Phase 2 in order to mitigate against some of these potential security threats:

First, the login credentials (usernames and passwords) that the students used to access the virtual lab were not associated with any of the other university-supplied computer accounts. The virtual lab vendors generated the login credentials for the class and provided them to the instructor via a secure download. The instructor then assigned the individual accounts to the students in the class. This provided a fail-safe mechanism in that, in the event of any security compromises to the virtual lab, such a security compromise would not lead back to other university systems used by the students. Furthermore, the assigned passwords were 'strong' passwords created using a password generator and students were not permitted to change these passwords.

Second, students were required to store all of their data files on the university cloud drive or on other cloud storage systems, such as Google Drive® or Microsoft OneDrive®. This ensured that students would have access to their data files even if they did not have access to the virtual lab. Storing the data files on the university cloud drive ensured that the data storage for the virtual lab solution met the university's data policies.

Finally, a sandbox environment was created where all of the analytics applications and utilities which the students needed to complete the hands-on exercises were only available via icons on the desktop. Students could not start any applications using other methods, such as, the command line or any other menus. This measure provided for easy access to the required applications and protected the virtual lab system against any potential misuses.

Figure 1: Accessing the Virtual Lab from an Android Phone.



RESULTS AND DISCUSSION

The change of making the setting up of the student-built remote labs into a graded assignment starting in the spring 2014 semester resulted in a 50.7% drop in number of lab setup inquiries. The number of lab setup inquiries remained relatively steady between the spring 2015 and fall 2015 semester, despite the differences in the enrollments in those semesters. This might suggest common lab setup issues with each cohort and that the use of the discussion boards to disseminate solutions to the issues may have helped lower lab setup inquiries. The use of the virtual labs starting in the spring of 2016 resulted in a further 54.7% drop in the number of lab setup inquiries. Many of these lab setup inquiries were resolved by the virtual lab solution vendor. From the student survey in Appendix A, all of the students found the instructions on how to setup access to the virtual labs easy to follow. From a scalability perspective, the virtual lab solution doesn't require the use of the IT Department and the students only have to setup access to the virtual lab from any of their personal computing devices. Furthermore, students only have to setup access to the virtual lab from any of their personal computing devices just once. Students in the spring 2016 did not have to spend anytime installing the analytics tools onto personal computing devices. With the virtual lab solution the course instructor is not required to have any experience with technical support. The course content inquiries, however increase with the class size.

Based on the survey results 80% of the students had previous experience with the use of remote desktops, which are the foundational technology for VDI-based virtual labs. This suggests that wider adoption of virtual labs in higher education may not be accompanied with a high learning curve on the use of such labs by the students. 20% of the students used multiple devices to complete a hands-on assignment in the virtual lab, this is a convenience not available with traditional computer labs. 80% of the students found that the virtual lab provided an environment that was: easy to navigate, easy to locate their applications and data files, and the applications responded quickly. All of the students surveyed found it easy to exchange their data files between the virtual lab and external systems, such as, Google Drive® or Microsoft's OneDrive®.

CONCLUSIONS

In this paper, the authors have described their experience with teaching a hands-on based online business analytics class by first using student-built remote labs, then followed by the use of a virtual computer lab. The challenges for both the instructor and the students with the remote labs were highlighted. This was then followed by a discussion of how those challenges were mitigated through the use of virtual labs based on the public cloud. Based on their experience, the authors concluded that public cloud-based virtual labs provide a cost effective and flexible avenue for teaching computer labs based courses in online programs. For student-based use of virtual laboratories there were no data security concerns identified by student relating to their own files or to the university's own systems, since the public cloud-based virtual labs operate in much the same way that the email system provided on public platforms such as Google Mail®, Yahoo Mail® or Hotmail®, for example. Public cloud-based virtual labs apply the same public email concept to traditional campus labs and therefore making the traditional campus lab portable albeit at a nominal fee. The efficacy of virtual labs for teaching, experimentation requires more trials beyond what this study was able to do in order to make more data available, before definitive results can be determined. However, preliminary evidence of their efficacy for students and their cost-sharing benefit between students and institutions is convincing.

Public cloud-based virtual labs have been in existence for more than a decade and they offer some attractive advantages over traditional campus labs and yet universities have been slow to adopt them. The question is what accounts for their lack of traction within the academic community when this case study has shown their attractiveness and at a time when more and more higher education institutions are offering online programs and competing for students worldwide? Intuitive logic would suggest that public cloud-based virtual laboratories should be a vital tool that enables institutions to offer previously restricted on-campus only lab-based courses, to online students worldwide. As such, they should be more attractive than they have been to date. Future research on the subject should perhaps examine the nature and causes of barriers to the adoption of public cloud-based virtual laboratories compared to traditional campus-based laboratories which at face value are more costly to acquire and maintain. Given their benefit portability for all students regardless of whether they are online or on-campus students and their ability to widen access to lab-based courses for online students worldwide, the question that remains to be answered is; are public cloud-based virtual laboratories the future of lab-based teaching and learning or are they a passing fad?

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APPENDIX A: STUDENT SURVEY QUESTIONS AND RESPONSES

Response Rate: 31.25%

1. Did you find the instructions to setup the connection to the virtual lab from your device(s) easy to follow?

2. What devices(s) did you use to access the virtual lab?

Answer	**Response**
Yes	100%
No	0%
Answer	**Response**
Android Phone	0%
Android Tablet	0%
iPad	0%
iPhone	0%
Mac	20%
Windows Desktop Computer	40%
Windows Laptop	40%
Windows Phone	0%

3. Did you work on an assignment using two different devices?

Answer	**Response**
Yes	20%
No	80%

4. Please tell us if you agree or disagree with the following statements about your experience once you successfully logged on to the virtual lab.

Question	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
The environment was easy to navigate	40%	60%	0%	0%	0%
It was easy to locate what you needed	40%	40%	10%	0%	0%
It was easy to exchange my data files with other systems	20%	80%	0%	0%	0%
The applications responded quickly	20%	60%	0%	20%	0%

5. Before your experience with this virtual lab, had you used any other remote desktop solution to complete an assignment for school or work?

Answer	**Response**
Yes	80%
No	20%

LET'S BE HONEST

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ABSTRACT

Cheaters do win… well, only until they get caught. Today, there is so much pressure to succeed and win in high school, in college, in athletics, and in the professional world that sometimes cheating and unethical behavior seem like the best or only way to gain an edge and win. Pressure for good performance not only drives unethical behaviors in business, but increasingly is considered one of several contributors to unethical behavior in high school and college as cheating and academic dishonesty continue to rise. While codes of conduct, ethics training and formal systems of auditing may help clean up the workplace and be necessary, we offer another approach by addressing unethical behavior in high school and college in a more comprehensive way that provokes greater deliberation of the ethical ramifications in decision making. More closely reviewing academic honesty policies and developing business programs' curriculum to more effectively deal with dishonesty and unethical behavior may help decrease the degree to which it occurs in high school, college, and maybe even the workplace. This paper is intended to synthesize literature on academic dishonesty to understand what it is, why it happens, how to assess the prevalence of it and of course, how to address the behavior.

INTRODUCTION

Cheaters do win… well, only until they get caught. Today, there is so much pressure to succeed and win in high school, in college, in athletics, and in the professional world that sometimes cheating and unethical behavior seem like the best or only way to gain an edge and win. Certainly, some competitors surmise that there is a quicker, easier way to outsmart the competition with an effective means of deception, and it seems like a good idea as the accolades and awards mount -- until they get caught. Prominent figures like Lance Armstrong with his doping scandal, large companies' executives like those at Enron who falsified financial records and at Halliburton who offered bribes, and yes, even students of hallowed Harvard have cheated to get an edge and faced the embarrassment of being labeled a fraud. Unethical behavior continues in the business world as more than one-third of executives admit that they would justify unethical behaviors when facing an economic downturn or challenges meeting financial targets ("EY Global Fraud," 2016).

Pressure for good performance not only drives unethical behaviors in business, but increasingly is considered one of several contributors to unethical behavior in high school and college as cheating and academic dishonesty continue to rise. While a variety of statistics appear on the internet, the Educational Testing System (ETS) web site provides a fact sheet that indicates over the last more than 70 years, college students who admit to cheating in high school have increased significantly from about 20% in the 1940s to between 75% and 98% ("Academic cheating fact sheet," n.d.). The International Center for Academic Integrity published statistics from Don McCabe's research on cheating which shows that 68% of college students admit to written or test cheating and 95% of high school students admit to cheating in some form or fashion ("Overview," n.d.). Interestingly, cheating is not only common among the poor performing students, but also top performers as they face pressure to attain and maintain high grades (McCabe, 2012). Since these statistics are self-reported, the possibility of a greater percentage of violators is likely.

While codes of conduct, ethics training and formal systems of auditing may help clean up the workplace and be necessary, we offer another approach by addressing unethical behavior in high school and college in a more comprehensive way that provokes greater deliberation of the ethical ramifications in decision making. More closely reviewing academic honesty policies and developing business programs' curriculum to more effectively deal with dishonesty and unethical behavior may help decrease the degree to which it occurs in high school, college, and maybe even the workplace. This paper is intended to synthesize literature on academic dishonesty to understand what it is, why it happens, how to assess the prevalence of it and of course, how to address the behavior.

WHAT IS ACADEMIC DISHONESTY?

Cheating is classified under the umbrella of academic dishonesty, the "intentional participation in deceptive practices in one's academic work or the work of others" ("Academic Dishonesty," n.d., para.1). Academic misconduct may also capture the essence of the issue and is defined on the University of California, Berkeley web site as "any action or attempted action that may result in creating an unfair academic advantage for oneself or an unfair academic advantage or disadvantage for any other member or members of the academic community" ("Definition & examples," n.d., para. 1). A long list of behaviors exists under the guise of academic dishonesty or misconduct from cheating and plagiarism to fraud and collusion with regard to completing academic work.

The following categories are included in some way on various college and university web sites. Some of the more thorough lists on sites like University of California, Berkeley, St. Petersburg College, University of Denver Colorado, and Berkeley City College also provide useful definitions, and those results are summarized below (see the reference list for the universities' URLS).

- Plagiarism: Using another person's ideas or words without acknowledgment. Today, simply put, plagiarism is "literary theft" ("Plagiarize," n.d., para.1), but includes several different actions such as "turning in someone else's [e.g., from a website, author, student or paper pool/repository] work as your own; copying words or ideas from someone else without giving credit; failing to put a quotation in quotation marks; giving incorrect information about the source of a quotation; changing words but copying the sentence structure of a source without giving credit; and copying so many words or ideas from a source that it makes up the majority of your work, whether you give credit or not" ("But can words…," 2014, para. 2).
- Fabrication/falsification: Manufacturing (creating) or falsifying (altering) results, data (from research or labs), information or citations in academic research or exercises.
- Bribery: Offering, receiving, or giving something of value in exchange for giving advantage in an academic exercise.
- Deception/misrepresentation: Lying or misrepresenting facts to an instructor in order to gain an advantage in an academic exercise.
- Cheating: Improperly giving, receiving, or using materials, aids (e.g., calculators, computers, other electronic/digital devices, unpermitted cheat sheets/crib notes) or information in order to gain an advantage without permission to do so.
- Sabotage or misuse of academic materials: Stealing, destroying, damaging or altering library, instructor, or students' academic materials, projects, or research, etc., in order to disadvantage students or prevent/inhibit completion of their work.
- Professional misconduct: Improperly acting or giving differential treatment by the professor in order to advantage a student in an academic exercise or result, or advantage oneself.
- Impersonation: Taking on the identity of another person or having someone else take on your identity in order to gain advantage in an academic exercise.
- Collusion: Working with one or more persons on an academic exercise for which the student is individually responsible and where the instructor prohibits receiving assistance, which may include unauthorized assistance in online and blended course activities.
- Complicity in academic dishonesty/conspiracy: Knowingly planning or contributing to another's act of academic dishonesty.
- Multiple (duplicate) submissions: Submitting the same or nearly the same academic work for which credit has already been given without permission to do so.

These institutions' academic honesty policies and definitions of various behaviors tend to significantly overlap. For example, elements of cheating are included in definitions for plagiarism, collusion, and multiple submissions; however, such overlap may help reinforce that given behaviors are unethical or dishonest. Recognizing what constitutes academic dishonesty can serve as an important step in preventing it since students may not understand that some of their actions are unethical or in violation of an academic honesty policy if one exists.

WHY DOES ACADEMIC DISHONESTY HAPPEN?

Despite the greater emphasis on ethics and social responsibility in the management curriculum and some business texts, dishonesty and cheating are widespread and proliferate for many reasons. Unfortunately, in many instances, cheating and academic dishonesty have become more the norm than the exception. Several studies show that various individual, socio-cultural, and institutional factors influence the propensity to cheat.

Individual characteristics may underlie some dishonest behaviors. Such factors as pressure to achieve and win (Simkin & McLeod, 2010; Bunn et al., 1992; Farisi, 2013) tend to increase the likelihood of academic dishonesty. With increased pressure to succeed and win, students focus more on grades than the education that they represent. McCabe, Butterfield, & Treviño (2012) suggest the major individual differences ascribed to students who cheat are being male, younger, lower achievers (as measured by GPA), student athletes, fraternity/sorority members, and socially active in extra-curricular activities. One of their studies did show, however, that students with GPAs at both the lower and upper end of the spectrum are more likely to cheat as compared those in the middle to either attain a minimum level of academic achievement at the lower end or maintain those higher grades and be competitive at the higher end. They also note that "perhaps more important, athletes are one of three groups that are consistently singled out by other students as the most common cheaters on campus – the other two being fraternity/sorority members and business majors" (McCabe et al., 2012, p. 86). Some of these results may link to the ability to manage time, be organized, and balance commitments for those involved in many activities, as procrastinating and lack of organizational skills can easily derail students who are heavily involved (Eshet, Grinautski, & Peled, 2012). However, the reasons why business students cheat more is not clear. McCabe et al. (2012), assert that possible explanations may include business students having less critical attitudes toward cheating, greater concern and competitiveness for grades, greater interest in financial well-being, profitability, and extrinsic motivators, and exposure to business school curricula that focuses on profit, economic theories, free market philosophy, and ultimately personal and professional success.

Park's (2003) work on plagiarism supports some of McCabe's et al. (2012) findings on individual differences. In addition to being male, younger (less mature), and socially active, Park (2003) characterized plagiarizers as less confident, more aggressive, pressured and seeking approval from peers or parents, less committed to studies, feeling alienated, and having a rationalizing attitude. Park added other influences to the list like personal values and attitudes, defiance, attitude toward teacher and class, and perceived efficiency. Also, individual circumstances in formative years like being subject to harsh physical punishment which has been found to negatively influence moral development or being concerned about abandonment or uncared for were qualities of those more likely to cheat (Qualls, Figgars, & Gibbs, 2017).

Though studies have shown that individual factors such as gender and age can make a difference, McCabe et al. (2012) point out that more recent findings show less or no significant difference in some personal characteristics like gender and that whether a student cheats relates more strongly with socio-cultural or contextual factors. Socio-cultural factors include the changing view of academic dishonesty and lessened stigma associated with it (Bertram Gallant, 2011; "Academic cheating fact sheet," n.d.; Chiesl, 2007). Lack of understanding of what constitutes academic dishonesty or what violates institutional policy may lead to unknowingly engaging in those activities without considering such actions to be dishonest (Farisi, 2013; McCabe & Treviño, 1993). Oftentimes, while students may admit to engaging in behaviors that are deemed a form of cheating, they often do not believe that their behaviors constitute cheating (Bertram Gallant, 2011). Dishonest behaviors like collaborating, copying homework, and forms of plagiarizing are not viewed as negatively, leading to a lack of understanding about what is unacceptable (Bertram Gallant, 2011). Confusion and lack of understanding may also arise, for instance, as collaboration may be prohibited in some classes but not others or used in business teams but not school projects (McCabe, Butterfield, & Treviño, 2006).

As instruction on moral and ethical values becomes more limited and less emphasized in the educational system, especially in formative years, amidst technological innovation that makes unethical behavior easier, students are less equipped to make ethical decisions (Bertram Gallant, 2011). When conducting a cost/benefit analysis of whether to engage in such behavior, students may see academic dishonesty as profitable with positive outcomes for engaging in those behaviors outweighing the virtues of honesty ("Academic cheating fact sheet," n.d.).

Student perception also ranks very high, perhaps the most important influence in the decision making process. Student perceptions or understanding of how peers' view behavior, whether peers' engage in behavior, if policies exist, the severity of penalties, and likelihood of getting caught will influence academic dishonesty (McCabe Treviño, & Butterfield, 2002). It will increase if student perceptions suggest that peers will not report cheating or that peers do not support institutional policy (McCabe et al., 2012; McCabe et al., 2006). Moreover, cheating is less likely to be reported if peers' success does not have any impact on the student's (non-cheater's) grade (McCabe et al., 2006). Of course, these perceptions will be influenced by the institutional environment regarding whether policies or honor codes even exist or are enforced.

ETS's Academic Cheating Fact Sheet (n.d.) indicates that cheating has increased with lack of rules/standards prohibiting it, an easier means to do it with computers and cut/paste functions, and limited detection and punishment. At the institutional level, having academic honesty policies and/or honor codes, and enforcing those policies/codes inversely impact incidents of dishonesty. Academic dishonesty is highest where honor codes do not exist and lowest where they do exist (McCabe, Treviño, & Butterfield, 2002). Since a level of enforcement rests with students and faculty in honor code schools, the degree to which these groups are genuinely engaged in the process of detection and enforcement may impact prevalence. In honor code communities, students hold each other accountable which effectively helps reduce academic dishonesty again due to the importance of peers' perceptions about it.

McCabe and Treviño (1993) also note the importance of faculty support to follow institutional policy for cheating as many faculty may ignore academic dishonesty altogether or tend to deal with it informally, usually with less penalty and without officially posting such activity on the student's academic record. Faculty report using less formal means of addressing issues due to "lack of confidence in the judicial system, a belief that gathering proof is too difficult or impossible and that pursuing official channels requires too much time and effort, a perception that penalties given to offenders are often inappropriately harsh or lenient, and a belief that they, not the accused student, are the ones who end up being on trial" (McCabe et al., 2012, p. 134). Faculty members, especially those untenured or seeking promotion, may also fear retribution for policing and prosecuting academic dishonesty as their classroom environment and teaching evaluations may be affected negatively (Hamlin, Barczyk, Powell, & Frost, 2013; Simkin & McLeod, 2010).

Institutional size and selectivity may influence cheating as more selective, smaller colleges tend to have fewer issues with academic dishonesty than larger public universities (LaBeff, Clark, Haines, & Diekhoff, 1990). Other institutional and technological factors like large class sizes, means of assessment (e.g., using online exams, written tests), outdated or reused assessments (e.g., infrequently changing assignments), and weak detection processes can promulgate cheating (Bertram Gallant, 2011; Farisi, 2013). Students report that individual faculty often fail to reduce perceived opportunities for cheating and take preventive actions (McCabe et al., 2012).

WHAT DOES THE LITERATURE SAY TO DO ABOUT IT?

Successfully dealing with academic dishonesty requires a comprehensive approach to building or sustaining a culture of academic integrity that permeates the institution with shared responsibility among administrators, faculty, and students (Bertram Gallant, 2011; McCabe et al., 2012; McCabe & Pavela, 2000). In general, culture is defined as "a system of values and norms that are shared among a group of people and that when taken together constitute a design for living" (Hill, 2011, p.94). Culture characterizes the way in which an organization does things and includes both formal (e.g., leadership and stated policies, systems, structures, and processes) and informal systems (e.g., values, norms, and language actually used) that either do or do not promote ethical behavior and academic integrity (Treviño & Nelson, 2011). If an institution believes that the current culture and approach to academic integrity is not delivering desired results, a culture change may be necessary. Bertram Gallant (2011) suggests that the first of four steps in establishing a culture of academic integrity is recognizing that a problem exists and being committed to addressing it followed by the second step of studying the problem and developing an institution-specific response to it.

Assessing what dishonest behaviors exist and to what extent may involve using survey instruments and having widespread discussions with students and faculty to more accurately diagnose the situation, determine what requires change, and choose the best way to achieve it through a given institution's formal and informal systems – it is not a one size fits all type of response. However, reviewing other institutions' efforts may help guide the development of the process and instruments used for this assessment.

Many institutions publish academic integrity reports ("Arbor Day Academic Integrity Survey Report," 2014, "Florida State University Academic Integrity Survey Spring 2015," 2015, George, 2015, "Survey Summary Report," 2011). Beyond demographic information, the survey instruments collect responses in two areas: the academic integrity climate at the institution and information on academic dishonest behaviors. Generally, the student and faculty instruments are the same in these areas, but some differences may exist. Including the same questions as previously published research (e.g., McCabe et al.) allows comparison between institutions.

The survey questions in the climate section address the students' and faculty's perception of the academic integrity/honesty policies at the institution. Questions can include understanding of the policy, perception of the penalties, effectiveness of the policy, application of the policy, etc. Institutions with honor codes have different questions from institutions without such codes. Additional questions can address specifics of the institution's academic integrity policy, including its implementation. George (2015) uses questions from previously published research. Florida State University Academic Integrity Survey Spring 2015 includes questions related to FSU's honor code and additional questions on sources of policy information (e.g. deans, other administrators, teaching assistants).

The questions in the academic dishonest behaviors section attempt to collect information on the perceived seriousness and the prevalence of the behavior. Different institutions list different behaviors. Some surveys have shorter lists ("Arbor Day Academic Integrity Survey Report," 2014 and "Florida State University Academic Integrity Survey Spring 2015," 2015). These tend to include all the behaviors previously published by McCabe et al. (plagiarism, inappropriately sharing work, cheating on tests, etc.). Some surveys include a larger list of behaviors ("Survey Summary Report," 2011). Examples of additional behaviors include falsifying lab data, cheating specific to online classes, and getting information from someone who has already taken an exam. Initial exploration will determine which behaviors should be included in an institution's instrument.

How the survey is administered is also important to address. McCabe et al. (2012) found that response rates dropped when moving from a mail-based administration to a web-based administration. This is a concern because of the self-reporting nature of the survey, especially with self-reporting unethical acts. Student response rates were especially low for the survey reported on in the 2014 Arbor Day Academic Integrity Survey Report for which a web-based survey was used (sent out by an email). Less than one percent of the undergraduate students responded. A different method was used to administer the survey for the 2011 Survey Summary Report. Random class sections were selected and a paper-and-pencil survey was administered in each class. Response rates exceeded 90% of the students enrolled in the sections. A web-based survey was also administered which had a response rate less than 5%.

In terms of approaches for building a culture of academic integrity, Bertram Gallant (2011) describes both centralized (e.g., perhaps reporting incidents to the Provost or Academic Integrity Office) and decentralized (e.g., handling incidents at the departmental level) approaches to academic dishonesty. While she notes that institution's should select an approach that seems to fit its culture and needs, oftentimes, decentralized approaches can be unfair and inconsistent and may not address academic dishonesty institution-wide depending on the differences of detection, penalties, and enforcement in various pockets of the institution. Bertram Gallant (2011) also describes the disciplinary (based on rule compliance) versus developmental (based on developing and acting with integrity) centralized approaches. Studying the institution's approach to culture, determining its level of effectiveness, and deciding what approach should be in place is a good first step toward addressing academic dishonesty. These initial determinations about desired approach to culture along with assessment results will provide a foundation for future decisions about the formal and informal systems used to build culture through actions that focus on prevention, communication, detection, and prosecution, which in some cases may include some remediation. Hopefully, a greater focus on building academic integrity through prevention and communication will lessen the burden of detection, prosecution, and possible remediation, but nonetheless, all parts seem necessary to not only reduce academic dishonesty, but to promote ethical development and foster greater deliberation of ethical consequences in college graduates' decision making.

Preventing academic dishonesty will be more likely with clear institutional values, policies, procedures, honor codes, or other ways to elevate the concept of academic integrity in both the formal and informal systems in the campus community. Widespread, frequent communication about values like respect, openness, honesty and fairness, and policies of what behaviors are considered dishonest and what penalties are associated with those behaviors should promote a clearer understanding (McCabe, Treviño, & Butterfield, 200l; Pranis, 2007). McCabe et al. (2006) advocate for using an ethical community-building approach by engaging in ongoing dialogue with key stakeholders about integrity, referencing academic values, honesty policies, and/or honor codes, and discussing responsibilities with respect to them as early as in the admissions and hiring processes, orientation, and training of faculty and students. Ethical community building takes on a broader institutional response and programmatic efforts which stress moral education, socialization of members, norms for ethical behavior, mutual respect, and prosocial behaviors (McCabe et al., 2012). This approach tends to resemble the centralized, developmental approach discussed by Bertram Gallant (2011). There should be agreement of what constitutes academic dishonesty, how to handle it, what each stakeholders' role is, and what rewards exist for those involved. Statements regarding expectations could be included in syllabi, in ceremonies and programs, on web sites, in classrooms, and in other physical spaces. Dialogue can take place at the University, program, and course level using a common language and consistent messaging about how academic integrity and ethical behaviors are expected; how they are the norm.

Not only should faculty understand the policies, but should take a leadership role in discussing the values, policies, codes, and definitions of academic integrity and dishonesty in their courses and program activities (McCabe et al., 2012). Faculty should provide clear expectations regarding their courses and requirements for assignments (e.g., clearly outlining whether collaboration is permitted and in what form). Integrity and ethics can be integrated into the curriculum with ethical dilemmas being part of regular discussion, assignments, and special activities like case competitions or essay contests that promote these ideals. Ongoing communication with faculty may also include discussion about establishing best practices for program and course assessments. Setting up testing protocols, monitoring, considering room set-up and seating, having multiple or unique versions of tests, making creative assignments, not permitting use of technology during exams, and clearly establishing course expectations where institutional policy permits discretion (e.g., again, clarifying whether collaboration is permitted on course projects) can help faculty reduce opportunities and lack of clarity regarding academic dishonesty (Hamlin et al., 2013; McCabe, Butterfield, & Treviño, 2006). Training about best practices for securing assessments may enable faculty to not only improve using preventative methods to address the concerns at a given campus, but also to enhance detection. Technology, like such tools as Turnitin®, SafeAssign™, and Proctortrack™ can be used for detection of issues, and in some cases, identify issues in earlier stages of learning to prevent academic dishonesty (e.g., plagiarism or improper citing) in later stages.

Prevention and communication involve engaging faculty and students who have a clear understanding of the policies and support them. Faculty and student buy-in is equally important in the detection, prosecution, and remediation (where appropriate) of violators. Both groups can play a role in enforcing academic dishonesty. To make the system effective, "penalties [must] be fair, consistently applied, and transparent" (Hamlin et al., 2013, p. 38). A wide range of penalties exist from having students re-do an assignment to giving a failing grade for a course (and transcripting the failure for academic dishonesty) or expelling them from school. Consistent enforcement by faculty with harsh, but just penalties will eventually become a deterrent to academic dishonesty (McCabe, Treviño, & Butterfield, 2001). Also, having students participate "in prosocial behaviors such as designing and enforcing academic integrity policies, making pledges regarding personal integrity, educating other students about the importance of academic integrity, and behaving honestly [will make]…cheating…less likely" (McCabe, Treviño, & Butterfield, 2001, p.373). McCabe and Pavela's (2000) work on modified honor codes suggests that having students participate in setting policy and due process procedures, resolving contested cases, and enforcing significant sanctions can effectively deal with academic integrity issues. To increase enforcement, some schools issued detailed procedures for dealing with violations including enforcement or review committees comprised of varying degrees of administrative, faculty, and student representation (Hamlin et al., 2013; McCabe & Pavela, 2000).

In addition to making expectations and stakeholder roles well known, ethical behavior and leadership should be appropriately rewarded. Acknowledging it in promotion and tenure perhaps through targeted questions on student evaluations and giving awards for faculty role models can elevate the issue among the faculty. Generally, faculty will pay more attention to what is evaluated. Similarly, awards can be given to students who actively have engaged in promoting ethical integrity or won ethics-based contests or competitions bringing attention to it with press releases and postings on the web.

CONCLUSION

Whatever an institution decides is an appropriate approach for them, implementation (Bertram Gallant's third step) requires the involvement of all key stakeholders in prevention through prosecution stages to reduce academic dishonesty and bring about a culture of integrity. The consistent effort of integrating integrity into values, policies, curriculum, conversation, and rewards will produce greater success over time of becoming institutionalized (Bertram Gallant's fourth step). Stakeholders must recognize too that building a community of academic integrity requires time, commitment, and resources.

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EXPERIENTIAL LEARNING FOR MBAs: ARE WE CLOSING THE BUSINESS COMPETENCY GAP?

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ABSTRACT

Recent literature highlights the pragmatic and pedagogic challenges faced by MBA programs trying to serve the expressed needs of employers while providing educational value to students. In June 2017, *The Economist* cited employers' complaints that business schools "encouraged students to think rigidly, to value cautious consideration over risk taking" and described industry-led curriculum design initiatives that focused on "experiential learning with large companies, solving real-world problems."

Building on Kolb's theory of experiential learning and critiques of the mismatch between MBA education and the professional competencies required by employers, the Temple University/Fox MBA has developed a competency-driven curriculum capped by a highly structured, industry-academic-led, live consulting project. In its design and execution, the capstone offers student teams a systematic approach for practicing in-demand business competencies while synthesizing knowledge and applying both to the solution of a pressing business problem for a client expecting practical results. Using over 200 Professional MBA student self-assessments conducted since 2013, this paper provides empirical evidence of the impact of experiential learning. The results indicate the model achieves both professional and educational goals, though perhaps at the price of over-emphasizing competencies that students do not value in the short term.

This paper describes the role of experiential education in competency and professional development, offers initial tests of several theoretical relationships, and concludes with implications for MBA education that balances student and marketplace demands.

INTRODUCTION

As anyone involved in masters of business administration programs is acutely aware, the relevance and value of the MBA degree has been challenged by employers, academics and perhaps to a lesser extent, by students, dating at least as far back as Porter & McKibbin's 1988 report advocating a need for improved instruction for leadership, management, and interpersonal skills. In more recent times numerous critical articles have appeared, most notably Bennis & O'Toole, 2005; Ghosal, 2005; Khuranar, 2007; Mintzberg, 2004; Pfeffer & Fong, 2002, all cited as influential to the research conducted by Robert S. Rubin and Erich C. Dierdorff and reported in their study, "How relevant is the MBA? Assessing the alignment of required curricula and required managerial competencies" (AMLE 8: 208-224).

In 2012 the Fox School of Business at Temple University initiated a broad stakeholder assessment of the strengths and opportunities of their curriculum design to determine how best to close the gap critics perceived between MBA education outcomes and employer needs. One major outcome of this redesign initiative has been the development of a competency-based curriculum culminating in a highly structured, industry-academic led, live consulting project known as the EMC (Executive Management Consulting) practicum.

Central to this redesign is the Kolb educational model, positing a four-stage process as essential for effective learning: concrete experience, reflective observation, abstract conceptualization, and active experimentation (Exhibit 1). The EMC practicum adheres to this model by assigning self-formed student teams to real consulting projects with live, paying clients looking for practical, evidence-based strategic solutions. Each team of 4-6 students simultaneously confronts the complexity inherent in client relationships and a business problem (Concrete Experience); must devise a research plan that draws on their MBA foundational courses across functions (Reflective Observation); make the transition from data to key insights (Abstract Conceptualization); and finally present a set of recommendations to the client for implementation (Active Experimentation).

This paper provides a brief overview of the evolution of the masters of business degree and describes Fox's specific response to the criticisms levelled at MBA programs. We share the preliminary results of our attempt to measure the effectiveness of this learning environment as viewed from the student perspective.

Early indications are that students see improvement in areas of employer-valued "soft skills" such as communication and creative thinking, here captured as presentation skills and consulting skills. The value students place on these competencies shows some variance between current and future worth to their careers. Student responses tend to remain relatively constant across the timeframe of this study, suggesting the program design is being consistently implemented.

Based on early and encouraging findings that the EMC practicum provides the "learning space" (Kolb & Kolb 2005) requisite for behavioral change, we believe additional research is warranted to extend these initial indications from the data. We find significant potential value in replicating some of the research J. Duane Hoover, Robert C. Giambatista, Ritch L. Sorenson and William H. Bommer devised for their "whole person learning" study methodology (Assessing the Effectiveness of Whole Person Learning Pedagogy in Skill Acquisition, Academy of Management Learning & Education, June 1, 2010 vol.9 no 2 192-203). In addition, we may look to sources such as employers for further validation of outcomes to provide a lens external to the student participants.

CRITIQUE OF MBA

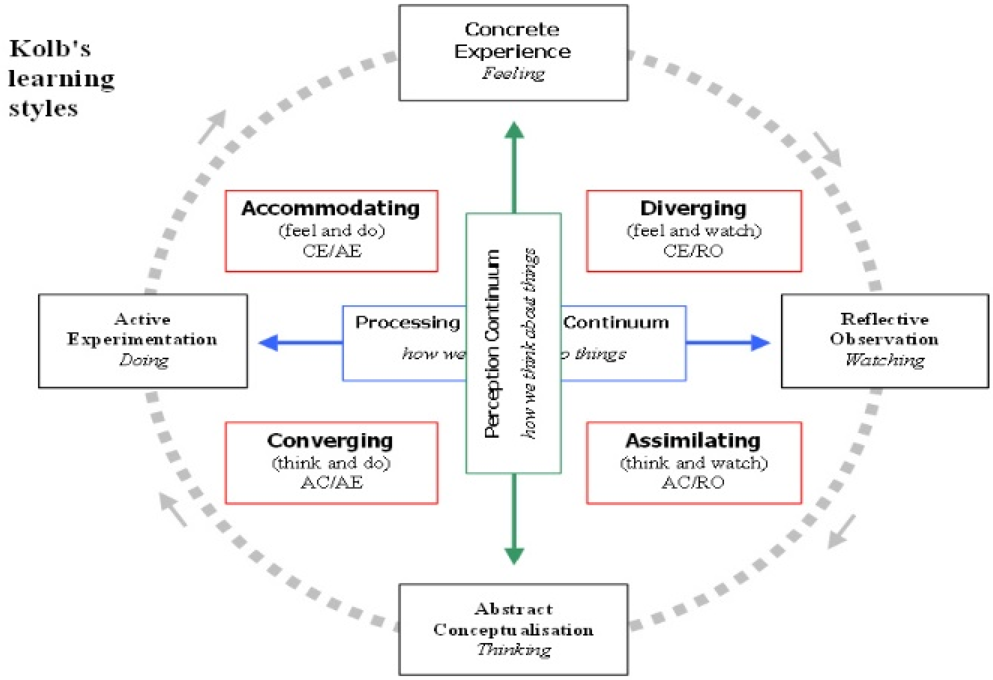
In his November 2008 article (Harvard Business School Discusses Future of the MBA, HBS Working Knowledge, Research and Ideas), Roger Thompson provides a brief history of the MBA, beginning with a 1959 Ford Foundation report critical of the "vocational" caliber of instruction, and prompting the move to a model of business education based in more rigorous academic disciplines. But as Joel Polodny, dean of the Yale School of Management, states as part of the May 2008 Harvard colloquium as reported by Thompson, businesses no longer operate along vertical, bureaucratic models. Instead, organizations are flatter and effective leaders must be able to see opportunity and innovate across functional boundaries. Polodny goes on to describe the modern business landscape in which, "even managers in large organizations have to think and act more like entrepreneurs in their ability to synthesize information and coordinate people and resources on an increasingly global scale" (HBS Discusses the Future of the MBA). MBA programs that emphasize scientific research irrelevant to 21st century business challenges run the risk of "institutionalizing their own irrelevance," warned Warren Bennis, USC Marshall School of Business, a risk supported by ten other scholars in the December/January 2008 issue of the Academy of Management Journal, also cited by Roger Thompson.

One key finding resulting from the Harvard Colloquium was consensus that business schools in general were capable of teaching hard skills of functional and disciplinary knowledge, what the colloquium participants dubbed the "know what", but were far less able and inclined to teach the soft skills of "know how," enabling students to think beyond their specialized skills and develop more self-awareness as leaders.

HBS professors Srikant Datar and David Garvin, who conducted the research preceding the Harvard colloquium, concluded that the employers now place the higher value of "know how", and that business schools must address the "knowing-doing gap" to graduate students with immediate value to employers. A key element of the evolution from knowing to doing can arise from experiential learning, and consequently Datar and Garvin conclude that experiential learning must comprise an essential part of a relevant MBA curriculum.

Specifically, Datar and Garvin's research uncovered a belief among academics and recruiters that MBAs lacked a range of desirable "soft skills" such as emotional intelligence, critical and creative thinking, empathy and introspection and communication skills. Teaching these "soft skills" presents a different set of challenges to universities who have traditionally valued research by their faculty and favored large class formats.

Exhibit 1-KOLB'S THEORY OF LEARNING APPLIED TO FOX CURRICULUM



The Fox faculty, led by Professor TL Hill, embarked on a process for curriculum redesign that recognized these pedagogical and resource challenges. They turned in part to Kolb's theory of learning, shown in **Exhibit 1**, to help guide a restructuring of the classroom experience and provide the theoretical framework for the capstone project design.

In 2012, engaging Fox faculty, staff, students and industry partners, work began on a redesign of the Fox MBA. The process started with a series of regeneration consultations and retreats and led to a vision of a top-tier MBA program that clearly reflects Kolb's influence and includes:

- Life-long learning and engagement with Fox
- A revised curriculum with a compressed, industry-relevant core and a broader, market-driven array of electives;
- An increased emphasis on the learning and demonstration of management skills through an emphasis on experiential learning and portfolio development; and
- A commitment to continual improvement and regeneration through active engagement with industry and self-reflection.

The delivery of the core courses and skills was changed to reflect best practices of adult learning including increased emphasis on flipped classroom delivery; the intentional and careful reinforcement of skills and concepts across courses; the use of increasingly complex and live challenges culminating in Enterprise Management Consulting (EMC) projects for client organizations and companies; and the extensive involvement of business and nonprofit leaders in classes and as evaluators.

To help ensure that a revised educational approach would prepare Fox MBA students to excel in today's workforce, we relied on feedback from members of the business community. The Fox survey went to approximately 1,000 employers and asked for feedback on four broad themes:

- Competencies employers find to be most important
- Screening techniques employers use in assessing talent

- Employer perceptions of the Fox MBA
- Employer perceptions of a competency-based curriculum in general (non-Fox specific)

We received a 20% participation rate with a clear message from respondents: businesses hire and promote those MBAs who can *demonstrate* competencies that will enable them to facilitate effective business decision making across various technical, functional and cultural boundaries.

This is wonderfully consistent with the AACSB's new insistence that learning goals should "reflect the major intellectual and behavioral competencies a program intends to instill in its students… the learning goals should express expectations that reflect the expected depth and breadth of student knowledge and skills that are the sustainable foundations for lifelong learning in support of their professional and personal development." (White Paper No. 3, Association to Advance Collegiate Schools of Business, 2013).

Offering further proof of the need for competency-based learning, Robert S. Rubin & Erich C. Dierdorff's article, "How Relevant is the MBA? Assessing the Alignment of Required Curricula and Required Managerial Competencies" (Academy of Management Learning & Education June 1, 2009 vol. 8 no.2 208-224) used survey results from over 8600 managers across 52 occupations to conclude that the most valued behavioral competencies are the least represented in MBA programs. Their findings identified the most valued broadly described competency categories as:

- Managing human capital
- Managing logistics and technology
- Managing decision-making processes
- Managing administration and control
- Managing strategy and innovation
- Managing the task environment

Here are the seven competencies that the Fox MBA strives to develop in all students.

- Influential Communication | Listening, facilitation, writing, presentation, visuals.
- Leadership | In organizational and especially team settings.
- Financial Acuity | Apply financial analysis and modeling to facilitate diagnosis and decision making.
- Business Reasoning | Generate & apply new knowledge as conditions change. Critical & creative thinking.
- Identify and Evaluate Business Opportunities | Includes innovation management and judgment under conditions of uncertainty. | Implementation Management. Systems, processes, projects.
- Cross-Cultural Effectiveness | Global, regional, local.
- Ethical Management | Integrate ethical and financial bottom lines.

Aligning with the Fox competency findings, in a report by Hoover, Giambatista, Sorenson and Boomer ("Assessing the effectiveness of whole person learning pedagogy in skills acquisition", AMLE 9:192-203) they cite a 2003 Wall Street Journal/Harris Interactive survey rating student and program characteristics most desired by industry recruiters. The top three traits considered executive level skills were "1) communication and interpersonal skills (89%), 2) ability to work well within a team (87%) and 3) analytical and problem-solving skills (85%)."

Hoover, Giambatista, Sorenson and Bommer applied the Hunt & Sorenson model of "Learned Behavior" as an extension of Kolb's 1984 model (Experiencing/Reflecting/Conceptualizing/Experimenting) and incorporated more nuanced suggestions from Kolb & Kolb (2005: 209) that advocates for the creation of "learning space…in curricula for students to pursue such deep experiential learning in order to develop expertise related to their life purpose."

To help students learn and demonstrate these competencies, we built on the success of the Enterprise Management Consulting Practicum. As the final element of their MBA program, students take on live challenges involving real problems provided by partner or client firms. We believe these paid consulting projects must offer students the opportunity to develop and demonstrate specific combinations of competencies. Such challenges provide opportunities to learn and shine, but they can also enhance the relevance of the MBA in the workplace, provide opportunities to interact with business leaders across industries in a professional setting, and raise the expectations for performance across the entire program.

Exhibit 2-SURVEY

In the LAD survey, students were asked to respond to the following open-ended questions: Q1. What did you learn and/or improve (through application) during the Fox MC Experience? Q2. Which of the things that you learned/applied has been most useful in your current professional role? Q3. What of these things you learned/applied/demonstrated do you believe will be most useful in your professional career?

We anticipated that the work products from successful capstone consulting projects would find their way into the students' Placement Portfolios and interview talking points, offering real world examples of their ability to apply what they have learned through their MBA course work. Successful completion of a capstone consulting project enables graduates to speak specifically about their contribution to an innovative, profitable, strategically sound and practicable business solution for an actual business, quite possibly in an industry unrelated to their professional experience.

After eight consecutive semesters of student experience with the EMC practicum and pedagogical framework, we seek to validate our assumptions that "practice makes perfect" through this experiential model.

SAMPLING METHODOLOGY

Beginning in the spring of 2013, Professor David Nash, Faculty lead for the Fox Management Consulting PMBA (Professional MBA) capstone, introduced an open-ended self-assessment survey at the end of the semester. The Fox PMBA students, with an average of 9.75 years of professional experience, tend to be well along in their business careers. Their mid-level management perspective enables them to judge what is useful and valuable in their professional development, in contrast to students at entry level positions anticipating value, or senior level managers with a top-down view.

Professor Nash requires students to complete this self-evaluation, referred to as the LAD (Learn-Apply-Demonstrate) questionnaire during class time, contributing to the high degree of participation and offering confidential insights into the individual capstone experience. The results reported here represent eight PMBA cohorts from Fall 2013 until Spring 2017, a total of approximately 200 respondents with overall gender distribution of 60% male and 40% female. This group of students averaged 9.75 years of professional experience, self-reported. Their educational backgrounds cover a wide range of majors, with only 10.5% reporting Business Administration or Management as their undergraduate degree.

Over this period both the capstone curriculum and the lead instructor (Professor David Nash) were constants, although the specific clients and consulting projects were always unique to each project team.

We collated the responses to the "Learn-Apply-Demonstrate" (LAD) survey for all participants from Fall 2013 through Spring 2017. Through an initial coding exercise that was reviewed by two additional coders, we found indications of acquisition or development of nine broadly defined skills. Of these, four skills were associated with questions 1, 2 and 3 namely:

- problem solving
- teamwork
- project management
- presentation skills

Consulting skill was common only to questions 1 and 3, suggesting a new behavior with future value. Research skills were only associated with question 1, perhaps indicating that students perceive this skill to be of low value. Business acumen and client management surfaced for question 2 as having immediate application in their professional lives. Communication appeared for question 3 as holding future value in addition to present value.

Below are the key words from student responses that we determined comprise each skill, to guarantee that all similar responses were interpreted in the same way and were attributed to the same skill heading.

Definitions for each skill

Teamwork-key words are teamwork, team dynamics, personality conflicts, team conflicts, interpersonal skills, or human resources.

Consulting skills-key word are consulting skills, client management, strategy implementation, ambiguity, project flexibility, dealing with long-term projects, listening skills, writing skills, relationship management, creating a business plan, or client specific interview skills.

Project Management-key words are project management, leadership, team management, time management, or project planning.

Presentation Skills-key words are presentation skills, storyboarding, influential communication, anticipating questions, or making concise recommendations.

Business Acumen-key words are business acumen, business reasoning, financial modeling, business cases, or business price negotiating.

Identifying business opportunities-key words are problem solving, critical thinking, brainstorming, research skills, data analytics, surveying, attention to detail, or general interviewing skills.

As **Exhibit 2** indicates, the survey asked unaided, open-ended questions rather than supplying a list of specific competencies. A careful analysis and interpretation of written responses indicated seven key competencies, correlating to four of the seven core competencies that underlay the Fox curriculum.

Problem solving (correlates to Identify and Evaluate Business Opportunities)
Teamwork (correlates to Leadership)
Consulting Skills (correlates to Business Reasoning)
Research Skills (correlates to Identify and Evaluate Business Opportunities)
Project Management (correlates to Leadership)
Presentation Skills (correlates to Influential Communication)
Business Acumen (correlates to Business Reasoning)

FOX CORE COMPETENCIES	LAD Self-Described Competencies
Influential Communication | Listening, facilitation, writing, presentation, visuals.	Presentation skills
Leadership | In organizational and especially team settings.	Project management skills
Financial Acuity | Apply financial analysis and modeling to facilitate diagnosis and decision making	NA
Business Reasoning | Generate & apply new knowledge as conditions change. Critical & creative thinking	Consulting skills Business acumen
Identify and Evaluate Business Opportunities | Includes innovation management and judgment under conditions of uncertainty. |Implementation Management. Systems, processes, projects.	Problem solving skills Research skills
Cross-Cultural Effectiveness | Global, regional, local.	NA
Ethical Management | Integrate ethical and financial bottom lines.	NA

STUDY LIMITATIONS AND IMPLICATIONS FOR FUTURE ASSESSMENT

We recognize certain limits to the design of the research methodology. The defined nature of the questions creates an opportunity for false positive/false negative responses, since respondents are not asked to identify what we are *not* teaching that would be valuable, only how they value what we feel we are teaching. A mitigating factor is that we did not force their responses into categories, for example specifically asking, "How did this experience affect your communication skills?"

We do not ask students what they believe they need to learn, or what competencies they would most value acquiring/improving. Our view derives from an employer-centric set of skills and does not include a student pre-assessment. We are only soliciting student responses at one point in time, notably the last class of the semester. We are only looking at their replies through one lens, with no triangulation of sources.

Student responses are anonymous, so there can be no external correlation by the instructor determine the veracity of the student's claim to improved performance. Additionally, there is no external corroboration by employers that they see evidence of improved competence in the student.

Despite these limitations, the self-assessments suggest that the EMC capstone experience leads to the acquisition and/or improvement of valuable and applicable career competencies. With the addition of student pre-assessments and solicitation of employer input for external validation, we may be able to arrive at more conclusive evidence of the efficacy of this specific application of experiential learning to close the competency gap for MBAs.

RESULTS

Skills Acquisition or Enhancement

From the cumulative responses, the strongest skills gains appear to be in presentation, teamwork and consulting, activities that link to Fox's core competencies of Influential Communication, Leadership, and Business Reasoning. The EMC practicum strives to develop these behavioral skills, and students seem to be gaining both confidence and ability in these areas.

The largest gains during the EMC experience captured by Q1 reflect the stresses inherent in the program structure. Over the span of 15 weeks students must: develop a high-functioning team (teamwork), complete both course and client deliverables on time (project management), and solve the project challenge, often in a wholly unfamiliar industry (identifying business opportunities).

Less apparent are gains in "hard skills" such as financial acuity. The EMC operates on the assumption that students have acquired functional business knowledge during their course of study, and thus does not attempt to teach "hard skills." It may be that students feel they are already accomplished in this area, but it may also be the case that they do not feel the EMC practicum has enhanced these skills for them.

Changing Value of Skills

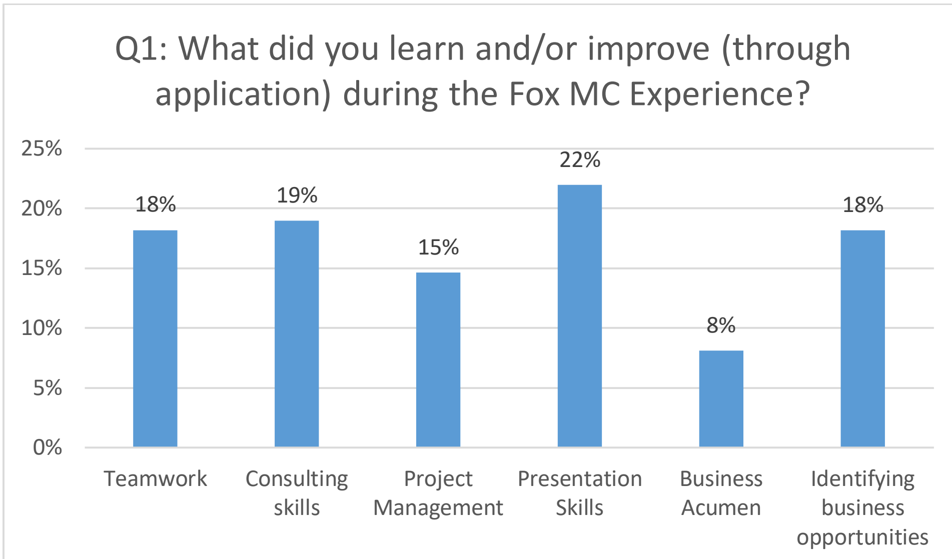
It is interesting to note that students distinguish between skills that are currently valuable and ones that may propel their future careers. While teamwork, presentation skills, business acumen and identifying opportunities remain relatively constant for current and future value, project management and consulting are identified as presenting future value. This is especially rewarding because it suggests that students perceive a match between what they are learning and what employers value. Colquitt, LePine, & Noe, (2000) report a strong correlation between high levels of motivation in education with students' perception of the usefulness of knowledge or skills they are acquiring.

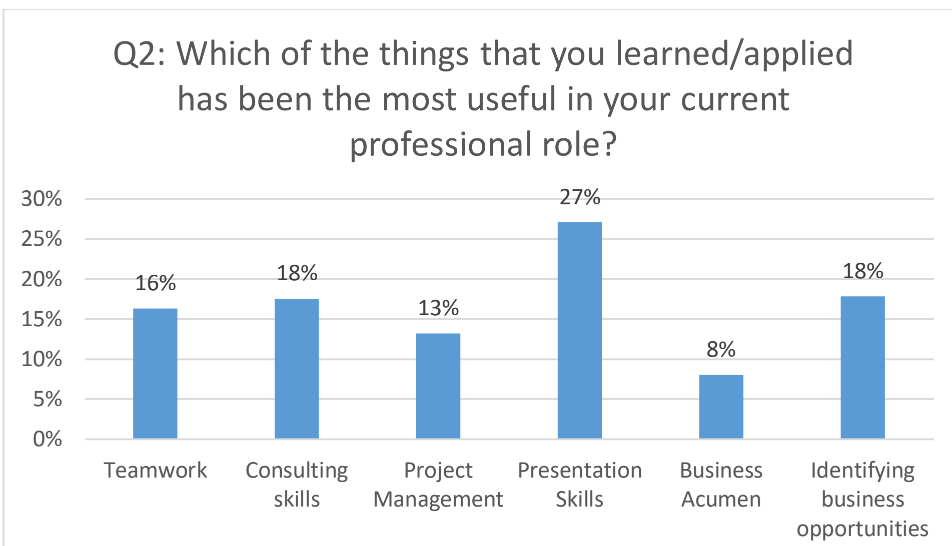
The frequency of citing gains in communication and consulting skills aligns well with the program goals---the EMC practicum appears to be teaching the right things and students are valuing the skills they feel they are mastering.

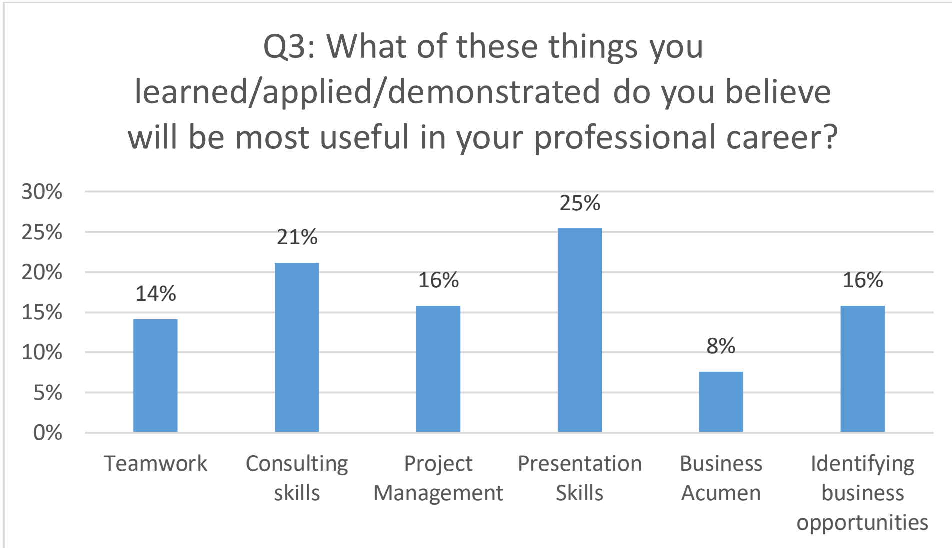
Variations Over Time

Despite having the same curriculum and lead instructor for the duration of this study, we still see some variation in ratings over time. Business acumen (Q1) shows declines from its high in Spring 2014, then posts gains in the Fall of 2015. Consulting and project management (Q3) dip in the Fall of 2016, then show significant gains in Spring 2017. It will require further investigation to know if these fluctuations are brought on by course delivery issues or perhaps are indicative of variations in the student levels of experience.

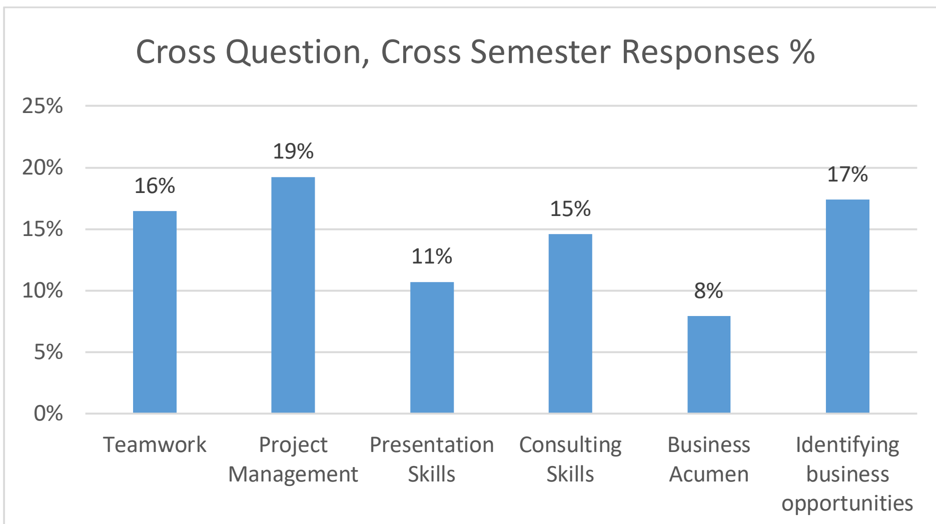
Exhibit 3-LAD Results



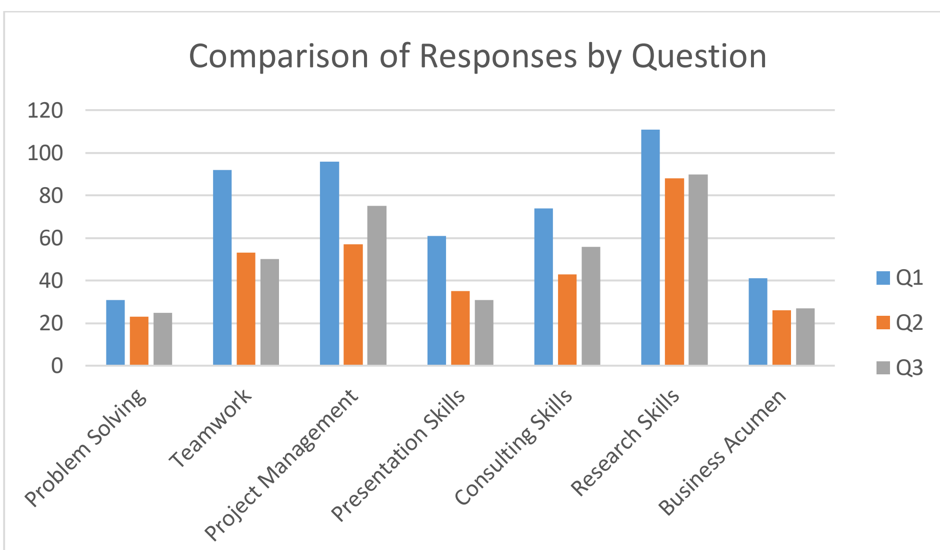




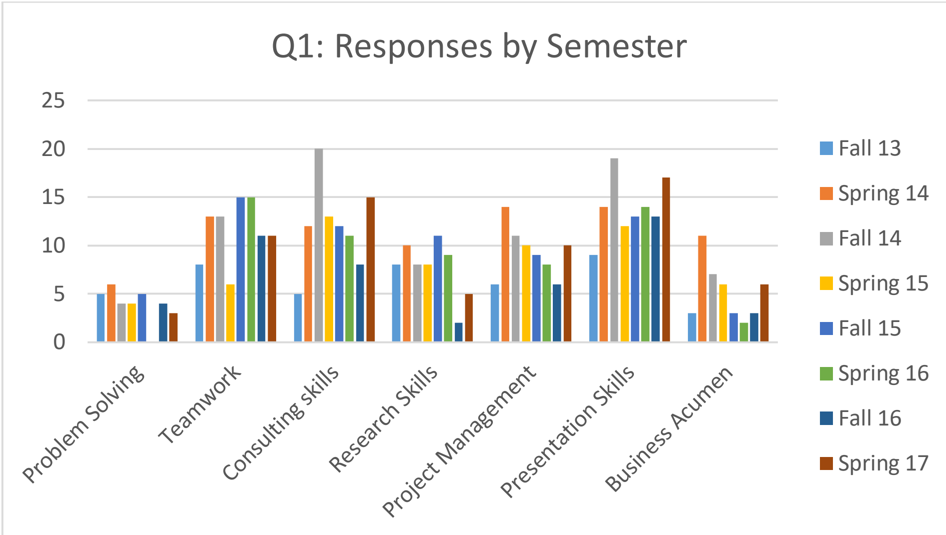
Q3: What of these things you learned/applied/demonstrated do you believe will be most useful in your professional career?
30%
25%
20%
15%
10%
5%
0%
14%
21%
16%
25%
8%
16%
Teamwork
Consulting skills
Project Management
Presentation Skills
Business Acumen
Identifying business opportunities

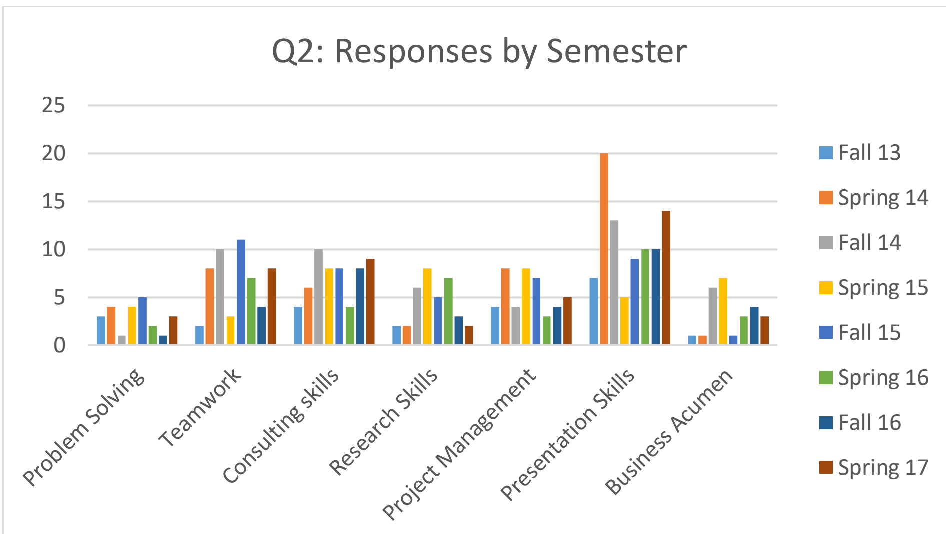


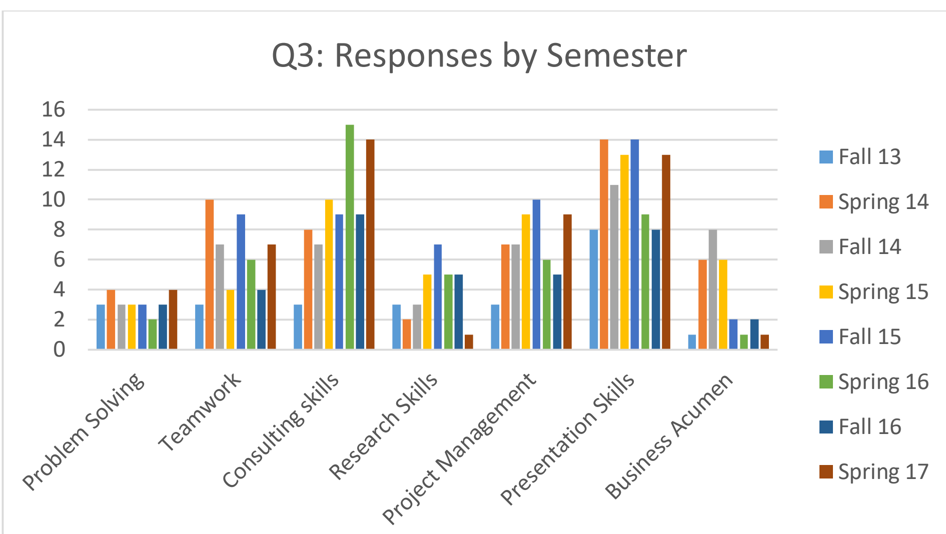
Cross Question, Cross Semester Responses %
25%
20%
15%
10%
5%
0%
16%
19%
11%
15%
8%
17%
Teamwork
Project Management
Presentation Skills
Consulting Skills
Business Acumen
Identifying business opportunities



Comparison of Responses by Question
120
100
80
60
40
20
0
Problem Solving
Teamwork
Project Management
Presentation Skills
Consulting Skills
Research Skills
Business Acumen
Q1
Q2
Q3


Q1: Responses by Semester
25
20
15
10
5
0
Problem Solving
Teamwork
Consulting skills
Research Skills
Project Management
Presentation Skills
Business Acumen
Fall 13
Spring 14
Fall 14
Spring 15
Fall 15
Spring 16
Fall 16
Spring 17


Q2: Responses by Semester
25
20
15
10
5
0
Problem Solving
Teamwork
Consulting skills
Research Skills
Project Management
Presentation Skills
Business Acumen
Fall 13
Spring 14
Fall 14
Spring 15
Fall 15
Spring 16
Fall 16
Spring 17


Q3: Responses by Semester
16
14
12
10
8
6
4
2
0
Problem Solving
Teamwork
Consulting skills
Research Skills
Project Management
Presentation Skills
Business Acumen
Fall 13
Spring 14
Fall 14
Spring 15
Fall 15
Spring 16
Fall 16
Spring 17

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BABY BOOMERS IN BACK OFFICE ACCOUNTING: HOW WILL SMALL BUSINESSES REPLACE THEIR AGING BOOKKEEPERS?

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ABSTRACT

As baby boomers (those born 1946-1964) retire, CPA firms have been forced to address staffing and succession planning. While CPA firms are addressing this issue, an important population of aging professionals in the accounting industry has been largely ignored: bookkeepers. The United States Department of Labor Bureau of Labor Statistics currently reports that bookkeepers and accounting clerks will experience a decline in employment from 2016-2026 compared to an increase in employment for accountants and auditors during the same time frame. In many companies, technology, software, and outsourcing have driven the projected decline in bookkeeping and accounting staff. On the surface, this negative growth indicates that the need for new bookkeepers will decrease substantially in the near term. Upon looking deeper into BLS and SBA data, professional journal articles, and media articles, we find that the trend toward lower employment and automation replacing bookkeepers may not be wholly accurate. The combination of an aging population of bookkeepers currently in the workforce and fewer new entrants into the field may not be sufficient to meet the needs of companies, especially small businesses. We conducted a convenience sample of small businesses to test our basic assumptions and to assess the need for a larger study. Our hope is to develop a guide for small businesses on best practices for securing employees with the skills sets they desire, and for adopting technology or other strategies to automate their bookkeeping and accounting functions.

INTRODUCTION AND EMPLOYMENT DATA

Recent articles in professional accounting journals have raised concerns that the potential retirement of baby boomer partners may lead either the postponement of retirement or a shortage of potential partners (Drew, 2015; Tysiac, 2016). Firms recognize how critical staffing and succession planning is to their survival, and are taking steps to fill the gaps. The United States Department of Labor Bureau of Labor Statistics (BLS) expects a ten percent increase in employment in Accountants and Auditors over the ten year period 2016-2026, with annual occupational openings averaging 141,800 (see Table 1). During the same time frame, the BLS indicates that Bookkeeping, Accounting and Auditing Clerks (Bookkeepers) will see a 1.4 percent decline in employment. On the surface, this negative growth may seem to show that the need for bookkeepers will be substantially decreasing in the near term. As we break down the data further, we will try to show that this in fact may not be the case.

Table 1.

Occupation	SOC Code	Employment 2016 (thousands)	Employment 2026 (thousands)	Employment Change 2016-2026 (thousands)	Employment Change 2016-2026 (percent)	Occupational openings, 2016-2026 annual average (thousands)
Accountants and auditors	13-2011	1,397.7	1,538.0	140.3	10.0	141.8
Bookkeeping, accounting, and auditing clerks	43-3031	1,730.5	1,706.9	-23.5	-1.4	186.6

Source: United States Department of Labor Bureau of Labor Statistics (2017a).

BLS definitions of Bookkeeping, Accounting and Auditing Clerks include Bookkeepers, Accounts Receivable Clerks, and Auditing Clerks, among other similar titles. Accountants and Auditors include Auditors, CPAs, Cost Accountants, Financial Accountants, Fund Accountants, Internal Auditors, and Tax Accountants. The differences in median wages, entry level education, experience and training are shown in Table 2.

Table 2.

Occupation	2016 median annual wage	Education, work experience, and training Typical entry-level education	Work experience in a related occupation	Typical on-the-job training
Accountants and auditors	68,150	Bachelor's degree	None	None
Bookkeeping, accounting, and auditing clerks	38,390	Some college, no degree	None	Moderate term on-the-job training

Source: United States Department of Labor Bureau of Labor Statistics (2017a).

The BLS defines occupational openings as the projected number of positions for workers entering the occupation. It represents the sum of net occupational employment change and occupational separations. Workers who change jobs within an occupation do not generate openings since there is no net change from this movement. Although the employment change for Bookkeepers indicates a decrease of 23,500 available jobs from 2016-2016, average annual occupational openings during this time are expected to reach 186,600. A large number of openings in an occupation experiencing decline may indicate a high need to replace existing workers who are separating, for example, due to retirement. As the aging population of bookkeepers prepares for retirement, opportunities to enter the occupation should be plentiful, despite the projected decline in overall employment.

Technological change is most likely the reason for expected decrease in employment growth for bookkeepers. Software innovations, such as cloud computing, have automated many of the tasks performed by these individuals in the past. As a result, the same amount of bookkeeping work can be done with fewer employees, which is expected to lead to job losses. With more routinized tasks automated, bookkeepers are expected to take on more analytical and advisory roles. For example, rather than performing manual data entry, bookkeepers will focus more on analyzing clients' books and pointing out potential areas for efficiency gains.

Table 3 shows that the median age of those in the Bookkeeping occupation is 4.2 years higher than those labeled as Accountants and Auditors, 49.4 years old compared to 45.2 years old, respectively. This means that a shortage of bookkeeping professionals may be upon us faster than a shortage of incoming partners in CPA firms. Focusing on the two eldest age brackets (baby boomers, and potential retirees) is important. The percent of employees in these age brackets is much higher than both accountants and employees as a whole. These two oldest demographics (ages 55 and over) account for 35.9% of bookkeepers and 26.4% of accountants, while only 22.7% of all employees. Of workers 65 and older, a staggering 11.7% of bookkeepers are still in the labor force, compared to 7.1% of accountants, and double the average of all employees.

Table 3.

Occupation	2016 Total, 16 years and over	16 to 19 years	20 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over	Median age
Total Employed	151,43	4,965	14,02	33,72	31,56	32,72	25,52	8,916	42.2
Percent	100.0%	3.3%	9.3%	22.3%	20.8%	21.6%	16.8%	5.9%	n/a
Accountants/audito	1,777	1	87	430	356	433	343	126	45.2
Percent	100.0%	0.1%	4.9%	24.2%	20.0%	24.4%	19.3%	7.1%	n/a
Bookkeepers/clerks	1,137	4	62	173	211	279	275	133	49.4
Percent	100.0%	0.4%	5.4%	15.2%	18.6%	24.5%	24.2%	11.7%	n/a

Source: United States Department of Labor Bureau of Labor Statistics (2017b).

ARE BOOKKEEPERS STILL NEEDED?

So why is no one talking about a need for bookkeepers? The immediate reaction to BLS gives the impression that bookkeeping jobs are in substantial decline while accounting professional positions are on the rise. It's not surprising that careers that require higher levels of education and command greater salaries take precedent in the industry. A recent AICPA report showed that new accounting graduates hired by CPA firms increased 7% during 2014 and reached record levels in the industry. Over ninety percent of accounting firms expected to hire the same or more accounting graduates during 2015. A similar outlook existed for experienced professionals with 93 percent of all public accounting firms, and 100 percent of those employing 50 or more CPAs, indicating that they expected to hire the same or more experienced professionals in 2015. At the same time enrollment in account programs reached record levels with 253,000 students enrolled in accounting programs at all levels during the 2013-2014 academic year, a five percent increase from 2011-2012. However, while the supply of candidates for public accounting positions increased, the number of new candidates taking the CPA exam declined 17 percent (AICPA, 2015). This may help to perpetuate the need for firms to continue to recruit and hire young as well as experienced professionals.

The story that is not being told is that of the clients of both large and smaller accounting firms: the clients that rely on bookkeepers and accounting clerks to manage their financial data on a day-to-day basis. Many of these clients are concerned with the projected decline in supply of new candidates to meet their needs. While statistics predict overall negative job growth for bookkeepers due to automation, a large number of new and replacement positions still exist, fueled in large part by an aging workforce entering retirement.

For years accounts payable functions consisted of large numbers of clerks and bookkeepers typing thousands of orders into one large database, following this process through various approvals, printing checks and stuffing and postmarking envelopes to send timely payments to vendors. Accounts receivable functions occurred with a similar number of clerks receiving incoming payments, recording those payments into a database and tracking thousands of individual customer balances and aging reports. Today "robots", namely software, have automated these duties and allowed some large businesses to reduce their accounting and finance department staff, and thus lower their labor costs. For example, Verizon Communications, Inc. has reduced its finance department costs by 21 percent over the past three years. It closed over 100 back-office locations across the country, built a new hub for accounting and finance operations, and in the process cut jobs. It's been reported that the median number of full-time employees in large finance departments have declined by 40 percent since 2004. Along with Verizon, other large companies such as GameStop Corp. and Pilot Travel Centers LLC are among the industry leaders that have taken similar steps (Monga, 2015).

It's the larger companies, taking advantage of technology to automate accounting and financial processes that have been eliminating bookkeeping jobs, and are therefore largely responsible for the decrease in expected growth for the occupation. An impending shortfall of bookkeepers has gone seemingly undetected, as news of automation in large companies dominates the media. However, while large companies will no doubt continue to utilize high-powered software programs to automate finance and accounting functions to save money, the same software is too costly for most small businesses. The bottom line is that small business will still need bookkeepers.

The U.S Small Business Administration (SBA) defines small businesses as an independent business having fewer than 500 employees. Per the most recent census in 2010, there were 27.9 million small businesses and only 18,500 companies with 500 employees or more. While only 21.5 percent of these small businesses are employers, they accounted for 64 percent of the net new jobs created between 1993 and 2011 (11.8 million of 18.5 million net new jobs). Small businesses make up 99.7 percent of U.S. employer firms and employ almost half of the nation's private sector workforce or 120 million individuals (SBA Office of Advocacy, 2012).

Small businesses will continue to rely heavily on bookkeepers and accounting clerks as those individuals will be more cost effective than the software programs utilized larger companies. With that said, these businesses also need to realize that technology is not going away. Small businesses should begin looking at cost effective ways to help supplement and assist bookkeepers on staff as their businesses grow. Applications such as Bills.com and Ledgersync are examples of software that are more cost effective than those used by large companies, and can still help streamline the accounting functions for small businesses. Small companies with bookkeepers and clerks in the baby boomer demographic need to begin planning for replacement staff and also make sure technology is being utilized in a productive and cost-effective manner.

SURVEY OF SMALL COMPANIES

To test our assumption that small businesses need bookkeepers and will continue to need them in the future, we conducted a small convenience sample. We hoped to get a better idea of the current bookkeeping staff utilized by small companies and their plans for automation of these functions. The results affirmed our assumptions and justify the need for a larger study. See Table 4. Respondents were asked to report all accounting staff, leaving the designation of bookkeeper or accountant to us. We excluded three reported positions based on our understanding of the BLS definitions of bookkeepers versus accountants and auditors (two CFOs and one Controller). In our sample the average age of the bookkeeping staff (including the 21 a year-old outliers) is 49 years, and 55 when they are excluded. The median age of all bookkeepers in this small sample is 54 which classifies them as baby boomers.

Table 4.

Industry Represented:	Annual Revenues	Total Employees	Accounting Staff	Position Titles	Degree	Annualized Pay	Age
(1) HVAC/ Plumbing	$40,000,000	160	4	AP Clerk	n/a	$ 43,680	64
				Accounting Clerk	n/a	$ 45,760	61
				Payroll Clerk	A.S.	$ 39,520	57
				Billing Coordinator	A.S.	$ 37,440	22
(2) Construction	$27,500,000	40-125	3	A/R & A/P Clerk	n/a	$ 47,250	55
				Payroll Clerk	n/a	$ 55,000	60
				CFO	B.S.	$ 90,000	57
(3) Manufacturing	$6,000,000	35	2	CFO	B.S.	$ 150,000	52
				Accounting Clerk	n/a	$ 33,280	21
(4) Janitorial	$1,100,000	44	2	Accounting Clerk (Office Manager)	n/a	$ 33,280	50
				Bookkeeper	B.S.	$ 33,280	50
(5) Payroll Processing	$5,500,000	41	2	Controller	B.S.	$ 80,000	52
				Asst. Bookkeeper	A.S.	$ 55,000	45
(6) Printing/ Embroidery	$1,000,000	10	1	Bookkeeper	A.S.	$ 54,080	54

Respondents identified the accounting system or software they currently used; all utilized automated accounting to at least some level (Table 5). None of the companies reported outsourcing any of their accounting functions. Three of six companies indicated they had plans to further automate the accounting function, however none reported that this increase in automation would reduce staff. None had recently downsized or had plans to downsize in the future. One company had plans to expand its staff in the future. The results of our small sample confirmed a need for more data and deeper questions. However, our initial assumptions about the continued need for and imminent shortage of bookkeepers are supported by our research and deserve further study.

Table 5.

Company	Current Accounting System/Software Utilized	Any Outsourced Accounting?	Plans to Automate Accounting?	Automation will Reduce Staff?	Have you Recently Downsized	Future Plans to Downsize?
(1)	COINS OA	No	No	n/a	No	No
(2)	ComputerEase & Sage	No	Yes	No	No	No
(3)	Microsoft Dynamics GP	No	Yes	No	No	No
(4)	QuickBooks	No	No	n/a	No	No
(5)	Sage 50	No	No	n/a	No	No
(6)	QuickBooks	No	Yes	No	No	No

CONCLUSION AND FUTURE RESEARCH AGENDA

Our interpretation of the BLS and SBA data reveals that even though the trend is toward lower employment and automation replacing bookkeepers, the aging population of bookkeepers currently in the workforce and the number of new entrants into the field will not be sufficient to meet the needs of companies, especially small businesses. Our sample of small companies supported our basic assumptions and confirmed the need to conduct a larger study. The next study will probe deeper into the accounting staff and automated accounting functions in small companies. Our goal is to guide small businesses in the best practice for securing employees with the skills sets they desire and whether or not to explore the technology that larger companies use to automate the bookkeeping and accounting they need.

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WHO IS AN ENTREPRENEUR? MAYBE WE ALL ARE

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ABSTRACT

Entrepreneurs have played a vital role in the history and growth of the world. There is an established academic field that researches all aspects of entrepreneurship. Despite the proliferation of research, there is no one accepted definition of entrepreneur. This paper explores the varying definitions of the term. Whether a person is an entrepreneur or small business owner may not matter much to the person being defined but the definition takes on greater importance when writing reports and or/conducting research on entrepreneurs.

INTRODUCTION

There is no argument that entrepreneurs have played, and continue to play, a vital role in world economies. The Kauffman Index of Entrepreneurship (The Kauffman index…, 2017) measures U.S. entrepreneurs at the national level. The index focuses on actual results of entrepreneurial activity (new companies, business density and growth rates). For 2016, the rate of new entrepreneurs was .31 percent, which means that 310 out of every 100,000 people became entrepreneurs in a given month.

In recent years, the term entrepreneur has been applied to business owners, aspiring business owners and even students who might be thinking of starting a business. It seems everyone who owns or wants to start a business in an entrepreneur. According to Valenzuela (2001), even day laborers are a form of "survivalist entrepreneurs," which are entrepreneurs who can't find a paid job (Chauke, 2015) or are in danger of slipping deeper into poverty (Strydom, 2015).

A speaker billed as an entrepreneur gave a presentation. He started a business that, over a few decades, grew into a large, successful corporation. While his accomplishments were applauded I wondered if he could still be considered an entrepreneur or simply a great manager. When asked about the distinction, the speaker was perturbed and took issue with the suggestion that he was anything but an entrepreneur. Other researchers have asked the same question such as Gartner (1990, p. 16), "Is entrepreneurship just a buzzword, or does it have particular characteristics that can be identified and studied?" Some view an entrepreneur as a person who starts a business. In this view, the speaker would be considered an entrepreneur but other notable business figures such as Liliane Bettencourt, heir to the L'Oréal, would not be considered an entrepreneur because she inherited the business.

Why wouldn't anyone want to be an entrepreneur? The terms entrepreneur and/or entrepreneurship are associated with innovation, risk taking, and people that help build the economy. Even the negative terms to describe entrepreneurs such as perfectionist, workaholic, selfish, egotistical and unfocused (Zwilling, 2013) are often stated in positive terms as if speaking of a super hero. It appears people surrounding a person with even the worst traits are willing to sacrifice their own interests if it's in the service of a great entrepreneur.

The term is overused and consequently people are confused about the meaning of the term. This paper explores the definition of entrepreneur. A historical perspective as well as modern definitions are explored. The emergence of sub-categories of entrepreneurs will also be discussed. Whether a person is called an entrepreneur matters to practitioners, students and the faculty that will be teaching in these programs. It is also important for researchers to accurately describe a sample when researching entrepreneurship. "Good science has to begin with good definition" (Bygrave and Hofer, 1991, p. 13).

EARLY DEFINITIONS

Entrepreneur comes from the French word *entreprendre*, which means to undertake or "one who undertakes; a manager, controller; champion" (The compact edition of the Oxford English dictionary, 1980, p. 225). Several scholars provide the foundation for current definitions of entrepreneur and entrepreneurship. The first person to use the term in the early 1700s was Richard Cantillon (1959) in *Essai sur la nature du commerce en general (Essay on the Nature of Trade in General).* Cantillon stated that entrepreneurs bear the risk of buying at fixed prices and selling at uncertain prices. He distinguished between fixed income wage earners and non-fixed income wage earners, the latter being entrepreneurs. Cantillon focused more on the economic role of the entrepreneur (Stevenson and Jarillo, 2007).

Jean-Baptiste Say is credited for advancing the concept in economic theory (Rothbard, 2004; Pozen, 2008). Say stated that entrepreneurs combine production factors in new ways. According to Say, an entrepreneur "shifts economic resources out of an area of lower and into an area of higher productivity and greater yield" (as cited by Drucker, 1985, p. 21). Say believed that to be an entrepreneur "requires a combination of moral qualities that are not often found together…judgement, perseverance and a knowledge of the world, as well as business" (Say, 2001 (1803), p. 177). For Say, entrepreneurs were extraordinary individuals who advanced the economy (Pozen, 2008).

Another pioneer in the development of the definition of entrepreneur was Joseph A. Schumpeter (1934), who added the idea of innovation to the understanding of the term:

> The carrying out of new combinations we call "enterprise"; the individuals whose function it is to carry them out we call "entrepreneurs." These concepts are at once broader and narrower than the usual. Broader, because in the first place we call entrepreneurs not only those "independent" business in an exchange economy who are usually so designated, but all who actually fulfil the function by which we define the concept, even if they are, as is becoming the rule, "dependent" employees of a company, like managers, members of boards of directors, and so forth, or even if their actual power to perform the entrepreneurial function has any other foundations, such as the control of a majority of shares. As it is the carrying out of new combinations that constitutes the entrepreneur, it is not necessary that he should be permanently connected with an individual firm; many "financiers," "promotors," and so forth are not, and still they may be entrepreneurs in our sense. On the other hand, our concept is narrower than the traditional one in that it does not include all heads of firms or managers or industrialists who merely may operate an established business, but only those who actually perform that function (p. 74).

Although Schumpeter did not use the term, intrapreneur, his definition of entrepreneur did include people within an established firm that fit the parameters of carrying out new combinations. This is congruent with the modern definition of intrapreneur. Schumpeter believed an entrepreneur should carry out "new combinations" which he defines as follows:

> This concept [of new combinations] covers the following five cases: (1) The introduction of a new good - that is one with which consumers are not yet familiar - or of a new quality of a good. (2) The introduction of a new method of production, that is one not yet tested by experience in the branch of manufacture concerned, which need by no means be founded upon a discovery scientifically new, and can also exist in a new way of handling a commodity commercially. (3) The opening of a new market that is a market into which the particular branch of manufacture of the country in question has not previously entered, whether or not this market has existed before. (4) The conquest of a new source of supply of raw materials or half-manufactured goods, again irrespective of whether this source already exists or whether it has first to be created. (5) The carrying out of the new organisation of any industry, like the creation of a monopoly position (for example through trustification) or the breaking up of a monopoly position (p.66).

Schumpeter states that once an entrepreneur no longer carries out new combinations, he becomes a manager and is no longer an entrepreneur. This fits with a more recent mantra from Tony Falkenstein, a New Zealand entrepreneur who stated, … "To start a business does not necessarily make you an entrepreneur. Entrepreneurs 'create needs'; business people 'satisfy needs'" (as cited by Global Entrepreneurship Monitor…2011).

MODERN CONTRIBUTIONS

More recent research into entrepreneurship include or expand upon the seminal work of Cantillon, Say and Schumpeter. For example, Kirznerv (1973) emphasizes the idea of alertness when speaking of entrepreneurs. He states that an entrepreneur is alert to existing opportunities and defines alertness as "the 'knowledge' of where to find market data" (p. 67). Agreeing with previous scholars on the importance of innovation, Baumol (1993) defines the entrepreneur as "…any member of the economy whose activities are in some manner novel, and entail the use of imagination, boldness, ingenuity, leadership, persistence, and determination in the pursuit of wealth, power, and position, though not necessarily in that order. In other words, the term is meant to encompass all nonroutine activities by those who direct the economic activities of larger or smaller groups or organizations. Because measures that are not obvious or tried and true are that person's domain, innovation must indeed belong to that territory" (p. 5).

Cunningham and Lischeron (1991) divide entrepreneurship into how different schools of thought view entrepreneurship. They grouped these schools of thought by its interest in studying different aspects of entrepreneurship: Assessing Personal Qualities (Schools of Thought: Great Person, Psychological Characteristics); Recognizing Opportunities (Classical School of Thought), Acting and Managing (Management School of Thought and Leadership School of Thought) and Reassessing and Adapting (Intrapreneurship School of Thought). They assert that no one school of thought is better than others and the selection of a school of thought depends on what the researcher wants to emphasize.

Carton, Hofer and Meeks (1998) state, "the essence of entrepreneurship is the pursuit of a discontinuous opportunity involving the creation of an organization (or sub-organization) with the expectation of value creation to the participants. The creation of an organization involves the accumulation and deployment of resources and the building of organizational structure to pursue an opportunity" (p. 5). As other have done, Wennekers and Thurik (1999) combine previous definitions: "Entrepreneurship is the manifest ability and willingness of individuals, on their own, within and outside existing organisations, to perceive and create new economic opportunities (new products, new production methods, new organisational schemes and new product-market combinations) and to introduce their ideas in the market, in the face of uncertainty and other obstacles, by making decisions on location, form and the use of resources and institutions" (p.46–47). Shane and Venkataraman (2000) define entrepreneurship as "the scholarly examination of how, by whom and with what effects opportunities to create future goods and services are discovered, evaluated and exploited" (p. 218). Thus, an entrepreneur is the individual who discovers, evaluates and exploits opportunities.

Although there are numerous definitions of entrepreneurship, most include the following points: Entrepreneurs take risks; create and discover new opportunities; are innovative and institute change to the economy, industry or organization.

DIFFERENCE BETWEEN BUSINESS OWNERS AND ENTREPRENEURS

Several researchers distinguish between small business owners/managers and entrepreneurs. According to Mintzberg (1973, p. 128) "The entrepreneur is commonly found at the helm of a small business organization, where innovation is the key to survival. He may also be found at the head of, or within, a large organization that is changing rapidly. But his tenure here is probably short-lived." Mintzberg suggests that when a company becomes too large or consolidates, "…the entrepreneur is likely to become an insider…". Carland, Hoy, Boulton and Carland (1984) provide a conceptual distinction between small business owners and entrepreneur and, as others have done, focuses on innovation, "The critical factor …to distinguish entrepreneurs from nonentrepreneurial managers and, in particular, small business owners is innovation" (p. 357). Gartner (1990) states "eight themes constitute the difference between entrepreneur and non-entrepreneur: the entrepreneur, innovation, organization, creation, creating value, profit or non-profit, growth, uniqueness and the owner-manager."

Drucker (1985) denies the notion that entrepreneurship is a science or an art. Instead he believed entrepreneurship to be a practice. Because of this, he believes people can learn to be entrepreneurs when they are taught or put into a position to behave as an entrepreneur. He did not believe all small business owners are entrepreneurs, "Admittedly, all new small businesses have many factors in common. But to be entrepreneurial, an enterprise should have special characteristics over and above being new and small. Indeed, entrepreneurs are a minority among new businesses. They create something new, something different; they change or transmute values" (p. 22).

SUB-CATEGORIES OF ENTREPRENEURS

The entrepreneur term is so widely used that sub-categories of the term have come into vogue. Sub-categories can be based on profession, end goal or stage in the entrepreneurial process. Gartner (1985) may have liked the subcategories as he states that there are many variations of entrepreneurs. An example of an entrepreneur based on profession is the agri-entrepreneur which is a person owning and managing an agricultural business (Pindado and Sánchez, 2017) and the tourism entrepreneur who starts or owns a tourism-based business (Padurean, Nica, & Nistoreanu, 2015).

Several sub-categories are based on the end goal of the entrepreneur such as the social entrepreneur who tailor their activities with the goal of creating social value (Abu-Saifan, 2012) and the lifestyle entrepreneur, who is focused more on finding a comfortable way of living instead of profit and growth (Burns, 2016; Morrison, Andrew, and Baum, 2001). In terms of stage in the entrepreneurial process, an entrepreneur who has not yet started a business but is thinking about it is called a nascent entrepreneur (Gartner and Shaver, 2012).

A survivalist entrepreneur is a person who can't find a paid job (Chauke, 2015) or are in danger of slipping deeper into poverty (Strydom, 2015) so they seek creative ways to earn a living. If a person works within an established company but use entrepreneur skillsets, such as introducing new products or processes, he or she is an intrapreneur (Menzel, Aaltio, and Ulijn, 2007; Savoiu, 2010). A shift in perspective from entrepreneur to entrepreneurial mindset and/or entrepreneurial spirit may have helped to create the many sub-types of entrepreneurs. The idea behind an entrepreneurial mindset and/or entrepreneurial spirit is that you don't have to be an entrepreneur in the traditional sense as long as you have the characteristics of an entrepreneur, especially that of being innovative and a risk-taker. The following table summarizes some of the sub- categories of entrepreneurs:

Social entrepreneur	Entrepreneurs [who] tailor their activities to be directly tied with the ultimate goal of creating social value (Abu-Saifan, 2012)
Lifestyle entrepreneur	An entrepreneur focused more on finding a comfortable way of living instead of profit and growth (Burns, 2016; Morrison, Andrew, & Baum, 2001).
Intrapreneur	A person within an existing organization who is innovative particularly in introducing new products, processes and services to help the company grow and obtain profits (Menzel, Aaltio, & Ulijn, 2007)
Nascent entrepreneur	Anyone who is, actively in the process of organizing a business (alone or with others) (Gartner and Shaver, 2012)
Survivalist entrepreneur	People who can't find a paid job (Chauke, 2015) or are in danger of slipping deeper into poverty (Strydom, 2015).
Agri-entrepreneur	Individuals owning and managing an agricultural business (Pindado and Sánchez, 2017)
Inventor-entrepreneur	A person whose main purpose is to invent new products or processes; uses a business as a vehicle to further invent new products (Smith, 1967).
Policy entrepreneur	A person in politics who promote policy ideas to effect change (Linos, 2006).
Student entrepreneur	A student enrolled in an entrepreneurship course and/or program (Fiet, 2001; Robinson, Huefner, & Hunt, 1991)
Academic entrepreneur	The creation of new business ventures by university professors, technicians, or students (Doutriaux, 1987, p. 285)
e-entrepreneur	An entrepreneur that creates an online-only business (Savoiu, 2010)

CONCLUSION

Several researchers conclude that it is difficult to come to one definition of entrepreneur (Anderson and Starnawska, 2008; Evans, 2016). According to Gartner's review (1988), there were over 30 definitions of an entrepreneur, from which he concludes:

> (1) that many (and often vague) definitions of the entrepreneur have been used (in many studies the entrepreneur is never defined); (2) there are few

> studies that employ the same definition; (3) that lack of basic agreement as to “who an entrepreneur is” has led to the selection of samples of “entrepreneurs” that are hardly homogeneous. ... (4) that a startling number of traits and characteristics have been attributed to the entrepreneur, and a “psychological profile” of the entrepreneur assembled from these studies would portray someone larger than life, full of contradictions, and, conversely, someone so full of traits that (s)he would have to be a sort of generic “Everyman” (p. 21).

Based on the literature it is clear, that there is no one accepted definition of an entrepreneur. According to Brockhuas and Horwitz (1985), “The literature appears to support the argument that there is no generic definition of the entrepreneur, or if there is we do not have the psychological instruments to discover it at this time. Most of the attempts to distinguish between entrepreneurs and small business owners or managers have discovered no significant differentiating features” (pp. 42-43). Danhoff (1949) states, “Entrepreneurship is an activity or function and not a specific individual or occupation…the specific personal entrepreneur is an unrealistic abstraction” (p. 21). Despite the lack of consensus in the definition, entrepreneurs and entrepreneurship is still a worthy field of study as it makes our understanding of the process, mechanisms, innovation and the changes processes in business clearer (Shane & Venkataraman, 2000)

Arthur Cole (1969), who ran a center in entrepreneurial history at Harvard from 1948-1958, stated “…for ten years we tried to define the entrepreneur. We never succeeded. Each of us had some notion of it—what he thought it was, for his purposes, a useful definition. And I don’t think you’re going to get farther from that” (p. 17). What he wrote in 1969 still holds true today. Perhaps a task force composed of prominent researchers in entrepreneurship could be formed to develop standard definitions of terms used in the field. As the field grows a common terminology is needed. Because of the proliferation of different terms and meanings, it is important to operationally define terms when conducting research. In the meantime, maybe we are all entrepreneurs.

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THE ADOPTION OF PROFESSIONAL DISCIPLINES AT A LIBERAL ARTS COLLEGE IN WESTERN PENNSYLVANIA: GENEVA COLLEGE

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ABSTRACT

This paper explores the level of integration of professional disciplines into the overall academic community at Geneva College, the level of collaboration with the liberal arts disciplines, as well as the perception of the professional disciplines relative to the core mission of the college. The exploration of this topic, the specific findings at Geneva College, and the proposed recommendations for further collaboration and integration will be of interest to most liberal arts colleges.

INTRODUCTION: THE HYPOTHESIS

The professional disciplines at Geneva College include Business & Accounting, Engineering, and Counseling. The liberal arts "core" courses are considered to be "biblical studies, liberal arts, and the humanities." There are a number of other majors at Geneva College that straddle the fence between the Core courses and the professional disciplines. These include, Psychology (pre-professional to Counseling), Communications (an art and a profession), Education (primarily reading, and literature), and the math and sciences. Geneva College was founded in 1848. It has been located in the general facility of where it is today for the past 12 years. Geneva College was founded on the idea that, at least in part, that teaching these subjects provided a well-rounded education for individuals and helped them to fulfill their callings as children of God, helping them to also achieve their full potential as human beings. So for Geneva, the concern for integration would center on the professional disciplines listed above being well-integrated into the "core" curriculum. Therefore, for the sake of this paper, "Liberal Arts" and "Core" will be used synonymously.

Based on my personal experience at Geneva College, as well as discussions I have witnessed, my initial hypothesis is that "Geneva College does not integrate these two areas together very well. There is ongoing animosity between the two groups and much of this animosity seems to stem from:

1. The belief that the professional disciplines are not central to the mission of Geneva College, as was stated in a faculty meeting approximately two years ago by the former President of the College.
2. The belief that professional disciplines train students to obtain a job and that true education of the individual (as focused on in the Core) is not the primary objective of the professional disciplines.
3. The recognition that, during this difficult financial season, the size and popularity of the professional disciplines help to fund the rest of the programs at Geneva College."

THE BENEFITS OF A LIBERAL ARTS EDUCATION AND WHY IT MAY BE AT ODDS WITH PROFESSIONAL DISCIPLINES ON MANY CAMPUSES

A liberal arts education involves education in each of the disciplines: the arts, music, mathematics, sciences, grammar, literature, and social sciences. Newman (Newman, 1994) emphasized the importance of a liberal education in Discourse VI of his book, *The Idea of a University*. There he states that education must be balanced, well rounded, tranquil, and moderate. It should not only promote wisdom and knowledge but also the freedom of thought. Knowledge is the, "The indispensable condition of expansion of mind, and the instrument of attaining to it." Universities that possess this type of education are leaving their students with the enlargement of knowledge. For Newman, the ideal university is a community of thinkers, engaging in intellectual pursuits not for any external purpose, but as an end in itself. Newman believes that narrow minds were born of narrow specialization and stipulates that students should be given a solid grounding in all areas of study.

However, the need for this cross-disciplinary education is not just to obtain knowledge in each of the fields of study. Rather, it is to develop a way of thinking that is more integrative and critical in thought process. All too often, some disciplines (e.g., business) simply feed their students facts and principles and do not instruct them in integrative nor critical thinking. Other disciplines (e.g., humanities and social sciences) are often much better at helping their students challenge theories and concepts, as well as make connections between what might seem on the surface to be disparate subjects. Alfred Whitehead, in his book, *The Aims of Education*, makes this argument: Culture is activity of thought, and receptiveness to beauty and humane feeling. Scraps of information have nothing to do with it. A merely well-informed man is the most useless bore on God's earth. What we should aim at producing is men who possess both culture and expert knowledge in some special direction. Their expert knowledge will give them the ground to start from, and their culture will lead them as deep as philosophy and as high as art. In training a child to activity of thought, above all things we must beware of "inert ideas" -- that is to say, ideas that are merely received into the mind without being utilized, or tested, or thrown into fresh combinations. So Whitehead, like Newman, agrees that a truly valuable education goes beyond knowledge in a number of subject areas and must include an ability to think critically.

In the book, *Rethinking Undergraduate Business Education* by Colby & Ehrlich, the authors state that the purpose of liberal (arts) learning is to enable students to make sense of the world and their place in it, preparing them to use knowledge and skills as a means to engage responsively with the life of their times. Indeed, in our fast-changing, increasingly global, progressively more technological, and highly competitive world it is nearly impossible to “make sense of the world and our place in it” based on any single body of knowledge.

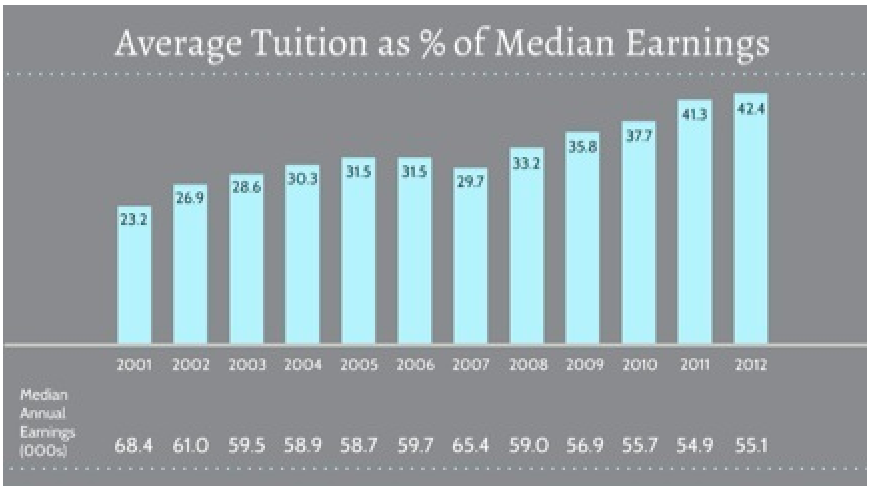
The authors propose that liberal (arts) education focuses on three major modes of thought: analytical thinking, multiple framing, and the reflective exploration of meaning. These modes of thought, along with practical reasoning, provide a framework for an integrated vision of liberal and business education. The authors further describe each of these as follows: Analytical thinking abstracts from particular experience in order to produce formal knowledge that is in general in nature and independent of any particular context. It is methodical and consistent, beginning with the particular set of assumptions or categories and proceeding to develop the implications of these concepts through deduction. Multiple framing is the ability to work intellectually with fundamentally different, sometimes mutually incompatible, analytical perspectives. Analytical thinking and multiple framing need to be grounded in and guided by the third mode of thought of liberal learning - the reflective exploration of meaning, which engages students with questions such as “what do I really believe in, what kind of person I want to be, what kind of world do I want to live in, and what kind of contribution do I want to make in that world?” Reflective exploration involves the exploration of meaning, value, and commitment. It raises questions such as what difference does a particular understanding or approach to things make in who I am, how I engage the world, and what it is reasonable for me to imagine and hope. Practical reasoning represents the capacity to draw on knowledge and intellectual skills to engage concretely with the world. Practical reasoning allows the individual to go beyond reflection to deliberate and decide on the best course of action within a particular situation. The development of these different modes of thought is the objective and result of liberal arts education and is therefore critical to the successful education of students today.

In far too many educational institutions, professional disciplines of study have evolved to be non-integrated schools of learning. In his book, *Higher Education in America*, Derek Bok criticizes this approach stating “improving the quality of undergraduate education requires a new vision and diverse solutions. The longstanding tripartite structure of the undergraduate curriculum (major, electives, and general education) needs to be revisited because it is built on a series of unexamined premises, implausible assertions, and unrealistic hopes.” Improving the quality of undergraduate education requires a focus on increasing how much students learn by improving their critical thinking and analytical skills through curricula reform, revising instructional methods, and conducting continuous assessment. These are often the critiques of the professional disciplines by those in liberal arts.

Their concern is that the professional disciplines focus too much on training rather than educating. The emphasis is on memorizing principles and precepts, as well as teaching the use of tools and methods, all aimed toward the singular objective of acquiring a good-paying job upon graduation. The need and desire for this type of “job training” as opposed to liberal arts education is exacerbated by the state of the United States economy and the cost of higher education.

Cost tops the list of concerns for the general public when it comes to the issues related to higher education. According to Calvin Troup, President of Geneva College, parents pressure their children to attend a university or non-liberal arts college where they will be trained in professional disciplines in order to have a good-paying job upon graduation. Colleges have simply become too expensive and inefficient. Much of the cost increase in recent years can be attributed to reduced state tax support for public institutions which has forced an offset through increases in tuition and fees. The highest increases have been at public colleges and universities where 75% of students are enrolled. Increased scrutiny and attention is resulting in students and alumni questioning the value of their degree, with 24% of alumni saying the cost of their education exceeded its value. The impact of alumni’s perception of the value of their education is important, particularly when considered in context with their debt load. Once student debt reaches the $20,000 – $30,000 range, studies show it has an impact on their propensity to give back to their alma mater.

For example, in the year 2000 tuition and fees were about $2,000 a year at most of the universities across the University of North Carolina system. In 2012, those same universities charge about $8,500 in tuition and fees. North Carolina parents and students were not alone in experiencing sticker shock over college tuition bills during the past decade. Across the country, the average price of a public four-year college in today's dollars has increased by 13 percent since 2010, according to the College Board. That followed a 24 percent increase between 2005 and 2011. The rising tuition prices during those same years coincided with falling incomes of American families. The percentage of households making more than $100,000 has been shrinking, while the proportion earning less than $35,000 has grown. As a result, as you can see in the chart below, the average sticker price of college now consumes 40 percent of a family's paycheck, while in 2001, it accounted for less than a quarter.



Source: Bureau of Labor Statistics (BLS); IPEDS

The result of this increase in the cost of higher education (and the corresponding increase in student debt) relative to family income is increased pressure on the student to pursue professional disciplines and not a liberal arts education. Over the last 20 years, this has led to a declining interest in liberal arts and consequently declining enrollments. In most liberal arts colleges that have adopted professional disciplines, this trend has resulted in animosity between the liberal arts academy and the professional disciplines.

In addition, employers claim they are increasingly having difficulty finding applicants that meet their needed skills. Consequently, there is a growing need for higher education to do a better job of preparing future workers. There seems to be a disconnect between enrollment levels in specific student curricula on one side and needs of the American labor market on the other. Career preparation has now outpaced academics, social environment, and affordability as the top concern of college enrollment among traditional-aged students. Leadership needs to make career preparation more than an adjunct service of the university but rather an essential part of the educational model of the institution for every student from the start of the freshman year onward. Higher education as a whole needs to do a better job of integrating career education with the academic experience. To date, this has included primarily the education of students in professional disciplines, but not as much the development of critical thinking skills. Once again, in most liberal arts colleges that have adopted professional disciplines, this trend has resulted in animosity between the liberal arts academy and the professional disciplines.

Interestingly, Christopher Lucas states in his book, *American Higher Education*, points out that such animosity is not a new situation. A related theme that Lucas explores on several occasions is the changing nature of the purpose and perceived usefulness of a college education. The objective of education and curriculum are highly interrelated issues, and Lucas does an admirable job of integrating the two concepts. From ancient Rome to the modern university or community college, a tension exists between the dual goals of a university - to train the mind or the soul for enhancement of intellectual satisfaction on the one hand, and to train the student for a viable occupation and respectable place in the labor market and society on the other. Throughout history, some have seen these two ends at great odds with each other; others have seen them as distinct, but mutually reinforcing. Lucas recounts this tension as it appeared in various contexts; for example, the debates surrounding the role of the emerging American university as a pure research institution versus the more utilitarian approach adopted by the land grant institutions.

GENEVA COLLEGE: MISSION, VISION, VALUES, HISTORY, AND THE PRESENT SITUATION

The Mission Statement: Geneva College, founded in 1848, is a relatively small Christ-centered academic community of about 1500 traditional undergraduate students that provides a comprehensive education to equip students for faithful and fruitful service to God and neighbor. Geneva College′s mission is student-focused, emphasizing Christ, comprehensive education, and service to God and neighbor. This is consistent with the college′s charter, bylaws, as well as Geneva′s historic motto, *Pro Christo et Patria* (For Christ and Country).

Geneva College provides students an academically excellent, Christ-centered and affordable education. Offering nearly 40 undergraduate majors, Adult Degree Programs with fully online and campus-based options, and graduate degrees, Geneva's programs are recognized for their high quality. U.S. News & World Report ranks Geneva as a Top 10 Best Value in the region with one of the Top 100 engineering programs in the nation. Adhering to the inerrancy of Scripture, a Geneva education is grounded in God's word. Central to its education is a core curriculum designed to prepare students vocationally to think, write and communicate well in today's world. Geneva's beautiful 55-acre campus is located approximately 35 miles northwest of Pittsburgh, in Beaver Falls, Pennsylvania. The location offers the comfort of a small town with the convenience of nearby big-city attractions, cultural venues and enrichment opportunities.

Traditional Undergraduate Geneva College's majors include programs in engineering, business, education, biology, communication, psychology, student ministry, and human services. The first three majors represent a very large percentage of the students. According to Carson's *Pro Christo et Patria: A History of Geneva College*, Engineering was adopted as a major in 1920, Education in 1924, and Business in 1926. The inclusion of these professional disciplines at Geneva College represents a much earlier adoption than most liberal arts colleges.

Small classes and caring Christian professors encourage students to grow academically, spiritually and personally. And Geneva's low student-faculty ratio of 13:1 facilitates mentor-student relationships. Geneva also provides experiential learning through leadership training, community outreach projects, internships and over 40 study abroad opportunities. With academic clubs, Spring Break mission trips, student government, small-group Bible studies and discipleship opportunities, there are many ways for students to develop intellectually and spiritually while connecting to the Geneva community. Adult Degree programs, fully online programs and Graduate Degree Programs also exist.

While Geneva does not list a set of values, Geneva's vision is as follows: "Geneva aims to live for the glory of God and to enjoy Him. To His glory, Geneva seeks to have an engaged and joyful campus, with flourishing high-quality liberal arts and professional programs at a modest price and with a global reach."

The faculty and administration of Geneva College believe the Bible to be the inerrant authoritative Word of God; there is one God eternally existent in three persons, Father, Son and Holy Spirit; the deity of Jesus Christ and His vicarious and atoning death on the cross; that since humankind is sinful and lost, the regeneration of the Holy Spirit is absolutely necessary for salvation; the resurrection of both the saved and the lost, the lost unto damnation and the saved unto the resurrection of life; that Jesus Christ is King of all the realms of life and society now, and He shall return personally to consummate His kingdom.

Geneva's worldview acknowledges God's relationship to every aspect of His creation. Thus, a Geneva education emphasizes the connection between the Christian faith and every academic, athletic and student activity. All of Geneva's faculty are evangelical Christians who are active in their churches, and they are dedicated to preparing students to glorify God by serving in their various vocations. While many institutions founded as Christian colleges have become secular, Geneva has maintained its Christ-centered focus thanks to the Reformed Presbyterian Church. Geneva is a Great Commission school, adhering to Jesus Christ's mandate to "go and make disciples of all nations" (Matthew 28: 19). This commitment is lived out weekly as the campus community gathers for student-required chapel to praise the Lord and seek His direction, as well as through required courses in Bible, the humanities and political science. And since the college has an open-enrollment policy, some students may be reading God's word for the first time, while others are learning to read Scripture more deeply.

RESEARCH METHODS, PARTICIPANTS, AND DATA COLLECTION

In order to explore the true extent of animosity between the Core (liberal arts) disciplines and the professional disciplines, a research method was constructed. The research instrument was a simple interview template (see the Appendices) designed to collect data regarding the hypothesis, as well as suggestions for improvements going forward. The interview was designed to be conducted in one hour or less with each participant. The participants were selected to be categorically representative of the faculty of Geneva College:

Participants were interviewed one-on-one and assured anonymity in order to solicit honest and forthright answers from the participants. The participants were invited by email approximately one week in advance and the interviews were held in their private offices. Typically, the participants had served 9 or more years at Geneva College, with the average being approximately 19 years. Five participants were selected to represent the core (liberal arts) from the following areas: Biblical Studies, History, Political Science, Communications, and Rhetoric. Seven participants were selected to represent the professional disciplines from the following areas: Finance & Accounting, Engineering, Chemistry, Education, Computer Science, and Marketing. While several of the participants were department chairpersons, two of the participants were selected specifically to also represent the Administrative function: The College President and the Chief Academic Officer. The data was collected manually by recording the answers to the questions during the interviews held from September 19 – October 5.

CONCLUSION: RESULTS & METHODS FOR IMPROVEMENT MOVING FORWARD

The results of the data collection and analysis were quite surprising. At Geneva College, while some participants would admit that there could be some very minor and isolated instances of animosity between the core (liberal arts) disciplines and the professional disciplines, nearly everyone believed these were the exceptions and that the two areas on campus were both vital to successfully achieving the mission of Geneva College. The professors in both areas appear to make excellent efforts to collaborate in multiple ways. Core curriculum professors stated that professors from the professional disciplines were very supportive of the core course, that they understood the value of liberal arts, and that they wanted their students to have a liberal arts education. The professional discipline professors saw these courses as much more than just graduation hoops that had to be jumped through. Rather, they articulated the value the core courses bring to their students' overall education by providing not only additional knowledge areas, but also greater capacity for critical thinking. The words that were repeated over and over again during the interview process were "mutual respect."

Conversely, if there was any animosity to be felt by either group of professors, it was actually toward the students majoring in the professional disciplines and not the professors. Often these students are accused of viewing higher education as simply a job producer or means of increasing the likelihood of significant income. What many fail to realize is that new college graduates are now commonly changing jobs approximately every three years and projected to re-tool for new careers about every 12 years. Obviously, the additional knowledge and critical thinking that liberal arts brings to an education would better prepare today's graduate for that work environment.

Why was this found to be the case? What is it about Geneva College that participants in the study believe contributes to the mutual admiration of one another from the two academic areas? Here are some of the responses. First, the professional disciplines are part of the overall ethos of the college. While the core disciplines have been part of Geneva for 168 years (since its founding in 1848), the professional disciplines have also been part of Geneva for over 90 years (since 1926 and before – depending on the discipline). Most professors cannot imagine Geneva College without the professional disciplines. They are considered missional. As Melinda Stephens, Chief Academic Officer stated, "Each professional discipline was started at Geneva to serve a need in our society." One such example is Education. Education began at Geneva when the Pennsylvania legislature decided to not place a state land grant university in Beaver County to support the need of having more educators in the area.

Second, in the spirit of the Reformed Presbyterian faith, work is considered "a good thing." It is both an act of labor and an act of worship. The Bible, which we hold to be the inerrant Word of God, contains many examples of labor as a form of worship. We are created in the image of God with the ability to work and create. The professional discipline professors seem to realize that taking the core courses will make the student a better marketer or engineer. But the reformed faith goes even beyond that. We want our students to not only be better marketers, and we want them also to be better human beings, made in the image of God with the ability to think critically and in integrative manner.

From their reformed faith, the core (liberal arts) professors believe that a human is created in God's image. We are His workmanship is created to "do good works," not just think in a good way. Hence, they respect the need for the professional disciplines. Finally, God is the Sovereign King over all His creation. Until He comes again, we His children, are to be agents of reformation over all society. Some of the most fallen aspects of society are rooted in unethical commerce and greed. Therefore, both areas of the academic disciplines agree that the other is needed if we are to be the most effective agents of reformation possible. These beliefs are not subject to the interpretation of changing social norms. These precepts of the reformed faith are considered to be eternal truths.

Third, professional discipline professors often serve on the same committees. In these committees, they get to know and appreciate one another well, as well as stand up for the best interests of their colleagues from other disciplines. An example of this is the staunch defense of the core courses. Despite some occasional pressure from accreditation agencies, professors from both sides have regularly defended the value of the core courses.

Fourth, for many years the faculty hired into the professional disciplines had, as part of their own undergraduate experience, a liberal arts education. Many had been graduates of Geneva College. Those who were not, usually had taught at another liberal arts college before Geneva College. As a result, most Geneva College professors truly believe what Arthur Homes stated in his book *The Idea of the Christian College*, "The distinctive task of the Christian liberal arts college is integrating faith and learning across the disciplines, esp. the liberal arts disciplines. While some Christian colleges have devoted themselves to preparation of professionals, the heartbeat, the core, the center of the Christian college is concerned with the qualities of the liberally educated person and with the development of Christian perspectives in all areas of life and thought. A Christian liberal arts education underlies everything else a person is and does, far bigger than any vocation or profession or ministry and consequently of primary importance. Men are men before they are lawyers, or physicians, or merchants, or manufacturers; and if you make them capable and sensible men, they will make themselves capable and sensible lawyers or physicians [or merchants or manufacturers]. What professional men should carry away with them from a University is not professional knowledge, but that which should direct the use of professional knowledge, and bring the light of general culture to illuminate the technicalities of a special pursuit."

Fifth, each discipline perceives a need for the other. As stated earlier, the professional discipline professors truly believe that their students are higher caliber students as a result of their critical and integrative thinking skills. Many of the processional discipline professors not only appreciate the exposure of their students to these courses, they also strive to integrate similar teaching techniques into their own courses – albeit some more successfully than others. It can be difficult indeed to use these techniques in some of the more deeply quantitative science and mathematics courses. Consequently, the professional discipline faculty need the core faculty. The core faculty recognize their needs of the professional discipline faculty due to the very pragmatic demand of the marketplace. Without the professional disciplines, Geneva College would either not exist or would be much smaller than it is today.

However, while the professors at Geneva College do good job of seeing the need for each other, and collaborating across disciplines, there will still always be some tension. Calvin Troup, Geneva College President, stated that given the resource constraints and size of majors, there will always be some tension between the core disciplines and the professional disciplines. Some majors are viewed as more profitable than other majors. Over the last 50 years there has been a dramatic shift in the balance away from liberal arts majors and towards the professional discipline majors. At this time, over half of all students at Geneva College major in either Engineering, Business, or Education. This has created some "nervous tension." This tension is reasonable and expected. But as long as Geneva maintains a larger view of the mission and appreciates the need for education from both discipline areas, the tension can be healthy.

So what are some additional suggestions maintaining and improving the relationships between the core disciplines and the professional disciplines moving forward. Participants in the study, including the President, offered the following suggestions:

1. Better faculty orientation (new faculty exposure to core courses and curriculum), especially for new faculty from non-liberal arts backgrounds. The practice of hiring faculty without prior teaching experience in liberal arts has been increasing in recent years and the need for better faculty orientation to the liberal arts has not kept pace.
2. Similarly, improve ongoing exposure to courses across the disciplinary boundaries (especially presentations by core discipline faculty at faculty lunches and perhaps annual workshops.

3. Encourage the full audit of core courses by professional discipline faculty. Perhaps provide stipends for auditing core courses.
4. Increase collaboration on interdisciplinary courses (both on campus and off campus). For example, make sure the study abroad programs include multiple professors teaching from an integrative approach.
5. Continued interdisciplinary faculty committee assignments.
6. Continued focus on the mission of Geneva College and the precepts of the Reformed Presbyterian faith.
7. Better integration of core discipline teaching techniques into the professional disciplines.

As an illustration of the final recommendation, consider the following: Business education can no longer be just about helping students secure their first job. Undergraduate business education, ultimately, should help students develop an intellectual framework that enables them to understand the role of business in a larger global context. Students should be able to think critically and see problems from varying points of view, enabling them to understand their place and purpose in the global economy. Most undergraduate programs are too narrow, failing to challenge students to question assumptions, or think creatively. Alternatively, Colby & Ehrlich state that this type of educational philosophy has long been in the goal of a liberal arts education.

One example of how a liberal arts education developing these modes of thought can benefit a business student comes from the discipline of entrepreneurship. In the initial stage, successful entrepreneurs have to see potential opportunities where others do not and they must continually assess and adapt to an ever shifting environment as the venture develops. Entrepreneurs must often make decisions the face of substantial uncertainty. They must be able to extract critical variables from a noisy background. As a result, entrepreneurial thinking resonates strongly with the dimensions of liberal arts thinking. They have to be able to see things from a different point of view, overcome their typical paradigms and look beyond the status quo, sometimes connecting seemingly unrelated concepts. They must seek to understand what is really going on rather than continuing to rely on existing schemas that cannot account for the new information. Likewise, all business innovation is nurtured by liberal arts learning: A rich and diverse knowledge base, reflective habits of mind, integrative thinking, and an explorer mentality characterized by intellectual agility. Consequently, liberal arts thinking is critical for business majors, indeed for all post-secondary students.

In order to accomplish this, a new way of thinking about liberal arts education must include not only a basic grounding in various bodies of knowledge (taking courses from different fields of study), but also the following: injecting a liberal arts mode of thinking into the teaching methods used in business courses, designing courses to be more inter-disciplinary (e.g., a course on innovation designed and taught by faculty from business, communications, and engineering), and a promoting a co-curricular college environment by realizing that many important educational experiences in college take place not in the classroom but on the school newspaper, in student government, as well as in clubs promoting the arts, sports, or social causes.

In conclusion, I believe the data refutes my hypothesis that Geneva College does not integrate the liberal arts (core) disciplines and the professional disciplines together very well and that there is ongoing animosity between the two groups. On the contrary, Geneva College seems to have found ways to allow the two discipline areas to collaborate quite well. And in the words of Geneva College President Calvin Troup, “while there will always be some tension between these two areas in small liberal arts colleges, Geneva seems to be doing far better than most.” All seven of the recommendations listed should help ensure that Geneva College maintains, and grows, its level of collaboration and acceptance across the liberal arts and professional disciplines for many more years to come. Further, these proposed recommendations for further collaboration and integration will be of interest, and possible benefit, to most liberal arts colleges, especially those with a Christian affiliation.

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Appendix A

Interview Instrument - The Perception of Professional Disciplines vs. the Core Disciplines at Geneva College

1. Name:
2. Academic discipline:
3. The number of years at Geneva College:
4. If less than 10 years, what did you do before Geneva College:
5. In your own words, how did business become part of the academic framework of Geneva College?
6. What were the factors that led to this event? What concerns existed regarding starting a business academic discipline at Geneva at that time?
7. Given the amount of importance placed on a liberal education or on the liberal arts as the basis for education, how do you believe the initial concerns were overcome. Be sure to comment on the business approach to job obtainment via methods training and skill development vs integrative thinking and critical reasoning.
8. Would you say business, as an academic discipline, is an integrated member of the rest their academic community at Geneva College? Why? What is the supporting evidence?
9. Alternatively, is business more of a stepbrother or stepsister to the "liberal arts" departments or arts and sciences schools and thus viewed as an "add on" department not central to the mission of the college or university? Why? What is the supporting evidence?
10. If business is seen as an integrated department what will you do as president to keep it as such? If it is viewed as a "necessary evil" or as an "add-on" what would you do as president of the college to move it to a position of integration into the mission of the college or university?
11. How would you close the relational divide between the professional studies and liberal arts academic areas? (Be sure to mention the integration of liberal arts modes of creative thinking into business classes as well as the further integration of faith into learning)
12. What else should I be asking? Any other thoughts? Comments?

Appendix B
Participants in the Research Study:

Aiken, Adele G.; Ph.D. in Education, Chair of the Education Department, teaches Reading and Literature and the Education of the same, 31 years at Geneva College.

Cole, Jeffrey S.; Ph.D. in History, teaches History and Humanities, 14 years at Geneva College.

Frazier, Robert M.; Ph.D. in Philosophy, teaches Philosophy and Biblical Studies, 20 years at Geneva College as well as growing up at Geneva College while his parents attended and taught there.

Gidley, James S.; Ph.D. in Engineering, Chair of the Engineering Department, teaches Civil and Environmental Engineering, 35 years at Geneva College.

Murphy-Gerber, Denise C.; Ph.D. in Communications & Rhetoric, Current Chair of the Business & Accounting Department, teaches International Business and Advanced Marketing topics, 10 years at Geneva College.

Neikirk, Frederick "Jay"; Ph.D. in Political Science, teaches Political Science, 24 years at Geneva College.

Raver, Daniel; M.B.A. with concentration in Finance, teaches Accounting and Finance (prior Chair of the Department), 37 years at Geneva College.

Richards, Gordon; D.Sc. in Information Systems, prior Chair of the Business & Accounting Department, teaches Quantitative Analysis, Information Systems Management, Project Management, 9 years at Geneva College.

Shiderly, Shannan L.; Ph.D. in Management and Leadership, teaches Counseling, 19 years at Geneva College.

Stephens, Melinda; Ph.D. in Chemistry, Chief Academic Officer of Geneva College, 16 years at Geneva College.

Troup, Calvin L.; Ph.D. in Rhetoric, Geneva College President, 2 months at Geneva College as President, but 10 years as a Trustee, well as attending Geneva College as an undergraduate (previously taught for 20 years at Duquesne University and served as the Chair of the Communications & Rhetoric Department).

Ward, Joel S.; Ph.D. in Rhetoric, teaches Communications, two years at Geneva College as well as having in-laws teaching at Geneva College.

THE INTERNET AS A COMMON CARRIER: IMPLICATIONS FOR THE DISABLED

Timothy J. Stanton, Mount St. Mary's University

ABSTRACT

The 1990 Americans with Disabilities Act extended a host of civil rights to the disabled. The law and its subsequent amendments, however, did not explicitly address Web accessibility. Understandably, this issue has grown in importance over the years. During the Obama administration, the Federal Communications Commission moved to guarantee net neutrality by effectively making the Internet a common carrier. At the time of this article, the Trump administration is still formulating policy on net neutrality. This paper investigates the implications of common carrier status for Web accessibility for the disabled. If common carrier status for the internet survives the regulatory and legal processes, then advocates for the disabled can more forcefully argue that common carrier status mandates that Web content be accessible to those with disabilities.

INTRODUCTION

The 1990 Americans with Disabilities Act (ADA) represented landmark legislation prohibiting discrimination against individuals with disabilities. As such, it not only mandated civil rights for the disabled akin to those protections offered by the historic 1964 Civil Rights Act, but it also went further by requiring accessibility to public accommodations as well as reasonable accommodations for employees (The Americans with Disabilities Act, 2009),

Understandably, in 1990 the ADA did not address Web accessibility, given that the public did not readily use the recently created Web. Currently, of course, individuals routinely use the Web for a host of activities; however, public policy has not clarified what rights, if any, the disabled have regarding accommodations on the Web. For instance, a retail establishment must make reasonable accommodations so that an individual in a wheelchair can enter its store, but should it also be required to make its Web site accessible to the vision impaired?

Against this backdrop of uncertainty of how the ADA relates to the Web, recent regulatory activity regarding net neutrality might serve to clarify expectations. Under the Obama Administration, the Federal Communications Commission (FCC) determined that 'broadband Internet service is a public utility (Ruiz & Lohr, 2015), and on June 12, 2015 attendant regulations became effective (Federal Communications Commission, 2015). Not surprisingly, there was a legal challenge to this ruling (Reing & Seiver, 2015). At the time of this research, the Trump Administration was still formulating policy regarding net neutrality. Many researchers have directed their attention to the Internet as a public utility (see Deacon, 2015 and Jenkins 2015), but this research investigates the implications for the disabled of a ruling that the Internet is a common carrier.

This paper is organized as follows. After this brief introduction, section II summarizes the ethical rationale for providing accommodations to the disabled. Section III expands the discussion of the ADA regarding Web access while section IV discusses the implications of recent FCC Internet access rulings for the disabled. Section V concludes the paper.

ETHICAL RATIONALE

Digital innovations raise wide-ranging ethical questions for individuals and society. Ultimately, decisions rest on underlying ethical principles, whether they are explicitly articulated or implicitly understood. Different societies and cultures focus on different candidate ethical principles (Laudon & Laudon, 2014). For the present issue, several principles seem quite applicable, but maybe none as simple as the Golden Rule – do unto others as you would have them do unto you. Individuals with sight have access to far-reaching information on the Internet; blind individuals should have similar access to this information.

Translating an ethical principle into effective practice, however, can prove challenging. Creators of Web content, upon reflection, might conclude that ethical considerations dictate access for the disabled be similar to access for those without disabilities, but how to actually create content suitable for the disabled typically might not be obvious. Standards to guide Web developers would prove useful, and, luckily, such standards do exist.

While there are several bodies that govern various aspects of the Internet and Web, the World Wide Web Consortium (W3C) in particular focuses on promulgating standards to enable successful sharing of information. In order that disparate computer technologies can interoperate when connected via the Internet, the W3C seeks to design standards that foster compatibility among the technologies of its members. The W3C, for instance, governs the standards for hypertext markup language (HTML), the universal coding language for all web pages. If individual companies design their proprietary products to meet the W3C standards, they know that their technology will successfully interoperate over the Internet.

The W3C does address accessibility standards for the disabled, stating, "Web accessibility encompasses all disabilities that affect access to the Web, including auditory, physical, speech, cognitive, and neurological disabilities (W3C, 2005). The specifics of this general goal manifest themselves in the W3C's Web Content Accessibility Guidelines (WCAG). Other sources (for instance, Caldwell, Cooper, et.al., 2008) provide robust explanations of these guidelines, but, for our present research, we do not provide details of conformance to these guidelines. Generally, though, the W3C through its WCAG argues that Web content should be available to all members of society, including those with disabilities. These guidelines recognize the technical challenges such a mandate imposes in some circumstances; nevertheless, they conclude that ethical considerations demand that Web creators exercise diligence to assure the rights of the disabled.

Determining the extent to which the vast array of Web content conforms to the WCAG would assuredly be a daunting task. One study concluded that over 80% of Fortune 100 companies had websites that were at least partially inaccessible (Loiacano, Roman, & McCoy, 2009). Further complicating the issue, however, is the reality that organizations not only provide Web content to the public with their websites, but that they also provide private content to their employees with their intranets. For instance, in many organizations, human resource departments provide general and specific information concerning terms of employment by creating Web pages that can accessed only by members of the organization. Employees view these private Web pages just as they would any public Web site; the creation of these Web pages require compliance with W3C interoperability standards to assure that employees can successfully view them with a Web browser. While the WCAG do not specifically differentiate between Web pages available to the public and Web pages available within an organization, similar, if not possibly stricter, ethical standards reasonably dictate that these intranet pages also be accessible by those with disabilities.

THE ADA

Presumably, an ethical and just society would extend appropriate civil rights to all its members, including those with disabilities. Beyond individual actions, both of persons and of organizations, society needs to determine collectively which rights should be codified into law. The WCAG provide generally accepted standards for Web accessibility, but organizations can choose to what extent they will adhere to those standards. Without force of law, naturally, standards are voluntary. Additionally, even though an organization might strive to act ethically with regard to access to Web content, voluntary effects typically lack the urgency imposed by legal mandates.

With the passage of the ADA, the United States codified civil rights for the disabled into its legal system. No language in the act directly addressed Internet access for the disabled, understandable given the infancy of the web at the time. Meanwhile, in the decade after the passage of the ADA, more citizens began using Web applications over the Internet. The advent of the graphical Web browser in the mid-90s hastened an explosion in the use of the Web by the public. Routinely, individuals accessed information, sought entertainment, conducted commerce, and performed a host of other activities over the Web. Whereas previously individuals walked into a store to buy a pair of shoes, they now went online to perform the same task. The ADA clearly required the retail establishment to make its accommodations available to the disabled; whether it required the same store to make its website available to the disabled was ambiguous.

How to interpret the ADA in light of this new technology became an issue under continuing discussion. In response to an inquiry on this issue from a United States Senator in 1996, Assistant Attorney General for the Civil Rights Division of the federal Justice Department, Deval Patrick, wrote, "Covered entities under the ADA are required to provide effective communication, regardless of whether they generally communicate through print media, audio media, or computerized media such as the Internet." (Patrick, 1996). Mr. Patrick's letter notwithstanding, such a broad interpretation of the ADA did not become generally accepted (Pycroft, 2014).

An additional act of Congress, and it subsequent amendments, does remove some ambiguity surrounding the legal requirement of web access for the disabled. The Rehabilitation Act of 1973 addressed expectations for accommodating individuals with disabilities, but it focused only on services provided by the federal government. The Section 508 Amendment, first passed in 1998 and subsequently amended several times since, stipulated that the federal government should adhere to the WCAG (Pycroft, 2014). Specifically, Part 1194.22 states "The criteria for Web-based technology and information are based on access guidelines developed by the Web Accessibility Initiative of the Worldwide Web Consortium," and that these standards "apply to Federal Web sites but not to private sector web sites (unless a site is provided under contract to a Federal agency)." This language seems unambiguous; web sites of the Federal government should adhere to the WCAG standards. An update of Section 508 is expected by the end of 2016 (Pycroft, 2014).

The extent to which federal agencies endeavor to meet Section 508 requirements is unclear. Legally, it appears that the law requires them to make their websites accessible to the disabled. Whether the same obligation extends to private websites remains ambiguous. Recent regulatory action, while seemingly unrelated, in another arena might serve to remove some of this ambiguity.

COMMON CARRIER STATUS

Net neutrality, the concept of treating all data traversing the Internet equally, has been the focus of much debate recently. Proponents argue that the Internet, in keeping with its original intent, should be an open network equally and easily accessible to all users. Effectively, there should be no differentiation of data packets, regardless of use or user.

Typically, individuals connect to the Internet via Internet Service Providers (ISPs), which charge for their services. In seeking competitive advantage for their products, these ISPs likely could increase their profitability by treating data packets differently, that is, non-neutrally. For instance, an ISP might preference content that it created, or similarly it might preference content from other sources for a fee. This desire to generate additional profit drives the ISP arguments against net neutrality.

This current manuscript does not focus on the arguments for and against net neutrality per se. Rather, it focuses on the FCC's action to guarantee net neutrality by effectively making the Internet a common carrier (Ruiz & Lohr, 2015), and, more importantly, the implications of this action for web accessibility for the disabled. The Internet as a common carrier enhances the argument that content should be accessible to the disabled and provides a firmer basis from which proponents of accessibility can argue.

Consider other common carriers and the expectations placed on them regarding accessed for the disabled. Broadcast television is one example. FCC regulations obligate providers to provide captioning for programming; these regulations are motivated at least in part by the ADA (National Association for the Deaf). Likewise, Title IV of the ADA requires that telecommunication services allow those with hearing and speech disabilities to communicate over the telephone (ADA National Network, 2013). This latter example in particular highlights the confluence of rapidly changing technology with societal interests in providing access for the disabled. When the ADA was passed, telephone service for many was still largely provided by traditional telephone technology, but of course now most calls are routed over the Internet with VoIP (voice over internet protocol). With the Internet now also deemed a common carrier, do obligations for access for the disabled increase?

CONCLUSION

While a just society seeks to extend appropriate civil rights to all its members, practical expression of this goal, necessarily balancing tradeoffs, can prove quite challenging. Such is the case with implementation of the ADA in an environment of rapidly changing technology and attendant regulation of that technology. Specific to this manuscript, recent FCC regulations, currently under court challenge, concluding that the Internet is a common carrier provide an additional argument that Web content should be accessible to those with disabilities.

Undoubtedly, the outcome of legal battles will prove vital for any attempt to use the Internet as a common carrier as an argument for increased access for the disabled. Regardless of legal decisions concerning common carrier status, advocates for the disabled will continue to press for web accessibility. Even if common carrier status for the Internet should be overturned in the courts, we can expect continued attempts, legal and legislative, to make Web accessibility a reality.

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FACTORS INFLUENCING ACCOUNTING STUDENTS' CAREER ASPIRATIONS

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ABSTRACT

Enrollments in accounting programs, and the demand for accounting graduates is increasing, but the number of candidates sitting for the CPA exam is decreasing (AICPA, 2015). This study compares characteristics of students at a mid-size regional university who plan to sit for the CPA exam with those who do not. In addition, reasons offered by students for their plans to take or not take the CPA exam are explored. The study finds that a student's desired career path, as well as their mother's educational level, is significantly related to their intention to sit for the exam. Career alignment or misalignment was the primary factor shaping a student's plan to sit for the CPA exam. The proportion of students intending to sit for the CPA exam decreases with class level, and the majority of students intend to work outside of public accounting. This study will be of interest to the profession and public as the decline in CPA examination candidates coincides with a higher than average percentage of CPAs projected to retire in the next three years.

INTRODUCTION

Since 1971, the American Institute of Certified Public Accountants (AICPA) has conducted a survey, and published "Trends in the Supply of Accounting Graduates and the Demand for Public Accounting Recruits". The publication identifies trends in accounting enrollment, graduation rates, and hiring. The most recent edition of the publication (2015) summarizes survey responses from 166 colleges and 404 public accounting firms during the 2013-2014 academic year, and identifies some both interesting and puzzling trends. First, while the study reports a 5% increase in accounting enrollments over the past year to an all-time high of 253,082 students, there was an 11% decrease in conferred Bachelor degrees to 54,423. However, over the same period, the number of conferred Masters Degrees rose by 31% to 27,239. The increase in conferred Masters Degrees is consistent with a 7% increase in hiring by CPA firms over the same period, and the near universal 150 credit hour requirement for licensing as a CPA. Universities and employers remain bullish about the future, expecting enrollment and hiring to be the same or higher in the future years. This is consistent with The U.S. Bureau of Labor Statistics, which projects an 11% increase in demand for accountants and auditors through 2024 (BLS, 2016). Yet, contrary to the increased enrollments in accounting programs, and hiring by CPA firms, the AICPA has reported that the number of CPA exam candidates declined by 2.9% in 2014, to 91,578.

This unexpected decline in CPA examination candidates has implications for the profession and public. The purpose of the CPA examination is to certify that CPAs have the necessary knowledge and skills to protect the public interest (AICPA, n.d.; Boone, Legoria, Seifert, & Stammerjohn, 2006; Johnson, 2003). The certification also acts as a quality control tool for employers when hiring and promoting employees (Snyder, 2004). Challenges facing the profession due to declining exam candidates will be compounded by the retirement of aging Baby Boomers. According to the AICPA, over 40% of today's CPAs are expected to retire by 2020 (AICPA, 2016). However, despite the growing need for new CPAs, the recent decline in CPA exam candidates may not reverse soon. In a recent survey of accounting graduates, 59% of the respondents who had become eligible to sit for the CPA examination within the last year, had not taken a single section of the exam. (Charron & Lowe, 2009).

This study attempts to explore why CPA examination candidates are declining, despite increasing enrollments in accounting programs, favorable employment prospects for CPAs, and given that CPAs earn on average 10-15% more than non-CPA accountants (*2017 Accounting & Finance Salary Guide*, 2017).

METHODOLOGY

A total of 224 business students were surveyed in various undergraduate accounting courses at a university within the Pennsylvania State System of Higher Education. Paper surveys were administered during the 2017 spring semester to students in classes ranging from required 100-level introductory courses, to 400-level courses required for accounting majors. Students were informed about the purpose of the survey and that their participation was voluntary. A student volunteer collected the surveys after completion, and delivered them to the researcher in an envelope. Individual responses remained anonymous. Non-accounting majors and those that did not answer every survey question were excluded from final sample, which resulted in 97 usable responses.

The survey was designed to identify factors that influence a student's decision as to whether to sit for the CPA exam. In addition, questions were included in an attempt to ascertain general reasons why accounting students do or do not intend to sit for the CPA exam. The first section of the survey collected demographic information including class level, credit hours, parents' education, living situation, and GPA. The second section of the survey collected information pertaining to a student's intention to take the CPA exam such as planned time to take the CPA examination, plans to achieve the required credits for licensure, perceived probability of passing the examination, desired career field, reasons for planning to take the CPA examination, and reasons for not planning to take the CPA examination.

RESULTS – DEMOGRAPHICS

Table-1 provides complete demographic information on the respondents included in this study. Of the 97 students in the final sample, 92 were full-time students (those with 12 or more credits), and the remaining five were enrolled part-time. The final sample included 54 males and 43 females. There were 30 seniors, 29 juniors, 24 sophomores, and 14 freshmen. Fewer than half the respondents (43) reported parents (or those they considered to be parental figures) as having earned a bachelor's or higher degree; 39 of the respondents reported that their parents never attended college. The majority of the respondents (57) either lived on campus or off-campus with roommates, roughly a third of the students (30) lived with their parents, and 10 students lived with a partner and/or children.

TABLE 1 – Demographics (N=97)

	Level	n	%
Gender	Male	54	56%
	Female	43	44%
	Other	0	0%
Class level	Freshman	14	14%
	Sophomore	24	25%
	Junior	29	30%
	Senior	30	31%
Number of current credits	>18	2	2%
	15-17	55	57%
	12-14	35	36%
	9-11	3	3%
	6-8	2	2%
	3-5	0	0%
Father's education	Never attended college	39	40%
	Attended college but no degree	9	9%
	Associate's degree	6	6%
	Bachelor's degree	27	28%
	Master's degree	14	14%
	Doctorate degree	2	2%
Mother's education	Never attended college	33	34%
	Attended college but no degree	11	11%
	Associate's degree	12	12%
	Bachelor's degree	26	27%
	Master's degree	13	13%
	Doctorate degree	2	2%
Living situation	Off campus with parents	30	31%
	On campus in dorm	22	23%
	Off campus with roommates	35	36%

	Off campus with partner/spouse/children	10	10%
GPA	Less than 3.00	30	31%
	3.00-3.49	39	40%
	3.50-4.00	28	29%

INTENTIONS TO TAKE THE CPA EXAMINATION

The survey found 65 students plan to sit for the CPA exam, while 32 students report no plans to take the exam. This section of the study explores the relation between a student's intention to sit for the exam, and their gender, GPA, their parents' education, and the student's desired career field. Survey results are detailed in Table-2.

In the final sample a majority of both male (65%) and female (70%) students report an intention to sit for the CPA exam upon graduation. There was no significant difference found between genders, χ^2 (1, N = 97) = .266, p = .606. The survey found that student intentions to sit for the CPA exam were the highest in their freshman year, at 86%, but had declined to 67% by the sophomore year. The observed decline recovered slightly in junior year increasing to 69%, before reaching a low of 57% in the senior year. Although freshmen reported the highest intention of sitting for the CPA exam, and seniors the lowest, the difference was not statistically significant, χ^2 (3, N = 97) = 3.719, p = .293. The overall level of students intending to sit for the CPA exam (67%) is somewhat surprising, as only 33% of respondents intend to pursue careers in public accounting after graduation. The majority of accounting majors intend to work in industry (37%), with smaller minorities desiring to work for non-profits or the governmental organizations (14%), and 12% who do not intend to enter the accounting field in any form. Of the students planning to pursue a career in public accounting, 84% intend to take the CPA exam, while only 58% of the students who plan to work outside of public accounting intend to sit for the CPA examination. The difference in proportions is significant and effect size is moderate (Pearson, 2010), χ^2 (1, N = 97) = 6.514, p = .011, ϕ = .259. While a student's GPA shape can restrict future career plans, student GPAs in isolation are not related to intentions to sit for the CPA exam. The study found student intentions to sit for the CPA exam ranged from low of 57%, for students with GPAs between a 2.50 and 2.74, to a surprisingly high of 83%, for students with GPAs below a 2.24. Overall the student intentions to sit for the CPA exam do not appear to be influenced by their GPA. Student intentions to sit for the CPA exam were nearly identical for students' with GPAs above a 3.00 (67%), and for those below a 3.00 (66%), χ^2 (1, N = 97) = .127, p = .721.

In addition to direct student characteristics, the study also examined the association between parents' educational levels and intentions to sit for the CPA exam. For the sample, 43 of students' fathers earned a bachelor's or a higher degree, and of these students, 72% intend to sit for the CPA exam. For the 54 of students' whose fathers held at most an associate's degree, or not attend college, 63% intend to sit for the CPA exam. The observed difference between the groups is not statistically significant, χ^2 (1, N = 97) = .874, p = .35. While the study reports similar educational backgrounds for both fathers and mothers, the study finds a significant relationship between a mother's educational background, and a student's intention to sit for the CPA exam. In the sample, 41 of students' mothers earned a bachelor's or a higher degree, and of these students, 78% intend to sit for the CPA exam. For the 56 of students' whose mothers held at most an associate's degree, or did not attend college, only 41% intend to sit for the CPA exam. The observed difference between the groups is statistically significant, χ^2 (1, N = 97) = 3.914, p = .048, ϕ = .201, and the effect size is moderate (Pearson, 2010).

TABLE 2 – Intention to take CPA Exam (N=97)

	Level	Yes	No
Overall	Intention	65	32
Gender	Male	35	19
	Female	30	13
Class level	Freshman	12	2
	Sophomore	16	8
	Junior	20	9
	Senior	17	13

Career Plans	Public Accounting	27	5
	For-profit entity	24	12
	Government or non-profit	10	4
	Other	1	2
	Do not intend to work in accounting	3	9
GPA	Less than 2.24	5	1
	2.50 – 2.74	8	6
	2.75 – 2.99	7	3
	3.00 – 3.25	15	6
	3.26 – 3.49	11	7
	3.50 – 3.75	10	5
	3.76 – 4.00	9	4
Father's education	Never attended college	26	13
	Attended college but no degree	4	5
	Associate's degree	4	2
	Bachelor's degree	18	9
	Master's degree	11	3
	Doctorate degree	2	0
Mother's education	Never attended college	22	11
	Attended college but no degree	3	8
	Associate's degree	8	4
	Bachelor's degree	19	7
	Master's degree	11	2
	Doctorate degree	2	0

STUDENTS THAT PLAN TO TAKE THE CPA EXAMINATION

The third section of the survey examined the time students expect to spend studying for the CPA exam, when they plan on sitting for the CPA exam, their expectations regarding pass rates, and their plans to complete the 150 credit hour requirements. Survey results are detailed in Table-3.

Students that intend to take the CPA exam estimate they will spend an average of 10 hours per week, for 29.5 weeks to prepare for the exam. Of the 65 students in the study that plan to sit for the CPA exam upon graduation, 54% of the students intend to sit for the first part within one year of graduation, and 46% plan to sit for the exam two or more years after graduation. The proportion of students that intend to sit for the CPA examination within one year after graduation declines as class level rises; 75% of freshmen, 62.5% of sophomores, 55% of juniors and 29% of seniors who intend to take the CPA examination have plans to take it within one year after graduation. There were no statistically significant relationships found between when a student plans to take the CPA examination and other study variables (gender, GPA, desired career, parents' education, class level). Students are generally optimistic regarding their ability to pass the CPA exam, of the 65 students planning to sit for the CPA exam, 61 students give themselves a 50% or better chance of passing all four sections. Roughly half the students (32), give themselves a better than 70% chance of passing all four sections.

To meet the 150-credit hour requirement, 49% of students intending to sit for the CPA exam plan to complete additional credits at the undergraduate level, while 34% intend to pursue a Masters in Accounting, and 9% intend to pursue an MBA. For students planning on taking the CPA exam, 62% cited career advancement (positions/titles) as the primary reason for pursuing the CPA exam, 21% cited salary, and 9% cited personal achievement. Chi-square tests were performed to examine the relationships between students' primary reasons for taking the CPA exam and factors such as gender, GPA, desired career, parents' education and class level. None of the relationships were statistically significant.

TABLE 3 - STUDENTS THAT PLAN TO TAKE THE CPA EXAMINATION (N=65)

	Level	Within 1 year of graduation	2 or more years after graduation
Class level	Freshman	9	3
	Sophomore	10	6
	Junior	11	9
	Senior	5	12

Student's expectation regarding their ability to pass all four sections of the CPA exam	
Less than 50%	4
51% – 60%	12
61% –7%	17
71% – 80%	15
81% – 90%	12
Better than 90%	5

Student's plans to meet the 150-credit hour requirements	
Additional undergraduate classes	34
Master's in Accounting	22
Master's in Business Administration	6
Other	3

Student's primary reason for sitting for the CPA exam	
Career advancement	41
Salary	7
Personal achievement	14
Other	3

STUDENTS THAT DO NOT PLAN TO TAKE THE CPA EXAMINATION

The final section of the survey examined reasons students cited for not taking the CPA exam. Survey results are detailed in Table-4.

Career misalignment is the primary reason cited by students (56%) for not taking the CPA exam. This is consistent with the career goals reported in Table-2 for students not intending to sit for the CPA exam, as 85% of these students plan careers outside of public accounting. Other reasons cited for not taking the CPA exam were not knowing what the CPA exam is (19%), difficulty/study time (15%), and 3% reported cost as the primary reasons for not pursuing the CPA exam. Again, Chi-square tests that were performed to examine the relationships between students' primary reasons for not taking the CPA examination, and the factors gender, GPA, desired career, parents' education, and class level. The only significant interaction was found between a student's father's education level and their reason for not taking the CPA examination, χ^2 (1, N = 32) = 5.039, p = .025, ϕ = .397. The effect size is considered moderate (Pearson, 2010).

TABLE 4 - STUDENTS NOT PLANNING TO TAKE THE CPA EXAMINATION (N=32)

Primary reason for not taking the CPA exam	
Don't know what the CPA exam is	6
The perception that the exam is too difficult	5
The exam does not align well with career goals	18
Cost	1
Other	2

CONCLUSIONS

To take or not to take the CPA examination **-** The study identified two factors that resulted in significant differences between those students intending to take the CPA exam, and those who do not. The first factor was a student's career objective. Only one third of accounting students surveyed intend to work in public accounting. The study found these students are more predisposed to take the CPA exam than those whose career interests lay outside of public accounting. Therefore, one could theorize that students pursuing a career in public accounting may perceive that the CPA credential can add value to their career, or is required for advancement. Students intending to work outside of public accounting may not feel pressure to pursue the CPA credential, nor perceive it as adding much value to their career pursuits. The second factor identified by the study as related to a student's intention to sit for the CPA exam was their Mother's level of education. While more students' fathers possess a bachelor's or advanced degrees when compared to students' mothers, only a student's mother's education was found be a significant factor between students intending to sit for the CPA exam, and those not intending to take the CPA exam.

While the differences were not statistically significant, interest in the CPA exam seemed to decline by class level. Freshmen intend to pursue the CPA exam more than any other class level, while seniors have the lowest proportion of students that intend to pursue the CPA exam. These results align with Marriott & Marriott's (2003) longitudinal study of undergraduate accounting students' attitudes towards accounting as a profession. At the beginning of the course, students had a positive attitude but this fell significantly by the end of their studies. Students found accounting to be less interesting and the prospect of being employed as an accountant less enjoyable.

Reasons for taking the CPA exam **-** Two thirds of accounting students intend to take the CPA exam. Less than half of these students plan to work in public accounting. The majority cited career advancement as the primary reason for pursuing the exam. Only 9% cited personal satisfaction as the primary reason for pursuing the CPA exam. Further study should explore factors that drive students to specify career advancement as a primary aspect of CPA exam intention. Underlying factors should explore intrinsic and extrinsic motivators.

Reasons for not taking the CPA exam **-** A significant relationship was found between a student's father's education level and reasons for not taking the CPA exam. Only one student choose cost as the primary factor for not pursuing the CPA exam. This is surprising as application, registration and exam fees can exceed $1,000, assuming a candidate passes all four parts on the first try (NASBA, n.d.). Exam preparation courses cost between $2,500 and $3,500 (Meoli, 2016), and the additional tuition costs associated with fulfilling the 150-hour requirement far exceed any costs directly associated with the exam. Measurement of students' knowledge about the costs associated with pursuing the CPA exam would provide insight into whether their expectations are realistic.

Only 15% of those not intending to take the CPA exam cited difficulty or study time as the primary reason. The average candidate requires roughly 17-18 months and 6 total attempts to pass the 4th part of the exam (2014 Candidate Performance book: The University Edition, 2014). Self-efficacy is the confidence in one's own ability to achieve intended results (Ormrod, 2006). Wen, Hao, & Bu (2015) found that the perceived incapability to succeed was negatively associated with the intention to pursue the CPA exam.

It seems the biggest deterrent relates to career goals. Most students cited misalignment with career goals as the primary reason for not pursuing the CPA exam. 85% of students not planning to take the CPA exam do not intend to work in public accounting. They may not consider the CPA credential to foster career advancement outside of public accounting. One may suspect interest in the Certified Management Accountant designation to be higher among this group. To the contrary, only 6% of students who do not intend to take the CPA exam intend to pursue the CMA designation, and 17% of the students who intend to take the CPA exam also plan to take the CMA exam.

The topic of CPA exam intentions and the reported misalignment with students' career aspirations requires further study. Questions designed to pinpoint factors underlying this reason, as well as an exploration of the perceived value of the CPA credential in accounting careers outside of public accounting should be included in a future instrument. These questions will assess students' beliefs about the consequences of taking the CPA exam and the desirability of those consequences. For example, a student who believes the CPA credential will result in a higher salary may be more inclined to pursue the CPA exam. Studies have indicated that positive attitudes toward accounting as a profession are commonly grounded in such extrinsic factors (Germanou & Hassall, 2009; Mustapha & Abu Hassan, 2012; Stivers & Onifade, 2014).

Intentions to delay **-** Nearly half of students who intend to take the CPA exam anticipate sitting for the exam two years or more after graduating. CPA exam data consistently shows a higher pass rate for candidates who test soon after meeting the educational requirements (NASBA, 2017). This is a concern because students' intentions could change as the time gap between graduation and the start of CPA exam preparation widens. As candidates become further removed from college, they could perceive the exam to be more challenging; hence decreasing their intention to pursue the CPA credential.

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THE CASE OF PRIORITIZING REMEDIATION OF ACQUIRED PLASMA CENTERS FOR FDA-LICENSURE: A RISK MATRIX APPROACH

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ABSTRACT

In today's world of competing resources, it becomes necessary to find a way to prioritize many business endeavors. In this case study, students are asked to assist the Director of Plasma Quality and Regulatory Operations (D PQ/RO) and her staff members in prioritizing the remediation activities needed to prepare a slate of recently purchased plasma centers for FDA-licensure. The parent company, biologics giant Meridian International, recently purchased 30 plasma centers to grow that aspect of its supply chain, as plasma is a key component in several of its product lines. Although 15 of these centers are already licensed by the FDA, 15 are not; those that are not are unknown in terms of their FDA compliance and will need remediation to be successful in their FDA licensure quest. A risk matrix is used to determine the scheduling sequence of each of these 15 centers in terms of remediation support for FDA licensure. Students are challenged to discuss the validity of the use of such a matrix, to propose a remediation schedule for the centers, to provide other uses for the matrix other than remediation prioritization scheduling, and to explain how such a matrix might be constructed for other industries. This case is unique in that it allows the student to consider prioritization of activities in regulated industries, which may use different determinants of risk other than financial.

INTRODUCTION

This case study focuses on biomedical organizations, which use an interdisciplinary approach to technological and scientific advances in an effort improve public health care, often through the manufacture of biologics (Stirling 2006). Because of the vital and delicate nature of their work, these organizations must comply with a wide range of government regulations, which in the United States are overseen by the Food and Drug Administration (FDA). If an FDA inspection finds a biomedical organization to be noncompliant, the agency is authorized to demand corrective actions. Further complicating their work, biomedical organizations must also juggle the demands of several stakeholders, including the Voice of the Business (VoB), the Voice of the Customer (VoC), and the Voice of the People (VoPp).

Biologics are distinguished from standard drugs by the fact that they are produced from natural sources, including living tissues. Biologics are therefore much more vulnerable to microbial contamination than artificially manufactured products, and they require a stricter regulatory regime for their manufacture, storage, and transportation. The biologics that biomedical organizations produce may include drugs, vaccines, blood and blood components, tissues, gene therapy, allergenics, and more (U.S. FDA "What are 'biologics'" 2016). FDA licensure is necessary for a biomedical organization to engage in the commerce of its products. A firm may produce material for incorporation into a final biologic and even manufacture a biologic without an FDA license; however, until licensure is achieved the product cannot be entered into the marketplace.

It is not unusual for a firm to have minor violations to the Code of Federal Regulations, resulting in citations. If the FDA views the violations as a real health risk, however, the consequences for the organization quickly become serious. The FDA may choose to issue a warning letter that explains the violation and gives a timeframe in which it must be corrected (www.fda.gov), or the agency may seek a consent decree that mandates particular changes and is enforced by the Department of Justice (Slota et al. 2013). The organization will face increasing scrutiny, and its license to sell its biologics may be severely restricted or even revoked (Slota et al. 2013).

Thus, it is critical that biomedical organizations manage their businesses in a way to ensure sustainable FDA-compliance, as non-compliance can represent a death knell for that organization's business future.

THE CASE

Meridian International has been a successful player in the biomedical field for years. Its specialty products consist of vaccines and medications manufactured from human plasma proteins. To ensure an on-going supply of this human-based material, Meridian over the years has opened and operated 30 of plasma centers across the United States, each drawing about 200 units of plasma per day, the source of the plasma proteins. With the advent of new treatments and expansion into global markets, Meridian's forecasting for various products identified the need for growth in its supply chain regarding human plasma. Realizing the need for this material would be sooner than later, Meridian opted to acquire an existing plasma organization rather than build and implement its own plasma facilities.

Meridian sought to acquire a company that had about 28 plasma collection sites, dispersed throughout the country; additionally, it sought for these centers to be close to output as its own current centers (about 200 plasma units per day). Meridian understood that it might get a better deal for plasma centers if some of these centers had not yet achieved FDA licensure. Thus, it wanted at least half of the sites already possessed of an FDA license, and any sites that were not currently FDA-licensed, to be ready for licensure in the 18 months following acquisition.

Meridian found the ideal target for its acquisition in the plasma firm Biocash, a fledgling organization which sought to become a major supplier to an array of European biologics manufacturers, but struggled with its inability to overcome capital investment difficulties and mismanagement of international concerns. As a result, a large portion of their hoped-for European customers found other plasma services; in fact, many of them began their own backward integration strategies. Now the investors of Biocash wanted just that: cash. And Meridian had plenty of that.

The Players

Ida Doitright is the Director, Plasma Quality and Regulatory Operations (D PQ/RO) for the Plasma Operations of Meridian International. She's a stickler for detail and has been around the regulatory and quality block more times than she cares to count. She reports directly to the Vice-President, Quality and Regulatory Operations at Meridian, Dr. Toby Ornottobe. The problem with Dr. Ornottobe is that he has limited quality and regulatory operations experience, but he is smart as a whip and is well-respected in the field of biologics. As a result of his inexperience, he relies very heavily on his quality and regulatory operations directors, like Ida. He reports directly to the CEO of Meridian International, Dr. Wanda Moore-Cashdollar.

Ida has a crack staff consisting of four individuals, all with excellent regulatory acumen, outstanding quality data analysis skills and superb quality and regulatory auditing skills. The first is Nahla Nonkhanformánce. Nahla is a certified quality auditor (CQA) through the American Society for Quality (ASQ). She has been a sidekick to Ida for years, as they began their quality careers together with another biomedical manufacturer, and followed very similar career paths, based on their friendship. Nahla is a kind person with a great deal of empathy for those she audits; she has a terrific ability to cut through objective evidence identified during operational audits and establish if the evidence represents true operational deficiencies or simply represents noise in the process---"isolated incidents," so to speak. She is well-regarded in the company and operations do not even seem to mind being audited by her!

Jill Willkillya is also a CQA who has been with Meridian forever. She is an absolute stickler for detail and is regarded as a walking encyclopedia of the regulations. Jill can recite the regulations, chapter and verse; as such, she provides terrific protection in terms of regulatory compliance to Meridian. She too is well-regarded in the company; but operations do seem to mind being audited by her. Ida often assigns Jill and Nahla to the same audits to work as a team, as their personalities tend to offset each other.

The third member of the team is Liliya Analitics, a master level engineer with an MBA that likes nothing more than saying, "let's unpack the data." Liliya's job is to evaluate the data streams within Meridian to identify areas of weakness and strength in plasma operations. She also assists Nahla and Jill in preparing for audits by looking at the data streams within the operational area to be audited and recommending sampling strategies of records and observations to maximize detection of non-conforming events.

The last member of Ida's team is Jenn Graphit, a Six Sigma Black Belt with degrees in Management and Graphic Design. Her specialty is process improvement and visualization of data to facilitate that improvement. Jenn's role is to take the data from Liliya and the reports from Jill and Nahla and use graphic tools to illustrate the weaknesses and strengths detected by them. She further assists in setting up improvement teams to act on the information.

The Challenge

Dr. Moore-Cashdollar looked out her corner office window, her eyes not really focused on the cityscape below. Instead, her brain was actively engaged with the acquisition her company, Meridian International recently made. Meridian purchased 30 plasma centers from Biocash in an effort to grow the human plasma aspect of its supply chain, a key component in several of its product lines. Although 15 of these centers are already licensed by the FDA, 15 are not. The 15 that are not have been collecting plasma, but until FDA licensure is secure, that product cannot be introduced to the market. That's a lot of product that's not being converted to cash through final product incorporation! In meetings with the FDA, an agreement was reached to have those unlicensed centers assessed by FDA for licensure within a 12-month timeframe, with the first site to be evaluated in six months from the final acquisition date. That means 18 months until all the centers are licensed, assuming they are all compliant and eligible for licensure. Meridian recognizes that the sites that are not licensed will need to be evaluated and made ready for the licensure, a process Meridian terms remediation. But how should these sites be prioritized for remediation? What should the schedule be? What should be the focus of the remediators once on site? These questions sounded like questions for Dr. Toby Ornottobe, who was currently on his way to that CEO corner office.

Dr. Moore-Cashdollar welcomed Toby to her office, and asked him to have a seat. She shared her questions with him, and asked him what his thoughts were on this matter. His mind said, "Ask Ida;" his mouth said, "Let me get back to you by the end of the week." Thank goodness it was only Monday! Toby left Dr. Moore-Cashdollar's office, went to his own, got distracted by yet another "pressing matter, " and promptly forgot to contact Ida until about 5pm.

Ida had enough of the day. It was Monday, she was tired, and her intention was to get out of her office promptly at 4:45 pm to get a jump on 5pm traffic, and maybe be able to get to her candle-making class today. She made it all the way to the parking garage when she realized she forgot her phone on her desk. She ran back to her office at 4:50 pm, and just as she entered, she heard her computer announcing a video call. Darn! It was Toby! Ida had no choice; she took the call. And that's when her candle-making hopes went up in smoke.

Toby detailed his meeting with Dr. Moore-Cashdollar with Ida. He told her that the team needed to figure out a way to prioritize the remediation efforts of the unlicensed former Biocash centers, establish what should be looked at in each of the sites, and develop a remediation schedule, noting that licensure visits from the FDA would start in six months and all sites would be visited within 12 months from the initial site visit. Also, he did get a commitment from Dr. Moore-Cashdollar to use outside resources to conduct the remediation events, as that would be a small price to pay considering the centers were sitting on millions of dollars of inventory right now. And, oh, by the way, we need these questions answered by Friday. Ida's mind said, "Are you kidding me? I think I'm going to be sick!"; her mouth said, "Ok, we're on it; we'll have something to you by Thursday close of business."

With candle-making off the table, Ida had time to think. How was she going to approach this problem? How could they possibly come up with a credible priority, the foci for the centers, and a remediation schedule by Friday! Thank goodness outside resources will be available for the remediation! At least that's a good thing! With that in mind, she did what all professionals do when their back is against the wall…she went to Google.

And Google wasn't that much help. But Ida did find information on risk matrices that intrigued her. How could she make that idea work for them in this scenario? Ida decided to sleep on it, and trusted that her team would make it all better for her.

The Brainstorm

Tuesday dawned cold, snowy, and dark…just like Ida. She was in the office by 7am, waiting anxiously to conference her team and tell them the good news. Finally, at 8am, she made the calls. Ida dispensed with the small talk, as her team knew her well-enough to know that a required con call first thing in the morning wasn't to discuss where they should have the company picnic that year.

Ida gave the team the information provided to her from Toby. After she finished her presentation, she asked if there were any questions, comments, or ideas. The only sound was the sound of dead silence, which really wasn't that encouraging. Finally, Jill spoke up with a resounding, "Are you kidding me?" She was joined by Liliya, who assured her that it probably was no joke. After the initial shock, the team settled into trying to figure it out. Ida told her what she found on Google in terms of risk matrices, sharing that she wasn't sure how it could be applied in this case. Ida asked the team to give the challenge some thought, do any research they could, and asked them to regroup at 11:30 am. The call concluded, and each went off to their work.

At 11:30 am, Ida got the gang back together. Liliya and Jenn took the lead on the call, as Ida's reference to risk matrices triggered Liliya to recall a session she recently attended at a conference where a risk matrix was used by a biomedical organization to prioritize process improvement efforts. She pulled the paper from on-line and determined that Meridian had the necessary data from Biocash to adapt the model to this prioritization challenge. Liliya then reached out to Jenn, who assured her that the matrix could be automated if the data were entered. Had Liliya and Jenn saved the day? Jill and Nahla needed more evidence (after all, they ARE auditors). They wanted to see how this matrix would work. Could Liliya please present the information from the paper so they could make a better judgment? Ida requested the team re-group at 2pm so Liliya and Jenn could have a chance to pull some more information together in terms of this model.

The Model

The model proposed by the paper used a *risk matrix approach*, which can plot the probability of a negative event against the severity of event's consequences. By considering these two factors – frequency and severity – in an objective and systematic way, leaders are better positioned to prioritize the risks that their organizations face (Allen 2014).

However, the risk matrix requires consensus in its construction to produce worthwhile, actionable results. Frequency and severity are the most common metrics for a risk matrix, yet stakeholders may disagree on how to assess these variables (Lozier 2011). Building a risk matrix is thus not a simple statistical process, but may involve extensive consultation with stakeholders and experts, with each individual leaving his or her mark. In the case of the paper presented at the conference Liliya attended, a 5 x 5 frequency/severity matrix was used (Walters and Barneva 2017).

Frequency

The frequency aspect of the matrix proposed by the paper relied upon a system of deviation or nonconformance codes denoting irregular or unsuccessful events encountered as part of collecting, processing, and distributing the product (Walters and Barneva 2017). These codes might read like this: *Pr-A-23: Product out of temperature, Pr-C-07: Lack of cooling, Er-M-42: Missing unit*. With these codes, a biomedical organization can more easily track, document, and manage its problems, and can more easily aggregate its data when considering the causes of the issues and the action that might be taken to correct them. Though they are lagging indicators of performance, these codes are vital to the work of biomedical organizations, and all manufacturers track these data. Thus, Biocash would have such data available, and these data were accessible to Meridian.

The first step proposed by the paper was to define frequency (Walters and Barneva 2017). For example, in a 5 x 5 matrix, five levels of frequency existed: frequent; likely; occasional; seldom; and improbable. To define these levels, all deviation codes reported in one calendar year were totaled, and a histogram of their frequencies was created. (In assigning each code to a calendar year, the researchers used the code's date of discovery, rather than the date it occurred; this choice recognized that some issues might be occurring undetected, and therefore not properly reflect process performance.) The histogram was scrutinized to identify five buckets of data ranges which could be used for the operational definition. However, the frequency of nonconformances might not be the only predictor of historical performance for a system; predictability of performance was also determined as important.

To further refine the frequency aspect of the matrix in terms of predictability of performance, the deviation codes were grouped and mapped into a more manageable **system of controls** (Walters and Barneva 2017). These controls represent points in an operational process that must adequately function for the operational system to meet its goal. How the FDA evaluates a firm depends on the operational systems through which the end product is manufactured, each of which will be briefly explained below:

1. Quality Assurance System (QAS)
2. Donor Eligibility System (DES)
3. Product Processing System (PPS)

4. Quarantine/Inventory Management System (QIMS)
5. Product Testing System (PTS) (U.S. FDA “CBER” 2016).

The QAS ensures compliance with current good manufacturing practices (cGMP) (U.S. FDA “CBER” 2016). As part of the QAS, all critical inputs to the biologic product are reviewed and approved by a quality unit. The QAS must validate the processes to verify that they match the expected outcome. This system also reviews the hardware and software used in manufacture, the quality of the supplies, the training of human operators, the procedures employed, and the conditions of the manufacturing site. Lastly, the QAS handles product returns and defective products.

The DES ensures compliance with regulations concerning the donors of biological material. This system includes verifying that donors are properly identified; properly evaluated for eligibility in terms of their short-term and long-term health, and their interval between donations; and properly informed of any health risks involved in their donation. These procedures help ensure that the biologic will not be contaminated by disease from the donor (U.S. FDA “CBER” 2016).

The PPS ensures compliance with regulations for processing the biologic, from the collection of its source material to the way the product is labeled (U.S. FDA “CBER” 2016). This system oversees the gathering of the raw material (such as a blood draw or bone marrow donation), the biologic’s preparation, and the biologic’s final labeling, with particular attention to the sterility of each step.

The QIMS ensures compliance with regulations that protect the public against unsuitable products (U.S. FDA “CBER” 2016). This system verifies that the donor was generally eligible to donate and in good health when the raw material was collected, and that the resulting biologic has been adequately tested.

The PTS ensures compliance with regulations to check the raw biological material for any disease that the biologic might pass to the recipient, or any condition that might be transmitted. These diseases could range from requiring minor medical intervention to life-threatening infections (U.S. FDA “CBER” 2016). This system oversees the collection and testing of samples from the biological material, and the actions taken in response to the test results.

Once these nonconformance codes were mapped to the critical processes within each operational system, the next step was to examine the total frequency of the individual codes. The codes for the system of controls that supported quality functions were grouped into monthly totals for a period of 45 months. From this data, the team could see the control’s baseline behavior and detect any variations (Walters and Barneva 2017).

This monitoring continued in a rolling, 45-month window, with each new month of data causing the oldest month to be removed from the charts. This process ensured that the charts would not become cumbersome, and permitted the team to use statistical process control (SPC) in the form of *u-charts* – SPC charts that plot defects per unit over time. These u-charts are an important tool because they can adapt to different sample sizes, and they take into account that not every unit with defects must be discarded (Minitab 2016). By identifying *out-of-control conditions* as defined by the SPC rules, the u-charts allowed the team to see showed any abnormalities in the process, such as increases in frequency rate, upward trends, or general instability.

Certain Western Electric Rules were used to craft the SPC rules for *out-of-control conditions*. Under standard conditions, the data fit a normal (Gaussian) distribution: 68% of the data points lie within one standard deviation of the mean, 95% within two standard deviations, and 99.7% within three standard deviations. The distribution is symmetrical about the mean, and the mean is equal to the median and the mode. Under *out-of-control conditions*, the data have failed to meet one or more of these criteria.

The paper used the following definitions from the Western Electric Rules (Quinn-Curtis Inc. 2016):

- *Freak data point:* The most recent data point is more than three standard deviations from the mean. This data point is very unlikely (0.3% chance or lower) to have resulted from the normal process.
- *Freak pattern:* Of the three most recent data points, two of them are more than two standard deviations from the mean in the same direction. This pattern is very unlikely (1% chance or lower) to have resulted from the normal process.

- *Second freak pattern:* Of the five most recent data points, four of them are more than one standard deviation from the mean in the same direction. This pattern is unlikely (about 3% or less) to have resulted from the normal process.
- *Shift:* Eight consecutive points lie on the same side of the mean. This pattern is very unlikely (about 1%) to have resulted from the normal process.
- *Trend:* Seven consecutive points show a continuous increase or decrease. This pattern is very unlikely (about 1%) to have resulted from the normal process.

The paper Liliya reviewed defined an *out-of-control pattern* as a shift, trend, or freak pattern. An *out-of-control point* was defined as a freak data point. Such conditions escalated risk in terms of frequency (Walters and Barneva 2017).

Severity

An interdisciplinary team created the column headers for the risk matrix. This team included a variety of professionals in the field, including physicians and experts in operation, regulation, and quality assurance. These individuals evaluated the groupings of nonconformance codes for each critical process within the operational systems and assigned the groupings into one of five risk categories, reflecting the most significant risk indicator of each individual nonconformance code within the critical process. The column headers were determined as negligible; minor; moderate; critical; and catastrophic. Each of these categories was operationally defined with risk indicator descriptions, as noted in Figure 1, Risk Indicator Descriptions (Walters and Barneva 2017).

Negligible	Minor	Moderate	Critical	Catastrophic
No risk of damage or death	Risk of temporary damage (detectable or not)	Risk of death, but highly detectable; risk of permanent damage, but detectable	Risk of death, but detectable; risk of permanent damage and not detectable	Risk of death and not detectable

Figure 1: Risk Indicator Descriptions.

Risk Matrix

Next, the team married the risk indicator definitions to the frequency column. They then reached consensus on a numerical “risk level” to each cell, with 1 being the highest and 25 being the lowest. On top of this quantitative representation, the team overlaid a color code similar to a streetlight to show the urgency of each risk factor. A dark green color represented “monitoring,” while light green represented “corrections are required.” Yellow meant “immediate action needed, but does not lead to suspending operation,” while red meant “immediate attention. Risk of suspending operations.”

The final risk matrix presented at the conference is found as Figure 2 (below), Final Risk Matrix for Prioritization (Walters and Barneva 2017).

Risk Matrix		Risk Indicator				
		Negligible	Minor	Moderate	Critical	Catastrophic
Frequency / Process Performance	Frequent Or Pattern Out of Control	17	14	11	4	1
	Likely Or Point Out of Control	18	15	12	5	2
	Occasional	19	16	13	6	3
	Seldom	24	22	20	9	7
	Improbable	25	23	21	10	8

Figure 2: Final Risk Matrix for Prioritization.

The risk indicator of each operational system (e.g., DES) would reflect that of the most serious risk indicator within the process nonconformance grouping. For example, if one of the critical processes of the DES was determined at a risk level of 3, while its other critical processes were of lesser numbers, the risk level of 3 would prevail.

The Pitch

Promptly at 2pm, Ida got her team back on a conference call. Liliya, always an overachiever, organized an impressive slide deck to share with the group to explain the risk prioritization model she learned of at the conference. She took about 15 minutes to go through it, start to finish; afterward, Ida opened the lines for comments and questions.

Nahla, an eternal optimist, felt this might be a good model to use, especially since Jenn indicated that she could automate the data pull to generate the statistical process control charts needed. Jill, an eternal pessimist, did think it could be used, but expressed concern on how the groupings of the nonconformance codes would occur. After all, some nonconformance codes were very specific, like “collection of product start time not documented,” while others were very general, like “no documented supervisory review” (which could be in any process!). Jenn felt that the very specific codes were really the “driving” codes, which gave the best indication of how a process point was behaving and that these driving codes should be the only ones considered. Jill, ever the regulatory cheerleader, was hesitant that regulators (FDA) would want to know exactly how codes were determined to be driving codes versus general codes. Ida and her team did believe it was a good point, and one they had to weigh carefully if this model was employed.

Jenn reminded the team that if this model was used, they were going to have to determine the frequency buckets similarly to the model from the conference, by way of histogram analysis. She assured them this shouldn’t be that big of a deal, but they couldn’t lose site of the need to do it. She also expressed confusion as to what period of time would be evaluated to determine if out of control conditions existed. For example, if a freak data point occurred six months ago in the control chart, did that represent a current out of control condition? Ida noted that seemed to be too far in the past. Maybe it made sense to make this judgment for the most recent period, say every three months? After all, senior management conducted management review every three months, and this time frame would coincide with that schedule.

By 3pm, Ida and her crew decided this model was going to be their story, and they were going to stick with it. Jill and Nahla were tasked with mapping the nonconformance codes to the critical processes within each system; Liliya and Jenn were tasked with establishing the frequency buckets, building the process control charts, and finalizing the risk matrix. Ida tasked herself with grabbing a bottle, hunkering down, and praying for daylight.

Set 1: Discussion Questions for Students.

1. Do you think this model might be a good one for Meridian to use? Why or why not?
2. If this model were used, do you think all codes should be employed or just the “driving” codes? Why? If just the “driving” codes were used, describe one way to determine what those codes are.

3. What should be the "period under review?" How would you defend that time frame to the FDA if asked?

The Results

Everyone got her job done by Thursday morning (including Ida, who did more than what she tasked herself). The results were in! Nahla and Jill mapped in the "driving" codes to the critical control processes for each system. They determined to use only the "driving" codes through an analysis they did of the code usage. They found that generic codes were infrequently designated, and therefore did not contribute any significant frequency to the frequency buckets.

An added bonus was that the Biocash system of nonconformance management used a risk code for each individual nonconformance code, which Nahla and Jill were able to translate to the Risk Indicator definitions used in the model. Because of the time constraints, Nahla and Jill reached out to just a few experts in Meridian to lend credibility to their mapping and risk indicator translation. They had input from the Chief Medical Officer, Dr. Alswell; the Senior Director of Operations Management, Jed I. Knight; and of course, Dr. Toby, who referred them to Ida….go figure.
Liliya and Jenn constructed a histogram of all nonconformance codes for each of the 15 sites under review. The results were quite similar, and so the bucket categories were harmonized so that one matrix could be used. Their results are found as Figure 3, Frequency Categorization for Risk Matrix.

Code Frequency Range	**Category of Frequency**
0 – 49	Improbable
50 – 499	Likely
150 – 499	Occasional
500 – 1499	Seldom
1500 +	Frequent

Figure 3: Frequency Categorization for Risk Matrix.

They also generated all the statistical process control charts based on the buckets provided by Jill and Nahla. Everyone was tired; everyone was irritable. But yet, they were getting it done!

The team came together on that cold, dreary Thursday late morning to discuss what they had. Jill asked Ida to tell Dr. Ornottobe to delay his meeting with Dr. Moore-Cashdollar until the afternoon on Friday. That way the team could put together the suggested schedule throughout Thursday afternoon and Friday morning. Ida agreed; and happily, so did Dr. Ornottobe!

For the rest of the afternoon, the team worked on the schedule. They used the same matrix provided by the conference, but now they had their own unique data to use with it. They had five systems to judge and five staff to do it. Each staff member would be assigned one system and evaluate that system and its critical control points for each of the 15 sites. The assignments are illustrated in Figure 4, Risk Level System Assignments.

Staff Member	Operational System
Jill	DES
Nahla	QAS
Ida	PTS
Jenn	QIMS
Liliya	PPS

Figure 4: Risk Level System Assignments

By Friday morning, the evaluation was complete for the operational system. Each staff member posted her results. There was light at the end of the tunnel; Jill felt it might be a train! The results for each site are noted in Figure 5, Risk Levels for Each Site by System.

SITE 1	**Risk Level**
QAS	24
DES	6
PPS	11
PTS	22
QIMS	4

SITE 2	**Risk Level**
QAS	25
DES	7
PPS	11
PTS	22
QIMS	3
SITE 3	**Risk Level**
QAS	23
DES	8
PPS	11
PTS	15
QIMS	5
SITE 4	**Risk Level**
QAS	23
DES	9
PPS	12
PTS	15
SITE 5	**Risk Level**
QAS	24
DES	10
PPS	13
PTS	16
QIMS	14
SITE 6	**Risk Level**
QAS	25
DES	11
PPS	14
PTS	16
QIMS	13
SITE 7	**Risk Level**
QAS	23
DES	11
PPS	6
PTS	16
QIMS	12

SITE 8	Risk Level
QAS	17
DES	11
PPS	6
PTS	15
QIMS	11
SITE 9	**Risk Level**
QAS	17
DES	12
PPS	7
PTS	21
QIMS	10
SITE 10	**Risk Level**
QAS	18
DES	13
PPS	8
PTS	20
QIMS	6
SITE 11	**Risk Level**
QAS	18
DES	14
PPS	9
PTS	19
QIMS	7
SITE 12	**Risk Level**
QAS	19
DES	14
PPS	10
PTS	18
QIMS	9
SITE 13	**Risk Level**
QAS	17
DES	6
PPS	10
PTS	17
QIMS	10

SITE 14	Risk Level
QAS	22
DES	6
PPS	7
PTS	16
QIMS	10
SITE 15	**Risk Level**
QAS	18
DES	6
PPS	7
PTS	16
QIMS	9

Figure 5: Risk Levels for Each Site by System.

The team took a look at the results. Interestingly (which is another name for disturbingly), the team members did not have full consensus on the priority. Some of the team felt the priority should be set by looking at the lowest mean score for each site, as the lower the risk level, the more critical the issue. Other team members felt the priority should be set by simply identifying which was the lowest risk number for each site, and set the priority based on that number. One member indicated that priority should be set in terms of mode of risk levels, with those with the lowest modes being set first for priority. In any event, Dr. Ornottobe is calling; he will be ready in one hour for Ida's briefing!

Set 2: Discussion Questions for Students.

1. What approach do you think Meridian should take for the prioritization? Why do you think this approach is superior?
2. Based on the approach you recommend, what is the priority schedule that should be undertaken?
3. In terms of each site, identify the largest focus each remediation team should take at that site.
4. In the event your approach leads to a "tie" between two or more sites, what might be a way to determine which site has priority within that tie?
5. Consider the risk matrix approach used by Meridian. Can you think of any other applications? Provide a specific idea.
6.

CONCLUSION

After participating in this case, students should realize the importance of risk prioritization, and how tools can be applied to assist in the management of such prioritization. They should also realize that tool applications can be used across various industries. Lastly, it is important that students realize that human subjectivity plays a role in risk prioritization, while the tools, such as a matrix, assist in providing a layer of objectivity.

TEACHING NOTE

The purpose of this teaching case is to familiarize students with a methodology to prioritize risk among various organizational operations. Understanding risk priority can assist students in their careers as they seek to allocate resources among various operations, engage in organizational changes, such as mergers, acquisitions, and divestitures, and attain organizational accreditation and regulatory compliance. This case also offers the opportunity access the features of problem based learning (Rossano, Meerman, Kesting, & Baaken, 2016) by presenting a structured problem, allowing the teacher to be a facilitator through creating a student centered environment. The teaching note offers several options based on time available and/or the degree the teacher desires students to delve into calculations and decision making surrounding the risk model. As a facilitator, be sure to emphasize that although the case used an objective tool, subjectivity was also a vital component to the decision-making process; this subjectivity is demonstrated through the differences among potential answers to discussion questions and presentations. The process of developing a recommendation is just as great a teaching tool as the learning of the risk matrix methodology.

Basic Background of the Case Relevant to the Choice of Teaching Options

In this case, a large biomedical manufacturer acquired 30 plasma collection sites, half of which are not yet licensed by the Food and Drug Administration (FDA). In a commitment to the FDA, the manufacturer promised to evaluate and correct any issues (a process termed remediation) within these not-yet-licensed sites within a 12-month timeframe, with the first site to be assessed by the FDA at 6 months from the date of acquisition closure. With finite resources, the manufacturer must determine the schedule for remediation to meet these time constraints. Additionally, within each site, the manufacturer must determine the operational areas of focus so that time is not wasted in operational processes that are compliant.

The hoped for outcome of this case is a schedule of sites to be remediated, as well as the key operational focus of each site. However, the case discussion questions throughout the case elaborate on the idea of risk prioritization, allowing students to explore subjectivity in the risk prioritization process, while still using data and facts to determine an objective schedule.

For each teaching option the teacher leads an in-class discussion on risk and risk prioritization, to include the importance of these concepts and ways that such risks are managed, such as risk matrices and Failure-Mode-Effects-Analysis (FMEA). Students should also be introduced to regulatory environments as well as accreditation requirements that require the need to understand and prioritize risk.

Small Group Discussion Approach – three 50 minute class periods

After this foundation is provided, assign reading of The Case portion of this paper, to include The Challenge. At the next class meeting, put the students in small groups, and distribute The Brainstorm, The Model, and The Pitch portions. Have students read these portions in class, and in their small groups, provide a summation of what they understood (30 minutes total). Call on a group or two to provide their summations; provide clarity in terms of the subject matter as necessary (about 15 minutes).

When the class reconvenes, ask students to return to their small groups, and evaluate the Discussion Questions for Set 1 (about 30 minutes). Call on random groups to share their answers. If necessary, complete the discussion at the next session.

Set 1: Discussion Questions for Students.

1. Do you think this model might be a good one for Meridian to use? Why or why not?
   In the absence of any alternative, students will most likely indicate it is a good model, especially since it closely mirrors what Meridian is trying to accomplish. Students might suggest some downfalls to it, such as integrity of the data (for example, how does Meridian know how good Biocash was at logging its nonconformance data?) Further, it might not be a perfect solution, but at least it is something, and maybe perfection does not need to be the enemy of good. Instructors can push back on the acceptance of the model by asking about data integrity, likelihood of FDA acceptance, and the ability to construct the model in a short period of time.

2. If this model were used, do you think all codes should be employed or just the "driving" codes? Why? If just the "driving" codes were used, describe one way to determine what those codes are.
   Students will likely give varying answers here. An argument can be made for both instances, but using only driving codes, if properly mapped, would give the cleanest, most straightforward approach.

3. What should be the "period under review?" How would you defend that time frame to the FDA if asked?
   It makes sense that the period under review contains more recent data. For example, if the data move back into a state of control, then what is the point of taking corrective action? Resources should be deployed to where the issues exist, not to where issues existed in the past. Additionally, the oversight of management each quarter is more likely to elevate priority issues if this model is expanded for use beyond setting prioritization for remediation. These points are legitimate answers for the FDA.

For the third class period, assign the Results portion of the case, and ask students as individuals to complete the Set 2 Discussion Questions. At the next session, ask students to once more return to their small groups and share their Set

2 Discussion Question answers. Ask each group to come to consensus (about 30 minutes). Call on a group or two random groups to share their answers (20 minutes).

Set 2: Discussion Questions for Students.

1. What approach do you think Meridian should take for the prioritization? Why do you think this approach is superior?
   Students will try to choose between the two approaches identified above. There is no correct answer to this question; students should be encouraged to evaluate both approaches and provide some basis of comparison for them.

2. Based on the approach you recommend, what is the priority schedule that should be undertaken?
   This answer will depend on what approach is described as part of Set 2, Question 1.

3. In terms of each site, identify the largest focus each remediation team should take at that site.
   Here, the student should recognize that the operational system with the lowest score should be the focus of the remediation team.

4. In the event your approach leads to a "tie" between two or more sites, what might be a way to determine which site has priority within that tie?
   Students can identify any means as a tiebreaker. One point to consider is to remind the students that unlicensed sites cannot enter product into commerce, so largest stores of inventory might be one deciding factor.

5. Consider the risk matrix approach used by Meridian. Can you think of any other applications? Provide a specific idea.
   Here, students should be able to discuss ways a risk matrix might be used in any number of settings. For example, in education, the frequency of missed classes might be mapped to the likelihood of graduation.

Written Submission and Peer Review –two- 50 minute class periods

In this model you use the case to instruct on the how the model was developed, the role of the different quality systems and reinforcing the relevancy of the voice of the customer, voice of business and voice of the people. As you walk through the case up to the Results section, students can take notes. At the end of the discussion, highlight three methods of prioritizing the risk with slides and discussion. Reinforce the understanding of the operating systems. Distribute results section of the case with the following set of questions.

1. What approach do you think Meridian should take for the prioritization? Why do you think this approach is superior?

2. Based on the approach you recommend, what is the priority schedule that should be undertaken?

3. In terms of each site, identify the largest focus each remediation team should take at that site.

4. In the event your approach leads to a "tie" between two or more sites, what might be a way to determine which site has priority within that tie?

5. Consider the risk matrix approach used by Meridian. Can you think of any other applications? Provide a specific idea.

You can make the choice on whether the written assignment is given as an individual written assignment or a group written assignment. If time is limited for this case, the written assignment could be given as an individual assignment and thus during the second class, the teacher would lead the class in an abbreviated debrief on the answer options and collect papers.

If there is more time available for the third class period you can lead a whole class discussion on the questions and utilize a peer review model. If using the peer review model, have students trade their papers with another student in the class. The teacher can distribute a rubric for students to assess the written response based on learning objectives relevant to assessment needs. The rubric might contain such items as basic spelling/grammar and ability to present an argument with logical thinking which focuses the peer review on basic written communication assessment. Other items on a rubric might include demonstration of understanding what relevant concepts such as risk, regulated environment, quality systems, etc.

In a third option for the written assessment, students in small groups would review their individual answers and come to consensus. Each group could then provide a brief pitch on their recommended method of prioritization (Question 1). If time allows, groups could debate each other on the proposed methods and rationale. Papers are then submitted for grading by the instructor.

Interactive Role Play (three 50 minute class periods)

As in the other options, the first class would be spent outlining the basic concepts of the case including regulatory environments, risk and risk prioritization, to include the importance of these concepts and ways that such risks are managed, such as risk matrices and Failure-Mode-Effects-Analysis (FMEA). Significant more time is spent on the how the risk model is operationalized in the case. Additionally more time may be spent on reviewing the demands of several stakeholders, including the Voice of the Business (VoB), the Voice of the Customer (VoC), and the Voice of the People (VoPp).

The class is then divided into four groups as follows. The first group is assigned to represent the interests of Meridian and will take on the roles of Ms DoItRight's team including Ms Nonkhanfornace, Ms. Willkillya, Ms Analitics and Ms. Graphit. The team is encouraged to have its members assume the role each character represents (e.g. good people skills, detail regulatory, data specialist and visual specialist). This team would be tasked with representing the voice of Business and be assigned to develop an overall strategy on how to prioritize the risk. Then the 15 sites would be divided and distributed across the three remaining groups. Thus each of these groups is assessing a unique set of sites where as the Meridian team is tasked to consider a strategy to apply to all 15. This parallels a dynamic in industry where the quality team interfaces with local management on sites. Individual sites or groupings may have vested interest in receiving remediation quicker and coming on-line sooner for business reasons. Thus the dynamic in class parallels the sometimes competition between the voice of business (money), the voice of the customer (safety) and the voice of the people (regulation/government). The teacher may extenuate that competitive dynamic in the assignment.

In the following class period, each team would present their proposed approach to priorization plan for their set of five sites. The presentation would include the focus for remediation as well as proposed schedule. The teams would be responsible for presenting a poster board size summary of how they prioritized their set of sites which after the presentation would be displayed at the front of the classroom. The small group representing Meridian would be responsible for questioning the presenting teams. (25 minutes) Other teams could challenge the thinking of the presenting team (if time allows).

Once all the teams have presented they would be instructed to consider the similarities and differences among the different approaches. They would also be tasked with identifying the balance each approach gave between the voice of the Business (VoB), the Voice of the Customer (VoC), and the Voice of the People (VoPp). By having the students reflect on other presentations, they would be challenged to modify their approach based on their experience interacting with the corporate Meridian team and the other sites. (10 minutes). Revised presentations would be allowed if a group chose to do so. To conclude the class the Meridian team would award the best presentation and proposed approach with points.

Data Analysis (two 50 minute class periods)

A final teaching approach could include presenting the case up to the results section and providing a data set to small groups in order for them to generate the results on their own. The small groups would then bring the results with a presentation to the class proposing a model for priorization.

In all options the teacher is encouraged to assume the facilitator role, emphasizing that although the case used an objective tool, subjectivity was also a vital component to the decision-making process; this subjectivity is demonstrated through the differences among answers.

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HOW WILL TRANSPORTATION NETWORK COMPANIES "FARE" UNDER THE LAWS OF THE KEYSTONE STATE? LESSONS FROM UBER'S ENTRY INTO PENNSYLVANIA

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ABSTRACT

The entry of the industry-leading ridesharing company, Uber Technologies, Inc. ("Uber"), into the Pennsylvania market has been, from a legal and regulatory perspective, tumultuous. First, as a result of Uber having provided transportation services within Pennsylvania without having first obtained the proper authorization, an administrative tribunal of the Pennsylvania Public Utilities Commission ("PUC") has recommended that Uber be fined nearly $50 million. Second, Uber has also been sued in the United States District Court for the Eastern District of Pennsylvania by forty-five Pennsylvania taxi companies which alleged that Uber had engaged in unfair competition, false advertising, and even criminal behavior in violation of the Racketeer Influenced and Corrupt Organizations Act. Finally, Uber has also had a federal class action lawsuit, DiNofa v. Uber Technologies, Inc., filed against it in that same court by an Uber driver claiming that Uber had misclassified its drivers in Pennsylvania as independent contractors rather than as employees under Pennsylvania law, and that those drivers were therefore entitled to a number of additional benefits from Uber.

Uber has so far proven to be remarkably resilient, however. The PUC has not formally assessed the $50 million penalty against Uber, the majority of claims in the taxi companies' lawsuit have been dismissed by the court, and the DiNofa class action lawsuit was voluntarily dismissed by the plaintiff. Furthermore, the Pennsylvania state legislature is currently considering Senate Bill 984, which would legalize the operations of and grant permanent licenses to ridesharing companies like Uber within Pennsylvania.

Despite the above legal and regulatory victories, Uber is not yet completely in the clear in Pennsylvania. Even though DiNofa was voluntarily dismissed, the primary issue raised in that case - whether Uber's drivers are properly classified as employees or independent contractors under Pennsylvania law - could still potentially derail Uber in Pennsylvania if it is ever raised in another lawsuit and decided against Uber. In that case, Uber would then likely be required to provide its drivers with a number of additional benefits it does not currently provide, thereby perhaps rendering Uber's current business model untenable. An analysis of that classification issue under Pennsylvania law is thus extremely important in considering the likely success of Uber and its competitors in Pennsylvania going forward.

INTRODUCTION

The sharing economy has been defined as "the peer-to-peer-based activity of obtaining, giving, or sharing the access to goods and services, coordinated through community-based online services." (Hamari, Sjoklint, & Ukkonen, 2015). The sharing economy is growing rapidly, and its revenues in five key sectors alone – travel, ridesharing, finance, staffing, and music and video streaming – are expected to increase from $15 billion in 2015 to more than $335 billion within only a few years. (Puschmann & Alt, 2016).

One of the most competitive, and successful, sectors of the sharing economy has been the ridesharing sector, in which companies known as transportation network companies ("TNCs") allow private vehicle owners to provide transportation services directly to passengers via those companies' smartphone applications. (Rassman, 2014).
Although a number of companies compete in the TNC sector, including Lyft and Summon, one company – Uber Technologies, Inc. ("Uber"), which is the focus of this article – has become the ridesharing sector's standard bearer as a result of its rapid growth and enormous valuation. (Hiltzik, 2015).

Founded in 2009, Uber is now available in more than 60 countries and 380 cities worldwide and is currently valued at more than $62.5 billion. (Newcomer, 2015). While Uber is a private company, internal documents indicate that the company's gross revenues in 2015 were expected to be $10.84 billion, with Uber earning twenty percent of that amount, or roughly $2 billion, in net revenues. (Zhang & Shih, 2015).

Uber officially began operating in Pennsylvania in June 2012 (Spikol, 2012), and from a legal and regulatory perspective the intervening three-and-one-half years have been particularly eventful. The company has faced or currently faces a number of serious challenges in Pennsylvania – including regulatory enforcement actions and lawsuits from private parties – that have affected and will undoubtedly continue to affect its ability to operate, or at least to operate profitably, within the state.

It is perhaps an issue raised in DiNofa v. Uber Technologies, Inc., a federal class-action lawsuit filed in the United States District Court for the Eastern District of Pennsylvania that continues to be of the most concern to Uber, however. In that lawsuit, the plaintiff alleged on behalf of the proposed class that Uber's drivers in Pennsylvania were misclassified by Uber as independent contractors, when under Pennsylvania law they should have properly been classified as employees. (Complaint and Demand for Jury Trial, DiNofa v. Uber Techs., Inc., 2015).

The DiNofa plaintiff further claimed that, as employees, the proposed class was entitled to reimbursement from Uber for necessary employment related expenses, as well as for certain minimum wages and meal and rest periods for employees under Pennsylvania law. (Complaint and Demand for Jury Trial, DiNofa v. Uber Techs., Inc., 2015).
Although the DiNofa case was recently voluntarily dismissed by the plaintiff prior to the court deciding the classification issue, if that issue is ever again raised in a Pennsylvania lawsuit and resolved unfavorably to Uber, that decision could prove fatal to Uber's current business model in Pennsylvania. A consideration of how that classification issue would likely be resolved under Pennsylvania law is thus worthy of consideration.

The ongoing legal travails of Uber and other TNCs have resulted in a number of state legislatures, including the Pennsylvania legislature, enacting or proposing to enact regulations specifically tailored to address TNCs. Such legislation is intended to provide permanent regulatory oversight for these companies, which have to date been operating under temporary, experimental licenses. (Lyons, 2015, September 15).

How, and whether, Uber is able to continue to successfully navigate through the legal straits it currently finds itself in will undoubtedly affect the fortunes not only of Uber, but of other TNCs within Pennsylvania. Most importantly, the eventual classification of those TNCs' drivers as independent contractors or employees under Pennsylvania law may ultimately determine whether or not the entire TNC business model will prove successful within the Keystone State.

ASKING FOR FORGIVENESS RATHER THAN PERMISSION: PENNSYLVANIA PUBLIC UTILITY COMMISSION, BUREAU OF INVESTIGATION AND ENFORCEMENT V. UBER TECHNOLOGIES, INC.

I have never, in my 30 years of experience, seen a company completely disregard, ignore, and, if you will excuse the expression, thumb their nose at the Office of the Administrative Law Judge and the Commission. . . . . What do you tell the next company who ignores you? What do you tell the next company that comes into Pennsylvania, disregards the law and just goes forward and does whatever they want to do? What do you tell the next company that you say, give this information to that party, and they say, no? You need to send a message. - First Deputy Chief Prosecutor Wayne Scott (Initial Decision, Pa. Public. Util. Comm'n, Bureau of Investigation and Enforcement v. Uber Techs., Inc., 2015).

Uber's official entry into the Pennsylvania market occurred in June 2012, when it began offering ridesharing services through its smartphone application in Philadelphia. (Spikol, 2012). Thereafter, the company introduced its service in Pittsburgh in February 2014. (Initial Decision, Pa. Public. Util. Comm'n, Bureau of Investigation and Enforcement v. Uber Techs., Inc., 2015).

On June 6, 2014, and in response to Uber's entry into the Pittsburgh market, the Pennsylvania Public Utilities Commission ("PUC") filed an administrative complaint against Uber accusing the company of acting as a broker of transportation services within Pennsylvania without the required certificate of public utility. In its initial complaint, the PUC sought a civil penalty of $95,000 plus an additional $1,000 per day for each day that Uber continued to operate without the proper certificate. (Initial Decision, Pa. Public. Util. Comm'n, Bureau of Investigation and Enforcement v. Uber Techs., Inc., 2015). On July 1, 2014, the PUC administrative tribunal ordered Uber to "cease and desist its operations in Pennsylvania utilizing its digital platform to facilitate transportation for compensation to passengers using non- certificated drivers in their personal vehicles." (Initial Decision, Pa. Public. Util. Comm'n, Bureau of Investigation and Enforcement v. Uber Techs., Inc., 2015). Uber continued to provide its ridesharing service in Pennsylvania in violation of the July 1, 2014 cease- and-desist order. (Initial Decision, Pa. Public. Util. Comm'n, Bureau of Investigation and Enforcement v. Uber Techs., Inc., 2015).

On August 20, 2014, the PUC issued a certificate of public convenience in response to Uber's request for emergency transportation authority. Thus, August 21, 2014, was the first date that Uber possessed the legal authority to provide its ridesharing service within Pennsylvania. (Initial Decision, Pa. Public. Util. Comm'n, Bureau of Investigation and Enforcement v. Uber Techs., Inc., 2015). On January 9, 2015, the PUC amended its complaint to seek to assess penalties against Uber on a "per ride" violation basis rather than the "per day" violation basis contained in the PUC's original complaint. That change increased the civil penalty sought by the PUC against Uber to $19 million. (Initial Decision, Pa. Public. Util. Comm'n, Bureau of Investigation and Enforcement v. Uber Techs., Inc., 2015). Separately, on January 29, 2015, the PUC granted Uber a two-year license for an experimental service to operate throughout Pennsylvania, excepting only the City of Philadelphia, effective immediately. That license allowed Uber to continue to offer its ridesharing services subject to certain conditions regarding driver and vehicle safety and insurance. (Lyons, 2015, January 29).

Pursuant to that license, Uber began operating in a number of additional cities in Pennsylvania, including Erie, Reading, York, Lancaster, State College, Scranton, Wilkes-Barre, Harrisburg, and the Lehigh Valley, between January and April 2015. ("Uber cities across the globe," 2016). On November 2015, the PUC administrative tribunal issued its Initial Decision in the PUC's administrative action against Uber, ruling that the PUC had met its burden of proving that Uber had provided transportation for compensation without authority in violation of Pennsylvania's Public Utility Code: To sum, we find that Uber's conduct from February 11, 2014 until July 1, 2014, while intentional because it knew or should have known that it was providing transportation which required authority from the Commission, merits a lower penalty. In contrast, Uber's conduct from July 2, 2014 until August 20, 2014, was deliberate and calculated and therefore merits the maximum penalty. (Initial Decision, Pa. Public. Util. Comm'n, Bureau of Investigation and Enforcement v. Uber Techs., Inc., 2015).

As a result, the PUC administrative tribunal recommended that the PUC assess civil penalties against Uber in the amount of $49,924,800. (Initial Decision, Pa. Public. Util. Comm'n, Bureau of Investigation and Enforcement v. Uber Techs., Inc., 2015). On December 7, 2015, Uber filed its exceptions to that Initial Decision, and Uber currently awaits a final decision by the PUC as to whether the administrative tribunal's recommendation will be approved. (Exceptions on Behalf of Uber Techs., Inc., Pa. Public. Util. Comm'n, Bureau of Investigation and Enforcement v. Uber Techs., Inc., 2015). As of the writing of this article, the PUC has not issued its final decision. Uber's tactics in entering the Pennsylvania market – which are similar if not identical to the tactics it used in other states, including South Carolina and Nevada – have resulted in Uber's strategy being described as one of "seeking forgiveness, not permission." (Holloway, 2015).

Uber appears to have made the determination that it will ultimately be more profitable to flout the applicable laws and regulations in order to be the first-mover in a market in order to capture and build market share, than it would be to obtain the licenses or certificates of public utility required to operate legally. As Uber is a private company that does not report detailed financial information, the efficacy of that strategy within Pennsylvania is difficult to assess with any degree of specificity. Generally, however, given Uber's current stratospheric valuation, seemingly endless ability to raise additional capital, and dominant position as the ridesharing market leader, that strategy does appear to be successful.

With a valuation in excess of $62.5 billion, Uber can likely absorb even a penalty as stiff as $50 million without serious repercussions. Such a penalty would have a much more serious effect upon Uber's competitors in Pennsylvania, however, which do not have the financial resources Uber does. For example, Uber's closest competitor, both nationwide and in Pennsylvania, is Lyft, which as of January 2016 was valued at $5.5 billion, less than 9% of Uber's valuation. (Newcomer, 2016). Lyft's 2015 gross revenues were expected to reach $1 billion as compared to Uber's $10.84 billion. (Somerville, 2015). A $50 million penalty would obviously be a much more serious blow to Lyft than to Uber.

In addition, regulators appear to have caught onto Uber's game: "One thing is certain. Simply to come in and say, 'We're not going to have to abide by the regulations here because we're an app,' isn't going to fly," said Ray Mundy, the Director of the Center for Transportation Studies at the University of Missouri-St. Louis. (Rassman, 2014.) Regulators are currently taking and will continue to take a harder stance toward TNCs and, if imposed by the PUC, the $50 million penalty levied against Uber in Pennsylvania will certainly constitute a warning to other TNCs who may be planning to adopt a similar "ask for forgiveness rather than permission" strategy going forward.

THE INCUMBENTS STRIKE OUT: CHECKER CAB PHILADELPHIA, INC. v. UBER TECHNOLOGIES, INC.

It is not only Pennsylvania regulators who have taken notice of Uber's tactics in entering the Pennsylvania market. On December 23, 2014, Checker Cab Philadelphia, Inc. and 44 additional taxi companies operating in Pennsylvania (collectively, "the Checker Cab Plaintiffs") filed a lawsuit against Uber and various other defendants, including a number of Uber officers and investors (collectively, "the Uber Defendants"), in the United States District Court for the Eastern District of Pennsylvania. (Civil Action Complaint, Checker Cab Philadelphia, Inc. v Uber Techs., Inc., 2014).

The Checker Cab Plaintiffs did not pull any punches, opening their complaint against Uber by stating: "Not since the days of bootlegging has there been a criminal enterprise so brazen and open as to attract hundreds of millions of dollars in investment from investment bankers and to operate in blatant violation of federal and state law as the Uber enterprise. Their outrageous acts are legion . . . ." (Civil Action Complaint, Checker Cab Philadelphia, Inc. v Uber Techs., Inc., 2014). The Checker Cab Plaintiffs brought five counts against Uber and the Uber Defendants. Count I alleged that Uber and certain of the Uber Defendants engaged in unfair competition by providing taxi services in Pennsylvania without possessing the proper certificates and licenses to do so. (Civil Action Complaint, Checker Cab Philadelphia, Inc. v Uber Techs., Inc., 2014).

Count II alleged that Uber and certain of the Uber Defendants engaged in false advertising in violation of Section 43(a) of the Lanham Act by, among other things, falsely alleging in emails and social media posts that the bankruptcy of a large provider of insurance to the taxi industry might result in customers' taxi rides no longer being insured. The Checker Cab Plaintiffs also alleged that Uber's advertisements falsely implied that Uber was a licensed provider of taxi services, and that advertising relating to Uber's pricing was misleading. (Civil Action Complaint, Checker Cab Philadelphia, Inc. v Uber Techs., Inc., 2014).

Count III alleged that Uber and certain of the Uber Defendants operated an "Illegal Taxicab Enterprise" in violation of 18 U.S.C. § 1962(c), the Racketeer Influenced and Corrupt Organizations Act ("RICO"). The Checker Cab Plaintiffs alleged that Uber engaged in criminal wire fraud by, first, using the Uber application to illegally provide an illegal taxi service and, second, by using emails and social media to falsely advertise Uber's services and prices. (Civil Action Complaint, Checker Cab Philadelphia, Inc. v Uber Techs., Inc., 2014).

Finally, Counts IV and V alleged that Uber and the Uber Defendants engaged in a criminal conspiracy in violation of two other sections of the RICO statute, 18 U.S.C. § 1962(a) and (b), by conspiring to receive income as a result of a pattern of unlawful activity including multiple instances of wire fraud. (Civil Action Complaint, Checker Cab Philadelphia, Inc. v Uber Techs., Inc., 2014).

On March 30, 2015, Uber and each of the Uber Defendants moved to dismiss all of the Checker Cab Plaintiffs' claims against them, alleging that the plaintiffs had failed to state a valid claim against the Uber Defendants pursuant to Federal Rule of Civil Procedure 12(b)(6). Defendant Google Ventures, LLC filed its own, independent motion to dismiss, with Uber and the remaining Uber Defendants filing a separate motion to dismiss. (Memorandum of Law in Support of Defendants Uber Technologies, Inc., et al.'s Motion to Dismiss Plaintiffs' Amended Complaint, Checker Cab Philadelphia, Inc. v. Uber Techs., Inc., 2015).

After nearly one year, on March 7, 2016, the court issued its Order and accompanying Memorandum Opinion granting defendant Google Ventures, LLC's motion to dismiss in full, and granting the remaining Uber Defendants' motion to dismiss in part, and denying it in part. Every single one of the Checker Cab Plaintiffs' claims against Google Ventures, LLC were dismissed, and all but one of their claims against Uber and the Uber Defendants were dismissed. (Memorandum Opinion, Checker Cab Philadelphia, Inc. v. Uber Techs., Inc., 2016).

Regarding Uber and the Uber Defendants, the court dismissed the Checker Cab Plaintiffs' claims against the Uber Defendants for unfair competition (Count I) and violations of the RICO statute (Counts III, IV, and V) outright. The portion of their claim for false advertising (Count II) that was premised upon Uber's alleged false advertising regarding Uber's status as a licensed taxi company and its allegedly misleading pricing were dismissed. The only claim that survived was that portion of Count II which was premised on Uber's alleged false advertising relating to the Checker Cab Plaintiffs insurance status after the bankruptcy of their insurance provider. (Memorandum Opinion, Checker

Cab Philadelphia, Inc. v. Uber Techs., Inc., 2016).

The court's order was a crushing blow to the Checker Cab Plaintiffs, and an enormous victory for Uber and the Uber Defendants. While the case will proceed forward on the one, remaining claim of false advertising, the case no longer constitutes a potentially existential crisis for Uber. The incumbent taxi companies competing with Uber have now essentially had their day in court, and it is difficult to imagine how it could have gone worse for them.

REWRITING THE LAW: PENNSYLVANIA SENATE BILL 984

A major problem faced by both the state regulatory agencies and private parties – like the Checker Cab Plaintiffs – seeking to rein in Uber is that they are attempting to do so under laws which, in most cases, were enacted before the concept of TNCs even existed. Arguably, the Pennsylvania PUC, for example, is attempting to shoehorn Uber into a regulatory scheme meant for taxis. Similarly, the taxi company plaintiffs in the Checker Cab lawsuit accused Uber of violating laws and regulations designed for taxis and limousine companies, not common carriers. In response to that problem, the legislatures of a number of states, including California, Colorado, and Pennsylvania, have enacted legislation, or have at least are considering legislation, specifically tailored to regulate TNCs. (Rassman, 2014).
In September 2015, Pennsylvania State Senator Camera Bartolotta introduced Senate Bill 984, of which she is also the sponsor. As amended, that bill was passed by the State Senate on November 24, 2015 on a 48-2 vote. The bill is currently before the Pennsylvania House of Representatives' Consumer Affairs Committee. ("Bill information – history," 2016).

Senate Bill 984 would define TNCs as entities licensed by the PUC, operating within Pennsylvania, and using a digital network to facilitate prearranged rides. (Senate Bill 984, 2015). TNCs and their drivers would be specifically exempted from the existing laws applying to "call or demand services," "taxicab services," "limousine services." "brokers," and "contract carriers by motor vehicle." (Senate Bill 984, 2015). The temporary, experimental licenses under which TNCs have been operating in Pennsylvania would be replaced with permanent licenses to be issued by the PUC. (Senate Bill 984, 2015). In exchange for those permanent licenses, TNCs would be required to enact a number of safeguards to provide for public safety. For example, TNC drivers would be required to be at least 21 years old and to possess a valid driver's license and an up-to-date state vehicle inspection certificate. TNC drivers would also be required to possess automobile insurance with minimum limits of $50,000 per person and $100,000 per incident for bodily injury, and $25,000 for physical damage. (Senate Bill 984, 2015). The insurance requirements of Senate Bill 984 are similar to those being considered by other state legislatures, as well as to those recommended in the white paper, "Transportation Network Company Insurance Principles for Legislators and Regulators," adopted by the National Association of Insurance Commissioners ("NAIC") on March 31, 2015. (Adams, 2015).

TNC drivers would also have to pass a criminal background check, and drivers who have been convicted of a sexual offense, burglary, robbery, violent crime, or vehicular felony would be prohibited from working as a TNC driver. (Senate Bill 984, 2015); (Oldman, 2016). Senate Bill 984 would also regulate the vehicles driven by TNC drivers, requiring that they be no older than ten years old and have no more than 350,000 miles on them. (Senate Bill 984, 2015). Senate Bill 984, if enacted, would have no retroactive legal effect, and so from a legal perspective would not impact the above-referenced $50 million fine against Uber recommended by the PUC's administrative tribunal. (Oldman, 2016). The bill's enactment might, however, be a factor as the PUC considers whether to actually assess that recommended penalty. By passing Senate Bill 984, the Pennsylvania legislature would be legalizing much of the behavior Uber has engaged in since it entered the Pennsylvania market, including much of the behavior that prompted the PUC's administrative tribunal to recommend the $50 million fine.

While the PUC might still feel it necessary to penalize Uber – if only with the hope of deterring other, future companies from adopting Uber's "ask for forgiveness rather than permission" strategy – it remains to be seen whether the PUC will follow through with the severe penalty recommended by its administrative tribunal should Senate Bill 984 be enacted as law.

A CRITICAL DETERMINATION:
WILL UBER'S DRIVERS BE DEEMED EMPLOYEES OR INDEPENDENT CONTRACTORS UNDER PENNSYLVANIA LAW?

One issue not addressed by Senate Bill 984, however, is whether TNCs' drivers should be classified as employees or independent contractors under Pennsylvania law. That classification issue is pivotal in a number of class action lawsuits which have been filed against Uber by its drivers in various states, including in Pennsylvania in the case DiNofa v. Uber Techs., Inc. On November 13, 2015, plaintiff Joseph DiNofa, who had been an Uber driver since October 2014, filed a class action complaint in the United States District Court for the Eastern District of Pennsylvania. (Complaint and Demand for Jury Trial, DiNofa v. Uber Techs., Inc., 2015). In that complaint, Mr. DiNofa claimed that Uber uniformly misclassified all of its drivers as independent contractors when they should in fact have been classified and treated as employees under Pennsylvania law based on the amount of control exerted over them by Uber. (Complaint and Demand for Jury Trial, DiNofa v. Uber Techs., Inc., 2015)

Mr. DiNofa claimed that Uber exercised the requisite control over its drivers by requiring them to watch a training video demonstrating how Uber wanted its drivers to interact with customers, by unilaterally setting the fares for all rides and requiring its drivers to charge the cost determined solely by Uber, and by requiring that all drivers must maintain an average customer evaluation of at least 4.5 out of a possible 5.0 stars. (Complaint and Demand for Jury Trial, DiNofa v. Uber Techs., Inc., 2015).

As a result of such misclassification, Mr. DiNofa alleged that Uber failed to provide him and other Uber drivers with itemized wage statements, minimum wages, lawful meal and rest periods, and reimbursement for necessary employment related expenses, and that Uber also failed to keep accurate payroll records showing its drivers' hours worked and wages paid. Mr. DiNofa further alleged that Uber retained all gratuities offered to its drivers despite representing to its customers that gratuities to the drivers were already included in the amount paid by the customers to Uber. (Complaint and Demand for Jury Trial, DiNofa v. Uber Techs., Inc., 2015). Mr. DiNofa alleged that Uber's acts and omissions constituted tortuous interference with contract and business relations (Count I), breach of contract (Count II), unjust enrichment (Count III), conversion (Count IV), unfair competition (Count V), fraud and misrepresentation (Count VI), and violations of Pennsylvania labor law (Count VII). (Complaint and Demand for Jury Trial, DiNofa v. Uber Techs., Inc., 2015). On March 22, 2016, approximately four months after it was filed, the DiNofa case was voluntarily dismissed. (Notice of Dismissal, DiNofa v. Uber Techs., Inc., 2016). Unfortunately, DiNofa was dismissed before the court had ruled upon the key classification issue, so it remains uncertain how a Pennsylvania court would likely rule on that issue in a case specifically involving TNCs like Uber.

An application of two leading Pennsylvania cases regarding the classification issue, Beacon Flag Car Co. Unemployment Comp. Bd. of Review and Viktor v. Dep't of Labor and Indus., Bureau of Employer Tax Operations, to the circumstances of Uber's drivers in Pennsylvania, however, indicates that such drivers are likely to be deemed independent contractors rather than employees under Pennsylvania law.

Pennsylvania's Two-Factor Test Under Beacon and Viktor

In Beacon Flag Car Co. v. Unemployment Comp. Bd. of Review, 910 A.2d 103 (Pa. Commw. Ct. 2006), the Commonwealth Court of Pennsylvania considered whether a flag car company's drivers were employees or independent contractors under Pennsylvania law.[1] The Beacon court noted that under Pennsylvania law, two factors must be considered by a court in determining whether one who performs services for wages is an employee or an independent contractor: (1) whether the worker was "free from control and direction in the performance of his service"; and (2) whether the worker was "engaged in an independent trade or business." (Beacon Flag Car Co. v. Unemployment Comp. Bd. of Review, 2006).

1 According to 67 Pa. Code § 179, a flag car, also known as a pilot car or escort vehicle, is a vehicle that is driven immediately before or after a vehicle carrying a wide or otherwise oversized load. The purpose of the flag car is to alert oncoming or overtaking drivers to exercise caution when passing the larger vehicle.

In fact, the only meaningful difference between the factual circumstances of the drivers in the Beacon case and those of Uber's drivers is that Uber's drivers are not free to make their own financial arrangements with clients, as those arrangements are made automatically through the Uber application when the trip is booked by the clients. (Order Denying Defendant Uber Technologies, Inc.'s Motion for Summary Judgment, O'Connor v. Uber Techs., Inc., 2015). However, that minor difference is not likely sufficient to prevent a Pennsylvania court from concluding that, like the drivers in the Beacon case, Uber's drivers should also be classified as independent contractors, not employees, under Pennsylvania law, due to the general lack of control exerted over those drivers by Uber.

Factor One: Are Uber's Drivers Free from Uber's Control and Direction in the Process of Their Driving?

Regarding the first factor, whether Beacon's drivers were "free from control and direction in the performance of his service," the Beacon court determined that Beacon's driver's were independent contractors, not employees, based on the following facts: The client, not [the employer], determines the time, place and destination of the trip; (2) [the employer] does not determine the route for its drivers or require drivers to report on their process; (3) [the employer] does not supervise drivers; (4) [the employer] provides no training or equipment to its drivers and does not require drivers to attend any meetings or report to a workplace; (5) drivers are free to make their own agreements with clients, so long as [the employer] and [the employer's vehicle leasing company] are appropriately compensated; (6) [the employer] pays drivers job to job on a per mile basis rather than an hourly wage; and most importantly, (7) drivers are free to refuse any client or trip without repercussions. (Beacon Flag Car Co. v. Unemployment Comp. Bd. of Review, 2006). An application of that first factor to the similar factual circumstances of Uber's drivers will likely yield the same result – that they will be deemed independent contractors versus employees under Pennsylvania law:2 the clients, not Uber, determine the time, place, and destination of the drivers' trips (Order Granting in Part and Denying in Part Plaintiffs' Supplemental Motion for Class Certification, O'Connor v. Uber Techs., Inc., 2015); while Uber suggests a route for its drivers to take and provides turn-by-turn directions for that suggested route, it does not require its drivers to follow the suggested route (Order Granting in Part and Denying in Part Plaintiffs' Supplemental Motion for Class Certification, O'Connor v. Uber Techs., Inc., 2015); Uber does not supervise or provide any equipment to its drivers, although Uber does provide some rudimentary training to them – such as the video cited by Mr. DiNofa – and will lease a smartphone to them if they do not have one of their own (Amended Order Granting in Part and Denying in Part Plaintiffs' Motion for Class Certification, O'Connor v. Uber Techs., Inc., 2015); Uber also does not require its drivers to attend any meetings or to report to Uber's offices, and Uber pays its drivers on a per-mile basis rather than an hourly basis (Order Denying Defendant Uber Technologies, Inc.'s Motion for Summary Judgment, O'Connor v. Uber Techs., Inc., 2015); and finally, with regard to the factor the Beacon court felt was likely the most important factor, Uber drivers are free to refuse any client or trip without repercussions (Defendant Uber Technologies, Inc.'s Motion for Summary Judgment, O'Connor v. Uber Techs., Inc., 2015).

2 Helpful to that application are the factual determinations made by the United States District Court for the Northern District of California from the recently settled federal class action lawsuit O'Connor v. Uber Technologies, Inc. Both the facts of the O'Connor case and the legal claims raised on behalf of the class in that case are very similar to those in the DiNofa case in Pennsylvania. The O'Connor court's Order Denying Defendant Uber Technologies, Inc.'s Motion for Summary Judgment also contains some interesting language indicating the inadequacies of existing law when applied to the sharing economy:

The application of the traditional test of employment – a test which evolved under an economic model very different from the new "sharing economy" – to Uber's business model creates significant challenges. Arguably, many of the factors in that test appear outmoded in this context. Other factors, which might arguably be reflective of the current economic realities (such as the proportion of revenues generated and shared by the respective parties, their relative bargaining power, and the range of alternatives available to each), are not expressly encompassed by [the traditional] test. It may be that the legislature or appellate courts may eventually refine or revise that test in the context of the new economy. It is conceivable that the legislature would enact rules particular to the new so-called "sharing economy." Until then, this Court is tasked with applying the traditional multifactor test [. . .] to the facts at hand. For the reasons stated above, . . . [that] test does not yield an unambiguous result. The matter cannot on this record be decided as a matter of law. Uber's motion for summary judgment is therefore denied. (Order Denying Defendant Uber Technologies, Inc.'s Motion for Summary Judgment, O'Connor v. Uber Techs., Inc., 2015).

Factor Two: Is the Worker Engaged in an Independent Trade or Business?

Regarding the second factor considered by the court in Beacon, whether the drivers were "engaged in an independent trade or business," the court identified two additional factors important in making that decision: (1) whether the worker was capable of performing the activities in question for anyone who wished to avail himself of the services; and (2) whether the nature of the business compelled the individual to look to only a single employer for the continuation of such services. (Beacon Flag Car Co. v. Unemployment Comp. Bd. of Review, 2006). In applying those additional factors, the Beacon court looked to the seminal Pennsylvania Supreme Court case, Viktor v. Department of Labor and Industries, Bureau of Employer Tax Operations, 586 Pa. 196, 201, 229-230 (2006).

In Viktor, the court applied the same two-factor test applied by the Beacon court, above, in determining whether the drivers of several limousine companies should be classified as employees or independent contractors. (Viktor v. Dep't of Labor and Indus., Bureau of Employer Tax Operations, 2006). However, the first factor – whether the driver was free from control and direction in the performance of his service – was not at issue in Viktor, as the parties were in agreement that such control and direction did not exist. (Viktor v. Dep't of Labor and Indus., Bureau of Employer Tax Operations, 2006).

With regard to the second factor, whether the driver was engaged in an independent trade or business, the Viktor court found it important that the drivers were able to provide their services for more than one employer, including competitors, with no repercussions, that the drivers' ability to provide their services did not depend on the existence of any one particular limousine company, and that even though the drivers did not own their own limousines, they nonetheless "possess[ed] the requisite interest and tools of their trade necessary for the conduct of the business of providing driving services to limousine companies, including their licenses to drive, training, experience, and ability." (Viktor v. Dep't of Labor and Indus., Bureau of Employer Tax Operations, 2006). "The fact that [the limousine companies], rather than Drivers, own the limousines . . . does not diminish the fact that Drivers are engaged in their independently established businesses." (Viktor v. Dep't of Labor and Indus., Bureau of Employer Tax Operations, 2006).

Applying the Viktor case to the factual circumstances of Uber's drivers in Pennsylvania, it again appears likely that those drivers will be held to be independent contractors, rather than employees, under Pennsylvania law. According to Uber, like the drivers in Viktor, Uber's drivers are not limited in their ability to seek and obtain employment with third-party employers, including competitors like Lyft. (Amended Order Granting in Part and Denying in Part Plaintiffs' Motion for Class Certification, O'Connor v. Uber Techs., Inc., 2015). Further, not only do Uber's drivers, like the drivers in the Viktor case, provide their own licenses to drive, training, experience, and ability, they also provide their own vehicles. (Order Denying Defendant Uber Technologies, Inc.'s Motion for Summary Judgment, O'Connor v. Uber Techs., Inc., 2015). If the Pennsylvania Supreme Court was, in Viktor, willing to consider the limousine drivers in that case to have been engaged in independent trades or businesses even though the limousine companies owned and provided the actual limousines driven by those drivers, it appears even more likely that Pennsylvania courts would consider Uber drivers, who do provide their own vehicles, to be engaged in independent trades or businesses.

In sum, both of the Pennsylvania cases which seem to be most relevant to the circumstances of Uber's drivers, Beacon and Viktor, appear to indicate that, under Pennsylvania law, Uber's drivers will likely be deemed to be both "free from control and direction in the performance of [their] service," and "engaged in an independent trade or business," and as a result they will likely be deemed independent contractors rather than employees under Pennsylvania law. (Beacon Flag Car Co. v. Unemployment Comp. Bd. of Review, 2006). Thus, it appears that to the extent Uber's business model depends upon its drivers being classified as independent contractors versus employees, that business model will remain viable in Pennsylvania.

CONCLUSION

Uber's entry into Pennsylvania may ultimately prove to validate Uber's apparent strategy of asking for forgiveness rather than permission. The company may avoid the $50 million penalty recommended by the PUC's administrative tribunal, and it has already seen the majority of the claims brought against it by the incumbent taxi companies in Pennsylvania dismissed. What's more, if Senate Bill 984 eventually passes, Uber's current, temporary license to provide ridesharing services in Pennsylvania will become permanent.

Even the issue of whether Uber's employees should be properly classified as employees or independent contractors under Pennsylvania law appears likely to be resolved in Uber's favor based on the leading Beacon and Viktor cases. Uber made a calculated bet that, in entering the Pennsylvania market, it would be better served by beginning its operations without authorization and thereby obtaining the market share commensurate with first- mover status in this state. While, as the PUC noted, Uber's entry into Pennsylvania may set a bad precedent going forward, it does appear that Uber's bet has paid off, as the company seems likely to avoid the most serious potential consequences of its unauthorized entry. Ultimately, Uber's strategy of asking for forgiveness rather than permission appears likely to result in the permanent licensure of not only Uber but also its competing TNCs within Pennsylvania. It thus appears that TNCs will fare extremely well under the laws of Pennsylvania going forward.

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CORPORATE GOVERNANCE, ACCOUNTING STANDARDS AND ACCOUNTING FRAUD: A COMPARISON THEORETICAL STUDY IN THE US AND CHINA

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ABSTRACT

This study examines the differences in the relationship between corporate governance and accounting fraud in two countries: the United States and China. In investigating the relationship between corporate governance and the incidence of accounting fraud, we focus on the three different aspects: different characteristics of the board of directors, ownership structure, directors' financial incentives. Considering two different accounting standards: International Financial Reporting Standards (IFRS) which is rule-based and US Generally Accepted Accounting Principles (US GAAP) which is principle-based, we proposed that accounting standards moderate the relationship between corporate governance and accounting information quality to lead to occurrence of accounting fraud. Last we also discuss the limitations and the need for further empirical study.

INTRODUCTION

Accounting fraud in publicly listed companies is a common phenomenon in the history of stock market development around the world. In 2002 US today reported that over 50 major U.S. public firms were under investigation for accounting fraud or other financial irregularities. Spathis, Doumpos, & Zopounidis, (2002) argued that financial statement frauds have become increasingly common phenomena in business. Since 2008, with the ongoing global economic recession, accounting fraud has become increasingly prevalent in the world. Lennox, Lisowsky, & Pittman (2013) found that the number of US companies engaged in accounting fraud increases monotonically between 1995 and 2000 in their research. The situation has even worse in China during the development of the immature China stock market since 1980s. Chinese capital markets are well known for fraudulent activities among publicly listed companies. Between 1994 and 2007, for example, 581 enforcement actions in two stock exchanges were announced by the China Securities Regulatory Commission (CSRC). From 1994 to 2000, there were only 51 enforcement actions, but in 2001 alone, the number of enforcement actions was increased to 72. After 2001, the number of enforcement actions has kept increasing.

Fraud behaviors have harmed the interests of various investors and seriously reduce their confidence in capital market, thus impeding the healthy development of the capital market. So it is interesting to investigate how the corporate governance mechanism will affect the commitment of accounting fraud and how to use different mechanisms of corporate governance to prevent accounting fraud from happening.

Theoretically, the commitment of accounting frauds can be largely ascribed to the failure of the company's internal control systems, which are established and constructed to detect and rectify deviations costly to the interests of the company's shareholders (Marciukaityte, Szewczyk, Uzun, & Varma, 2006). This study focused on the relationship between corporate governance and accounting fraud are based on the following two questions.

First, whether the characteristics of corporate governance are associated with the incidence of frauds? Dechow, Sloan, & Sweeney(1996) documented that companies committing financial statement fraud are likely to have boards dominated by inside directors. Using data from SEC accounting and auditing enforcement releases, Beasley (1996) found that the likelihood of financial statement fraud is negatively related to the presence of independent outside directors on the board, the tenure of outside directors, and the share ownership of outside directors. Uzun, Szewczyk, & Varma (2004) reported that a greater proportion of independent outside directors on the board is associated with a lower likelihood of a broad range of accounting frauds. Denis, Hanouna, & Sarin (2006) show that executive stock options can lead managers to commit fraud. Here, managers may be tempted to take actions that artificially inflate stock prices so that they can maximize their payoff from the options.

Second, how can accounting standards play a role in the relationship between corporate governance and accounting fraud by impacting on accounting information transparency? For most of the enterprises established in China, Accounting Standards for Business Enterprises (ASBE) is generally adopted. The current Accounting Standards for

Business Enterprises (ASBE), which was released by the Ministry of Finance (MoF) of China in 2006 and took effect on January 1, 2007, used the International Financial Reporting Standards (IFRS) as a reference in order to gradually come closer to international accounting standards. U.S. GAAP is rules-based while IFRS is principles-based. These two accounting standards have different effects on firm's accounting report. Phillips, Jr, Drake, & Luehlfing (2010) discussed how two accounting standards allow managers different flexibility in reporting financial results. With a principles-based standard such as IFRS, wherein managers are given the responsibility and flexibility to report an event in a manner that reflects its true effect on firm value than rules-based U.S. GAAP.

To investigate both questions together, our study first examines the relationship between corporate governance and incidence of accounting fraud, and then examines how accounting standards moderate the mediating relationship between corporate governance and accounting information transparency which impact on the occurrence of accounting fraud.

The remainder of this paper is organized as follows. Section II introduces the theoretic background and do literate review. Section III is the development of research propositions. Section IV includes the limitations and discussions. And section V concludes the study.

LITERATURE REVIEW

Corporate Governance

Jensen and Meckling (1976) argued that the purpose of corporate governance is to improve firms' performance and maximize shareholders' value by monitoring the actions of management when agency risks are introduced with the separation of ownership from shareholders to management. Corporate governance is the way how companies are governed and who managers are accountable to (Dahya, Lonie, & Power, 1996). In this paper, we defined corporate governance as a system of procedures, practices, policies, mechanisms and institutions direct and control the corporation(Xu & Chen, 2015). There are two different views about corporate governance: a narrow view of corporate governance and a broad view of corporate governance. The narrow view of corporate governance refers to an institutional arrangement to define and configure the rights and responsibilities between the shareholders and management to ensure the maximization of shareholders' value. The broad view of corporate governance refers to a broad set of governance structure specifies the distribution of rights and responsibilities among different stakeholders in the corporation including the board of directors, management, shareholders, creditors, auditors, regulators, suppliers, customers, communities, and other stakeholders.

There are five main principles in corporate governance: corporations should respect the rights of shareholder and have an equitable treatment of shareholders; corporations should recognize the interests of other non-shareholder stakeholders; the board of directors need to fulfill certain roles and responsibilities; Corporate officers and board members should be integrity and follow certain ethical behaviors; Corporation should disclose accurate and timely information and safeguard the integrity of the financial report.

Corporate governance consists of internal monitoring mechanisms and external monitoring mechanisms. Internal monitoring mechanism can be done by large shareholders, management or board of directors. External monitoring mechanism can be achieved by independent external participants such as auditor, creditors, regulatory bodies, market analysts, media and public activists. Internal corporate governance mechanisms include monitoring by the board of directors, monitoring by large or institutional shareholders, internal control procedures, rewarding & incentive system and financial reporting system.

Accounting Fraud

While many papers focused on accounting fraud, accounting fraud has a board scope to include earnings management, compensation, and violations of accounting principles and restatements (Erickson, Hanlon, & Maydew, 2006). Agrawal & Cooper (2016) argued that accounting fraud as the summaries of the SEC's accounting-based enforcement actions from SEC Accounting and Auditing Enforcement Releases (AAERs) which describe the SEC's investigations of alleged violations of accounting provisions of the securities laws. The accounting frauds include several types of alleged violations by firms and/or their employees. These violations include fraud, non-fraudulent or reckless or grossly negligent disclosure of information, and the cases that the company failed to comply with reporting provisions of the Securities Acts. Accounting fraud or crimes have an even board definition which are corporate actions or behaviors against the laws such as contract breaches, bribes, kickbacks, and regulatory violations (Alexander & Cohen, 1999). In this paper, we defined accounting frauds as improper earnings management and the violations of accounting principles and restatements.

PROPOSITIONS DEVELOPMENT

Corporate governance and accounting fraud

In this paper we focus on one of internal control mechanism of corporate governance which is the monitoring function of board of directors. The board of directors, especial independent or non-executive directors are thought to be more objective to monitor the firm's executives in order to improve the effectiveness of corporate governance. A more effective corporate governance can help to reduce accounting fraud. We analyze the impact of different aspects of board of directors such as CEO duality, frequency of board meetings, percentage of female directors, percentage of independent directors, size of board, institutional shareholders, ownership structure, top management incentive, audit committee and external auditors on accounting fraud.

Board of Directors

Board of directors is a key component in corporate governance. It is ruled that board of directors has a fiduciary responsibility for shareholders by Corporate Law in nearly all countries. Mainstream theory of modern corporate finance also holds that there is principal-agent relationship between shareholder and board of directors. The board is responsible for making major policy decisions as well as monitoring the day-to-day operations of the business.

CEO duality

First we will discuss the impact of CEO duality on accounting fraud. CEO duality is defined as CEO of a company also holds the position of chair of board of directors. Fama & Jensen (1983) discussed that CEO duality indicates the absence of separation between decision making, implementation, control and supervision. This is not a good signal for the effective corporate governance. Roberts, McNulty, & Stiles (2005) argued that the combination the role of CEO and chairman compromises the internal checks and balances system will cause the conflict of interests, so CEO duality lowering firms' accountability. They further pointed out that the separation of two roles can let both persons have more time and bring more diversified perspectives into firms. CEO duality will lead to less members in the board and makes it difficult to discuss important issues such as accounting fraud when the CEO and chair are the same person. Gul & Leung (2004) found that CEO duality is negatively associated with the extent of voluntary disclosure of accounting fraud. So we propose that CEO duality lowers the effectiveness of board of directors. CEO duality will reduce the level of good corporate governance and make firms less effective in dealing with performance and accounting fraud.

Based on the above arguments, we have the following proposition:

Proposition 1: In US and Chinese firms, CEO duality is negatively associated with accounting fraud.

Percentage of Independent directors

Erhardt, Werbel, & Shrader (2003) found that independent directors can help firm to improve its financial performance. Anderson, Reeb, Upadhyay, & Zhao(2011) also proved that the firm's performance can be enhanced by the involvement of the independent directors to provide a more object and no bias advice to the board. Certo, Covin, Daily, & Dalton (2001) showed evidence to support the notion that independent board members can increase the credibility and reputation of the company they serve. Independent directors can serve as a device to ensure the firms to pursue the interests of all stakeholders. Zahra & Pearce (1989) suggested that independent directors are generally more interested in developing and maintaining the corporate social responsibility of the firm because their interests are less aligned with management's interest. So independent directors are more likely to ask firms to disclose information to all stakeholders. This action can help to improve corporate social responsibility and accounting fraud. Haniffa & Cooke (2005) argued that independent directors can be treated as a public presentation involve in firm's activities and pressure on firms to engage the actions in order that firms can promote sustainability to ensure organizational decisions and actions to follow societal values and corporate objectives. We argued that in general the presence of independent directors on the board ensure higher board independence from management, increase the board's objectivity, improve its ability to represent more diversified perspectives on the actions of firms took related to its environment, and the impact on its sustainability.

Based on the above arguments, we have the following proposition:

Proposition 2: In US and Chinese firms, the percentage of independent board members is positively associated with accounting fraud.

Percentage of female directors

There are many researchers found that greater gender diversity on boards or more female directors on boards can improve the corporate governance and increase firm performance. Arfken, Bellar, & Helms(2004) found that female directors can help to increase accountability and transparency. Konrad, Kramer, & Erkut (2008) suggested that female directors can raise the confidence of investors because of increasing accountability and moral duty of board. Brown, Brown, & Anastasopoulos (2002) found that 86 percent of boards with the present of female directors ensure that their firms have enforced codes of ethical conduct in place compared with 66 percent of all-male boards. Board with higher percentage of female directors can improve corporate governance which can reduce the behaviors of misappropriation of shareholder funds and unethical conduct. This can lead to a higher economic growth and performance. Carter, Simkins, & Simpson (2003) further proved that the fraction of women or minorities on the board is significant positively related to firm value.(Williams, 2003) found the results with strong support that firms having a higher proportion of female directors on boards do engage in more charitable giving than firms having a lower proportion of female on their boards. Here we argued that female directors are more readily ensure that codes of ethics than male directors so with female director on boards can reduce the misuse of shareholder funds and promote of underlying ethical behavior, therefore improve firm performance and accounting fraud.

Based on the above arguments, we have the following proposition:

Proposition 3: In US and Chinese firms, the percentage of female directors as board directors is positively associated with accounting fraud

Size of Board of Director

If a firm have big size of board and more members in different committees, it indicates that this firm can benefit from a diversified perspective and increase the chance that some members in the board could pay attention to corporate sustainability and other social responsibility issues. Jensen (1993) argued that large corporate boards are less effective because CEOs can easily control board members. Yermack (1996) found the evidence to support Jensen' argument that firms with small boards had better financial performance. Ullman (1985) showed that more members of board of directors play an active role in management can help to protect the interest of various stakeholders. So we argued that the size of board can initiatively help to improve corporate governance to reduce accounting fraud but increase accounting fraud when the size reaches to certain number.

Based on the above arguments, we have the following proposition:

Proposition 4: In US and Chinese firms, the size of board of directors has a U-curve relationship associated with accounting fraud.

Institutional Shareholders

More institutional shareholders can play an important supervising role in reducing accounting fraud. Sharma (2004) found that increasing percentage of independent institutional shareholders can reduce the fraud behaviors. Ajinkya, Bhojraj, & Sengupta (2005) proved that institutional shareholders can help companies to make a more specific, accurate and less optimistically biased forecast in earning management. The emergence of large institutional shareholders, however, also brings troublesome costs, especially at the expense of the interests of minority shareholders. The second or third largest shareholders, however, has the potential to balance with the largest shareholder in listed companies. They are theoretically regarded to help hold controlling shareholder from seeking private-profit (Pagano & Roell, 1998; Zahra & Pearce, 1989). So we argued that large number, independent and strong institutional shareholders can help to improve corporate governance level which can reduce the accounting fraud.

Based on the above arguments, we have the following proposition:

Proposition 5: In US and Chinese firms, the number of institutional shareholders is negatively associated with accounting fraud.

Ownership Concentration

Theoretically, minority shareholders have no incentives to oversee management due to the free-rider problem resulting from dispersed ownership. One suggested solution is to concentrate ownership and let blockholders play a supervisory role, for they are considered to have enough incentive to collect information and supervise management, avoiding the free-rider problem, and have sufficient voting right to exert an influence on management (Shleifer & Vishny, 1986). The active role of blockholders in corporate governance has been proved in some empirical research, such as Denis and Serrano (1996)'s study on America, Franks and Mayer (1994)'s study on Germany, and Kang and Shivdasani (1996)'s study on Japan.

Based on the above arguments, we have the following proposition:

Proposition 6: In the US and Chinese firms, corporate ownership concentration is positively associated with accounting fraud.

Top Management Incentives

Top management incentives have been overlooked in recent research on the relationship between corporate governance and accounting fraud. Top management including top managers and directors, however, are the actual persons who operate the business and may be the right persons who commit fraud. Corporate incentives for top management may increase or decrease their motivation to do something dishonest. Top manager incentives in modern corporations are mainly composed of two parts. First are the fixed compensation typically in cash and insurance. Second are ownership and equity incentives like stock option. Both Coughlan and Schmidt (1985) and Murphy (1985) found that cash compensation of CEO is significantly positively related with corporate performance. In theory, equity incentives, due to closely connect managers' and shareholders' wealth, are considered to effectively offset the interest conflict between these two sides (Jensen & Meckling, 1976). This argument is also supported by empirical studies, such as Murphy (1985), Jensen and Murphy (1990).

Based on the above arguments, we have the following proposition:

Proposition 7a: In the US and Chinese firms, cash compensation for top managers is positively associated with accounting fraud.

There is another management incentive factor deserving notice in China. That is incentive for directors. In Chinese listed companies, some directors draw compensation, usually in cash, from companies, while others do not. Theoretically, more directors drawing compensation from companies mean stronger incentive for directors to monitor companies. Considering the monitoring responsibility of directors, however, there is also a dark side that directors' financial connection will lower their independence and monitoring incentives. Once they take money from companies, they will try to avoid conflict with companies even though they know something bad.

Based on the above arguments, we have the following proposition:

Proposition 7b: In the US and Chinese firms, the proportion of directors who draw cash compensation is positively associated with accounting fraud.

Audit Committee Expertise

Abbott, Parker, & Peters (2004) found that the independence and activity level of the audit committee have a significant and negative relationship with restatement. They also showed that there is a significant negative relationship between audit committee member with financial expertise and restatement. Bedard, Chtourou, & Courteau (2004) proved that aggressive earnings management is negatively related to audit committee members' financial and governance expertise. It works better when there is a clear defining the responsibilities of the committee members. So we argue that the characteristics of members in audit committee especial the financial expertise can help to reduce accounting fraud.

Based on the above arguments, we have the following proposition:

Proposition 8: In US and Chinese firms, the number of members with financial expertise in audit committees is negatively associated with accounting fraud.

Frequency of Audit committee meetings

We focused on the activities among audit committees which has an important impact on accounting fraud. When audit committee calls the meeting, the members of audit committee can discuss a variety of issues related to accounting issues and statement report. If members of audit committee can active oversee and play a better supervising role so that firms can have a better management related to stakeholder engagement (Millstein & MacAvoy, 1998). The better management can help to reduce accounting fraud. For instance, if a firm has more frequent audit committee meeting, member of audit committee can have more chance to detect and prevent accounting fraud from happening. Ullman (1985) found that more frequent board activities such as board meetings can be a good indicator to show board of directors play an active role in management to protect the interest of various stakeholders. Since the functions of board activities can help to ensure the quality of the stakeholder engagement. The active audit committee's involvement in management can be treated as an effective monitoring device in prevent accounting fraud.

Based on the above arguments, we have the following proposition::

Proposition 9: In US and Chinese firms, the frequency of audit committee meetings is negatively associated with accounting fraud.

External Auditors

External auditor can improve the credibility of financial information with external corporate governance mechanism which can lead to transparent financial disclosure and financial reporting. A large public accounting firm with reputation has strong motivation to provide high quality audit results by "auditor-reputation effects" (Beatty, 1989; DeAngelo, 1981). Large audit firms are more likely to provide a higher quality audit service because they will experience a greater loss in reputation damage if the quality of audit results does not meet the accounting standards(Dye, 1993). Several empirical studies showed the evidence to support the positive relationship between audit quality and audit firm (Francis & Simon, 1987; Jang & Lin, 1993). Mitton (2002) found that firms are audited by one of Big Four audit firms with better reputation will have a greater information transparency.

Based on the above arguments, we have the following proposition:

Proposition 10: In US and Chinese firms, the reputation of external auditors is negatively associated with accounting information quality.

The moderated function of Accounting Standards

US companies use US GAAP in their financial report while for most of the enterprises established in China, Accounting Standards for Business Enterprises (ASBE) is generally adopted and used in financial reporting. This standard took effect on January 1, 2007 which used the IFRS as a reference though there are still have some differences between ASBE and IFRS. Phillips Jr, Drake, & Luehlfing (2010) discussed how two accounting standards allows managers different flexibility in reporting financial results. With a principles-based standard such as IFRS, wherein managers are given the responsibility and flexibility to report an event in a manner that reflects its true effect on firm value than rules-based U.S. GAAP. Agoglia, Doupnik, & Tsakumis (2011) found that companies are less likely to report aggressively in the presence of a strong audit committee than a weak audit committee under a more precise rules-based standard such as US GAAP. Evans, Houston, Peters, & Pratt (2015) examined how reporting standards (U.S. GAAP versus IFRS) and domicile (U.S. versus non-U.S.) affect earnings management. They found U.S. firms using U.S. GAAP facilitates detection of earnings management, and enforcement is more effective in the U.S. Barth, Landsman, Lang, & Williams (2012) compared companies adopting IFRS and US GAAP and found that the US GAAP produces better quality of accounting information. Other researchers argued that the management is given leeway to make judgments under the principle-based IFRS so they can use different accounting treatments in reporting. This will reduce the accounting information quality. So we argue that US GAAP gives a more detail rules for managers to follow which can reduce the accounting fraud because IFRS gives managers more freedom and flexibility in financial report.

Based on the above arguments, we have the following proposition:

Proposition 11a: In the US and Chinese firms, the accounting standards moderates the relationship between corporate governance (audit committee expertise, audit committee meetings and external auditor) and accounting transparency. It means in the rules-based accounting standard, firm has a stronger relationship between corporate governance and accounting transparency than in principles-based accounting standard.

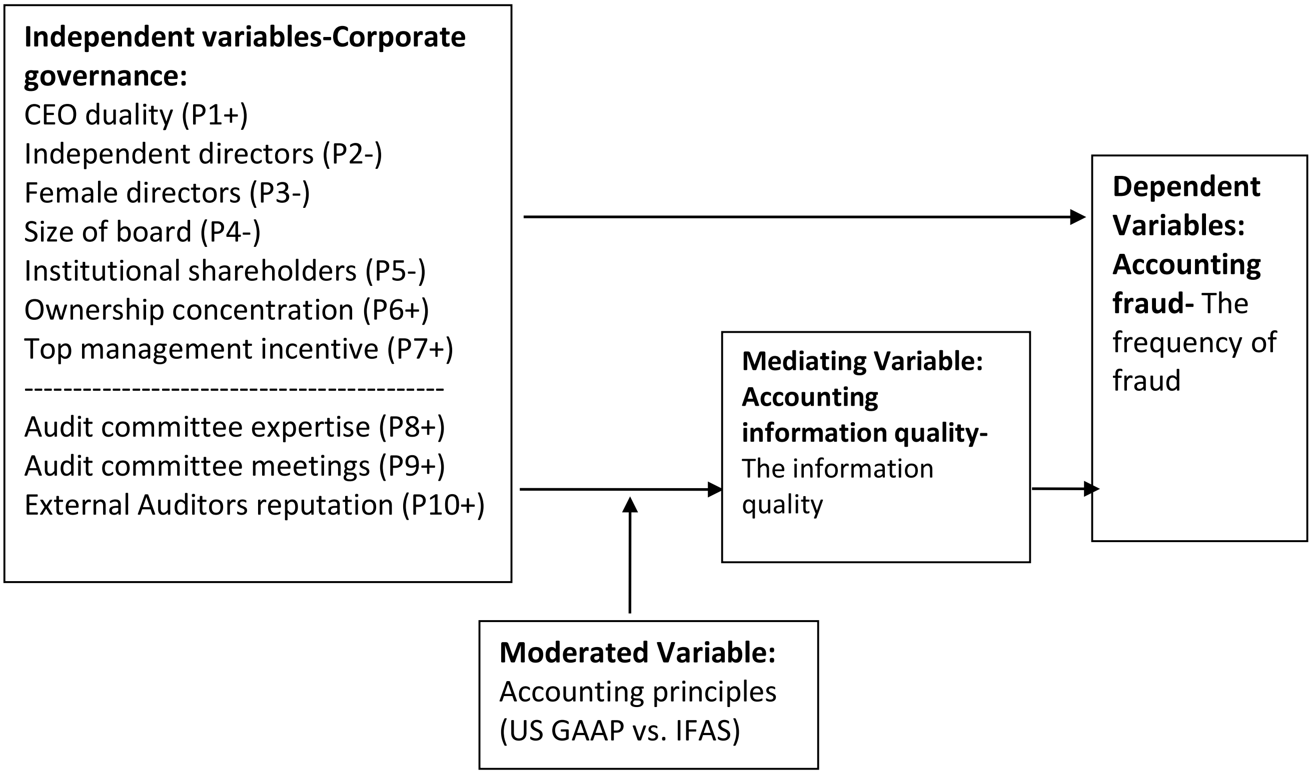
High quality audited financial statements with disclosed information can help to improve the confidence of investors and regulators by reducing accounting fraud. Lobo and Zhou (2001) found the evidence that the transparency of financial reporting and high quality of accounting information can lower managers' willingness and intention to do earnings management. Chen, Chen, Lobo, & Wang (2011) showed that the effect of audit quality in reducing earnings management in Chinese firms. So we argue that the better the transparency of financial reporting and the quality of information disclosure, the lower the probability of earnings management which can lead to few accounting fraud. To sum up, accounting information quality will help to reduce the accounting fraud such as improper earning management.

Based on the above arguments, we have the following proposition:

Proposition 11b: In the US and Chinese firms, the accounting information quality is negatively associated with accounting fraud.

The relationships among the different propositions are as shown in figure 1, below.

Figure 1 The Conceptual Model of the relationship of different variables



DISCUSSIONS AND LIMITATIONS

There are numerous researches on how corporate governance impact on accounting fraud. We follow this research vein to investigate the relationship in US and Chinese firms but more important we examine the moderate function of different accounting standards on the relationship between corporate governance and accounting transparency then how this will lead to occurrence of the accounting fraud. We expanded the study from focusing on one country to two countries. We hope to find if there is any difference about the effect of the relationship between corporate governance and accounting fraud in developed countries and emerging economies. Also we consider how the accounting standards factor by comparing the usage of US GAAP and IFRS can moderate this relationship.

By examining the different factors related to corporate governance, we focus on how board of directors as a mechanism of corporate governance impact on accounting fraud. Our propositions are developed on how the characteristics and composition of board of directors, ownership structure and incentive to top management team can influence the level of accounting fraud. We also present several propositions about the different moderating effects of accounting standards on the relationship between the characteristics & composition of board of directors and accounting fraud. The proposition is interesting not only for its potential to extend current study to compare firms in two different countries, but also for its implications to the usage of different accounting standards.

There are several concerns need to address when we begin to collect the data to test these propositions. One concern is how to extend the existed theory from developed economies such as US to emerging economies such as China. There are many papers which have examined the relationship between corporate governance and accounting fraud based on the experience from the developed economies because accounting fraud has attracted more and more attention in many developed economies(Aguilera, Williams, Conley, & Rupp, 2006; S. Sharma & Henriques, 2005). So how to extend the existed theory even modify the existed theory to explain this relationship in emerging economies is a challenging task.

The second concern is the how to measure the difference of two accounting standards. We are considering the use of accounting standards as a dummy variables. Accounting standards as moderating factors can affect the relationship between corporate governance and accounting fraud. As more and more Chinese firms use IFRS in their financial reports, it is important for firms to understand how this standard has impact on accounting fraud. The role of different accounting standards is regarded as an important factor to impact firms' behaviors in accounting fraud because of the different emphasis of accounting standards. For example, US GAAP is rules-based while IFRS is principles-based. We hope to find the way to measure the differences between two accounting standards and give some insights for the policymakers when these two accounting standards converge in the future.

The third concern regarding the future empirical test of propositions. It is a challenge to find the way to collect or access to reliable data in emerging economies. The problems of getting high quality data from emerging economies for empirical analysis are well-known (Hoskisson, Eden, Lau, & Wright, 2000; Peng, 2000). How to overcome these problems to access reliable, updated data to do research is a big challenge to many researchers. There are several good solutions can be used to resolve this issue: using archival data in conjunction with other data sources can be a solution to the future empirical study (Child & Tse, 2001).

The last concern is how to design a good measurement of accounting fraud and from which year to begin collect data. These two questions are critical issue in future empirical study. The year for Chinese companies to adopt the IFRS is 2004 which is year to begin collect data. Also only focus on two countries will harm the generalizability of results So extra evidence from other countries is needed to strengthen our propositions. Further research could use the data from other countries to validate our arguments.

CONCLUSIONS

Accounting fraud has been an important topic for more and more countries especial for the businesses in emerging economies (Bansal, 2005). Our research investigates the relationship between corporate governance and accounting fraud by comparing firms in two different countries US and China. To investigate both questions together, our study first examines the relationship between corporate governance and incidence of accounting fraud. This study focuses on different component of corporate governance and their impact on the incidence of accounting fraud. Then examines how accounting standards moderate the relationship between corporate governance and accounting information quality which can impact on the occurrence of accounting fraud.

In conclusion, our paper provides a direction for the further empirical study. The expected results not only can provide theoretical implications by extending the study from developed economies to emerging economies by comparing US and Chinese companies but also have important practical implications to managers and policymaker to understand the role corporate governance and accounting standards can play in the preventing accounting fraud.

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AN INITIAL LOOK AT A BASIC SWEDISH FINANCE COURSE

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ABSTRACT

The course that is described and discussed herein is a B level (2nd year) finance course at Umeå University in Umeå, Sweden – Financial Analysis and Valuation (Räkenskapsanalys och Värdering). The course is designed to develop students' ability to comprehend business information and to use different methods and tools of financial analysis and valuation, especially in connection with business valuation. Existing corporate information is used in teaching, and emphasis is placed on the interpretation of observation. Analyses are motivated by the need for ongoing evaluations of companies in financial terms. Various problems are highlighted and discussed; measures such as how business valuation can affect various stakeholders and potential implications are related to ethics and sustainability. A group term paper (PM) is required in the course. The analysis within the term paper, although primarily financial, also has a social and organizational perspective, which affects the choice of the appropriate method of approach.

INTRODUCTION

Consider this situation:

- It's a five week course.
- The instructor sets his/her own schedule for course conduct daily and weekly.
- Participation is strictly restricted to students who have had the prerequisites and have come to the university readily prepared to take majors in their first year.

Does this sound a little too farfetched to be true? Well it is true. The only catch is that it's in Sweden, but it's a story worth telling. That is what is done in this paper, where the example of a mid-range finance course at Umeå University in Sweden is described.

Business Administration has been taught at Umeå University for the past 50 years, and the Department of Business Administration has been an integral part of the Umeå School of Business and Economics since the School's inception. The Department of Business Administration is the largest unit within Umeå School of Business and Economics (USBE). Currently, close to 80 staff members work with teaching, research and administration related to five traditional areas: Accounting, Entrepreneurship, Finance, Management and Marketing. The Department offers: five master's programs, four professional degree programs, a doctoral program and single subject courses and is organized into four sections: accounting and finance, entrepreneurship, management and marketing. In each of these areas, there is a Master's program, and business administration is the main subject in the school's four, four-year degree programs (e.g., Civilekonomprogram). There are also courses provided for several other educational programs at the University. In total, about 1,100 full-time equivalent students are enrolled in business administration programs and courses each year.

USBE's programs are a part of the Swedish higher education system, a highly regulated educational environment that includes the stipulation of degree goals and program syllabi. The Swedish government determines the national degree goals, and these are also stipulated in the Higher Education Ordinance, together with standards for program syllabus content required for the specific degree. There are a variety of degrees offered in the USBE program, but the common ones are a Bachelor of Science with majors in business administration, economics, or statistics (180 credits) and a Master of Science with a major in accounting, entrepreneurship, finance, management, or marketing (60 credits beyond the BS). There is also a professional degree of Master of Science in International Business and Economics, which requires 240 credits. Courses normally carry 7.5 credits each, so if a student takes eight courses per year, a BS may be obtained in three years and an MS in four.

Course definitions are formally addressed in a department's Permission to Offer document (POD), which contains the course syllabus. An important part of this document is the expectations of learning section. That is, each POD contains a section that specifies for each course an "after completion, students should be able to … specification." The expected learning outcomes are clearly aligned with the degree goals to ensure that courses within the program are designed to support the students in reaching the degree goals. These documents also contain the texts that will be used and pedagogy that will be utilized in course conduct. Generally, these documents are reviewed each spring to see if they remain relevant and are changed when appropriate. Learning within courses tends to be supported by lectures and tutorials, exercises, cases with seminars and labs associated with business activity monitoring. One of the unique features of the Swedish system is that students are voluntarily organized, and one of the responsibilities of elected representatives is to see that the terms of these PODs are followed. Other representatives, for instance, sit on the School of Business Board.

In passing it might be noted that there also tends to be a self-directed learning emphasis within the Department (cf. Hiemstra, 1994; Robinson et al, 2016; Lindberg et al, 2017). Consequently, following Sarasin (1999), a teacher's role thus changes to a facilitator of learning in line with an inquiry-based pedagogy. The approach also tends to follow a Swedish study (Graff, 2008) that indicated high-performance individuals tended to learn from a combination of academic and experiential exposure. In this regard, students are expected to independently select, collect, process and analyze both practical and theoretical information as well as function within work groups.

The 10-month academic year is divided into two terms of four, five-week time units. Under normal circumstances, students take a single course per unit, and within their course, teachers prepare their own schedules. For incoming students their years of matriculation (and consequent course level) are A (1st year), B (2nd year), C (3rd year) and D (4th year). The nature of course conduct varies, but mutual understanding dictates that 40 hours will be spent meeting students. Typically, this takes four to four-and-a-half weeks with a comprehensive examination in the fifth week. It is not uncommon for courses to be shared among instructors on the basis of specific expertise and/or experience. Course grades (pass w. distinction (VG), pass (G), fail (F)) are established on the basis of the written examination, collectively implemented seminars comprising oral preparation, active student participation and frequently a laboratory in business. In order to pass a course, individuals generally are required to pass each part of the course. For those that fail, a make-up exam is offered five weeks after the end of the course.

The purpose of this paper is to describe and discuss a second-level Swedish finance course. That is, it is the second course that business administrations majors would take in pursuit of his/her concentration. Our selection of the course comes from our present research interests. Put another way, we do financial analyses of companies and industries. Further, one of us (LL) has taught this course, so its conduct can be approached from an experiential base. Because the university in question has an international orientation and emphasis, course content and the pedagogical approach employed should be of general interest to finance professors in general. Further, the environment and surroundings might be of interest to academics generally, but certainly those who might be interested in international education.

THE COURSE

The finance course described and discussed herein is taken in the second five weeks of the spring term in the students' second year. That means that in preparation for this course they have had

- four courses in business during their first term of their first year taken one course at a time in sequence – marketing, organization and management of the firm, financial accounting, managerial accounting,
- the introductory course in finance,
- two courses in statistics,
- two courses in basic commercial law,
- four courses in economics - microeconomics, market failures and resource allocation problems, macroeconomic analysis in the short-run, and macroeconomic analysis in the long-run: inflation and growth.

The description of the course may be taken directly from the syllabus in Appendix 1 (2017), translated into English.

> The aim of this course is to develop students' ability to review accounting information and to use different methods and tools for financial analysis and evaluation, especially in conjunction with corporate valuation. Critical importance is attached to the interpretation of results. A number of real problems are identified and consequential actions discussed, for example, how corporate valuation can affect different stakeholders as well as possible implications associated with ethics and sustainability. This analysis although primarily financial also has a social and organizational perspective, which also affects the choice of appropriate analytical methods. Such analysis is motivated by the need for one ongoing evaluation of the company in financial terms. Within this course, software programs are used as analyses and decision support. In an

> additional portion of the course, a business system will be used for teaching insofar as these systems are utilized as tools for controlling operations and expediting faster and more informed decisions. (p. 1)

There tends to be a large following of this course. In the term in which it was most recently conducted, there were 65 students in attendance; most of them would have been in the same group in which the above prerequisites were taken. The texts for the course are Berk and DeMarzo, *Corporate Finance*, and Palepu et al., *Business Analysis and Valuation*. Both the spirit of the Berk and DeMarzo (2017) text and of the course are captured in a statement from the text's preface of the instructor edition as follows:

> The core concepts in finance are simple and intuitive. What makes the subject challenging is that it is often difficult for a novice to distinguish between these core ideas and other appealing approaches that, if used in financial decision making, will lead to incorrect decisions. De-emphasizing the core concepts that underlie finance strips students of the essential intellectual tools they need to differentiate between good and bad decision making. (p.24)

Although the course is conducted in Swedish, the texts (as is commonly the case) are in English. The texts previously used in the course, Hansson et al., *Företags och räkenskapsanalys*, and Nilsson et al., Företags-värdenring med fundamental analysis, were in Swedish. The shift to the English texts represents an example of a change from the annual POD review described previously. Regarding the change of main text in the course - the two previous books, Nilsson et al. and Hansson et al. were fairly old (appr. 15-20 years) and needed to be updated or replaced. Both texts included outdated examples with, for example, farfetched levels of interest rates, inflation and required returns and also referred to previous laws, policies and practice. The course prior to this course also has Berk and DeMarzo as its text. Thus, by adopting Berk and DeMarzo, we were able (1) to connect better to the prior course by following up on previous covered chapters, exercises and examples, (2) lower the cost of text for the students, (3) include updated material (examples, level of rates, required returns, references to policies and practices), and (4) include a more international context that better reflects the operations of the companies that students analyze.

The application of the texts and description of the course is best covered by following its schedule, see Appendix 2. (Please note that although this syllabus is reproduced in English, the original was in Swedish. Also, the Weeks represent calendar weeks. The accepted time for starting class conduct is on the quarter-hour unless designated "sharp", i.e., 0:00). The first session is dedicated to the course introduction: expectations, text coverage and assignments. Equally important, groups of four are established by putting together pairs of students interested in the same companies. These companies are selected from a list such as shown in Appendix 3 – Atlas Copco, Autoliv, Axfood, Electrolux, Getinge and Holmen. The criteria used by the instructor in company selection is that (1) they must be new each year, (2) be non-financial, and (3) have relatively non-complex financial reports. These companies are used over the next three weeks of the course to illustrate data utilization and also as a basis for the students' course assignment. The report organization and content is given in Appendix 4, Instructions for case assignment and report. Essentially a 20-page report is called for that includes company description, analysis of its business environment, financial analysis, company/share valuation, overall valuation, and conclusions.

The following day's course schedule allocates (i.e., sets aside) time for students to retrieve initial information on their companies. This set-aside is a result of previous observations by students that time should be allocated, i.e., research is required to find the necessary information from publically available sources. The instructor spends that day in his office to handle those situations where groups have found it "impossible" to find the necessary information on their company (the "supervisions" in the schedule). The information that students are expected to obtain includes "annual reports and additional material through contact with the company in question, and/or public records, newspapers, external analyses by banks and fund commissioners, journal articles, interim reports and websites for each company" (see Appendix 4).

The next three weeks in the course are spent delivering the background necessary for student understanding of financial analysis and valuation and also to complete their projects (20 hours face time and 6 hours supervision). Treatment includes exposure to the theory from the two texts, supported by material from actual firms but not from any companies in the student sample. For instance, examples might be drawn from information on Alimak or IKEA, but not the six companies in Appendix 3. Coverage includes the following:

- company accounting information
- strategic analysis of the external environment
- stakeholder and accounting analysis
- key figures analysis
- capital structure and the DuPont model
- business valuation I, II, III
- sustainability

Inclusion of the latter concept, sustainability, requires perhaps some explanation. Sweden, as a country has placed some premium on sustainability (cf. Lindbergh et al., 2016). Reports on sustainability now are no longer voluntary (cf. Långstöm et al., 2017). In 2017, an EU-directive makes it compulsory for listed companies with an average of 500 employees to report sustainability items in their management commentary. This directive has been translated into Swedish law that makes it compulsory for larger companies to have a sustainability report in some form, i.e., an integrated report or a stand-alone sustainability report. Whichever the case, in the longer term, these reports may have a bearing on company valuation.

At this point, the participation of students in the course takes over. Reports are submitted on the Monday of the fourth week and instructions for presentations and discussions given the next day. Umeå uses an opponent procedure for these presentations and discussions, which occur two days later. That is, three groups meet for a two-hour session. During this session, each group is responsible for a presentation of their report. The other two groups are responsible for analyzing that report. The instructor, of course, may ask questions or make comments. If there are shortcomings on any phase of this portion of the assignment, there may be a request for ancillary work to be done (complementary task – see Appendix 4). Grades are given for the written report, the presentation, and each of the analyses in the presentation session even though a student can only get a pass, fail, or a comment with a compliment on an item.

There is one written examination in the course. It is four hours long, comprehensive and proctored in the exam hall, as are most exams. Students are required to pass this exam if they are to get course credit. If they do not pass this exam, there is a re-exam and a second re-exam scheduled (see Appendix 2). Under this arrangement, students are not required to take the first exam, but may take the re-exam. The exam is supposed to reflect the expected learning outcomes of the course. There are three exam grades [pass w. distinction (VG), pass (G), fail (F)].

An English translation of the spring final is given in Appendix 5. Please note that the headings for each question, e.g., "accounting information" can be associated with one of the learning objectives cited in Appendix 1. That is, the first question deals with accounting information, which corresponds to learning outcome number 1 in the syllabus, review and analyze corporate public accounting information. Question 2 deals with strategic analysis, etc. In effect, an attempt has been made to see how students have picked up on course objectives.

REFLECTIONS

As educators we serve three primary interests. In Sweden, the state is one of those. The offering of this course is in compliance with those goals. In our primary program (Civilekonomprogram), the overarching goal in knowledge and understanding is to

> *Demonstrate an understanding of organizations' conditions in a national and global perspective for decision-making.*

Within skills and knowledge category, the national goals are to

> *Demonstrate an ability to critically relate to information and systematically and analytically address complex business problems.*
>
> *Demonstrate an ability to integrate ethical and sustainable reasoning in analysis, evaluation and decision-making.*

If one were to summarize the intent, conduct and output of the Financial Analysis and Valuation course, that summary would comply with these goals. In fact, these goals might be said as defining the course.
The second interest served, of course, is the students' interests. In the short term, these interests are reflected in course evaluations. If these evaluations were to be summarized in a statement or two, they would be:

> On the positive side: *The students generally appreciated the course and the instructor. It is the one course in which they could be sure to get exposure to real companies, operating contemporaneously*.

> On the other side: *The course was focused and required a* <u>*lot*</u> *of work to obtain the necessary information and conduct the required evaluations.*

The third interest served is that of employers and potential employers. With regard to employment, Umeå graduates tend to be readily employable. The most recent three-year review of alumni indicates that 56 percent of graduates found employment within a month and 90 percent within six months.

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Lars Lindbergh is Associate Professor of Finance & Accounting and previously Dean of the Umeå School of Business and Economics (USBE), Umeå University, SE-901 87 Umeå, Sweden. His research interests are in the general areas of the quantitative assessment of the financial performance of organizations and implications of tax policy. For more information see http://www.usbe.umu.se/om/personal/?uid=lali0004.

APPENDIX 1: Syllabus For Financial Analysis And Valuation, 7.5 Ects Credits

The aim of this course is to develop students' ability to review accounting information and to use different methods and tools for financial analysis and evaluation, especially in conjunction with corporate valuation. Critical importance is attached to the interpretation of results. A number of real problems are identified and consequence actions discussed, for example, how corporate valuation can affect different stakeholders as well as possible implications associated with ethics and sustainability. This analysis although primarily financial also has a social and organizational perspective, which also affects the choice of appropriate analytical methods. Such analysis is motivated by the need for one ongoing evaluation of the company in financial terms. Within this course, calculation programs are used as analyses and decision support. In an additional portion of the course, a business system will be used for teaching insofar as these systems are utilized as tools for controlling operations and expediting faster and more informed decisions.

Expected learning outcomes:

After completion of the course, the student should be able to:
- review and analyze corporate public accounting information as well as their financial and environmental status and development,
- conduct a strategic analysis of a company's external environment,
- apply different business evaluation methods,
- analyze the pros and cons of valuation methods, and
- show an understanding of how business systems can be used as a basis for decision making and for monitoring of operations.

Teaching arrangements:

- Learning is supported through lectures, group exercises, internship cases with seminars and laboratory work in business systems.
- Independently, students collect information and process it to analyze companies based on annual report data and other available information.

Grading in the course depends upon:

- an individual written exam,
- the group-wide project (PM), which includes oral presentation, active student participation and
- the laboratory work in business systems.

A final passing grade requires that each portion of the course receives a passing grade.

APPENDIX 2: Course Schedule

Financial Analysis and Valuation
Module: 2, Spring semester Course curriculum(-s): 2FE014 Lecturer: Lars Lindbergh
Course: Bus. Adm. B53, module 2 Home page: www.cambro.umu.se E-mail: Lars.Lindbergh@umu.se
Course code(-s): 2FE014 Maps: www.umu.se/om-universitetet/kartor

Day	Date	Time	Activity	Room	Lecturer	Comments
Week 07						
Thu	2017-02-16	08:15-10:00	Introduction	s205h	LL	
Fri	2017-02-17	All day	Time to study the assignment and retrieve initial data.	Office	LL	
Week 08						
Mon	2017-02-20	08:15-10:00	Company accounting information.	s205h	LL	
Tue	2017-02-21	08:15-10:00	Strategic analysis of the company's external environment.	s205h	LL	

Wed	2017-02-22	08:15-10:00	Supervision	Office	LL	
Thu	2017-02-23	08:15-10:00	Company stakeholders and accounting analysis.	s205h	LL	
Fri	2017-02-24	08:15-10:00	Measurement Techniques, Key Figures (incl. exercises)	s205h	LL	
Week 09						
Mon	2017-02-27	08:15-10:00	Capital structure and the DuPont model	s205h	LL	
Tue	2017-02-28	08:15-10:00	Business Valuation I	s205h	LL	
Thu	2017-03-02	08:15-10:00	Business Valuation II	s205h	LL	
Fri	2017-03-03	08:15-10:00	Supervision	Office	LL	
Week 10						
Mon	2017-03-06	08:15-10:00	Business Valuation III	s205h	LL	
Tue	2017-03-07	08:15-10:00	Environmental aspects, return and risk	s205h	LL	
Wed	2017-03-08	08:15-10:00	Guest lecture: Valuation, Sustainability and Financing	s205h	LL	
Thu	2017-03-09	08:15-10:00	Supervision	Office	LL	
Week 11						
Mon	2017-03-13	-15:00	Submission of assignment via course web page.	Course web page	LL	See separate instruction.
Tue	2017-03-14	All day	Review and preparation for presentation and discussion			
Wed	2017-03-15	08:00-12:00	Enterprise Resource Planning system, group A	s305flex & s306	AA	Mandatory and graded.
Wed	2017-03-15	13:00-17:00	Enterprise Resource Planning system, group B	s305flex & s306	AA	Mandatory and graded.
Thu	2017-03-16	08:00-17:00	Presentation and discussion, group 1-4, 4 x 2 hours	s205h	LL	See also separate schedule
Fri	2017-03-17	08:15-10:00	Supervision	Office	LL	
Week 12						
Mon	2017-03-20	08:15-10:00	Supervision	Office	LL	
Tue	2017-03-21	09:00-13:00	Exam. Mandatory notification made via the Portal, no later than 10 days before the exam. The notification opens when the course begins.	Exam hall 4		Lecturer will visit the exam hall appr. 1 hour after start.
Week 13						
Fri	2017-03-31	15.00-16.00	Review of the exam.	s205h	LL	
Week 18						
Tue	2017-05-02	14:00-18:00	First re-exam. Mandatory notification made via the Portal, no later than 10 days before the exam. The notification opens after the first exam.	Exam hall 4		
Week 34						
Mon	2017-08-21	09:00-13:00	Second re-exam. Mandatory notification made via the Portal, no later than 10 days before the exam.	Exam hall l.		

APPENDIX 3: The Companies That The Students Could Choose To Analyze During The Spring Course

- **Atlas Copco**, “We are a world-leading provider of sustainable productivity solutions. Customers benefit from our innovative compressors, vacuum solutions and air treatment systems, construction and mining equipment, power tools and assembly systems.”, http://www.atlascopcogroup.com/en/about-us

- **Autoliv**, “Autoliv’s mission is to be the leading supplier of safety systems for the future car, well integrated with autonomous driving. We are a Fortune 500 company and the world’s largest automotive safety supplier with sales to all the leading car manufacturers in the world. We develop, manufacture and market protective systems such as airbags, seatbelts, steering wheels, passive safety electronics and active safety systems including brake control systems, radar, night vision and camera vision systems. We also produce pedestrian protection systems.”, https://www.autoliv.com/AboutUs/Pages/InBrief/default.aspx

- **Axfood**, “Axfood AB conducts food retail and wholesale business in Sweden. Retail business is conducted through the wholly owned store chains Willys and Hemköp, comprising 263 stores in all. In addition, Axfood collaborates with a large number of proprietor-run stores that are tied to Axfood through agreements. These include stores within the Hemköp chain as well as stores run under the Handlar’n and Tempo brands. In all, Axfood collaborates with approximately 820 proprietor-run stores. B2B sales are conducted through Axfood Närlivs and the wholly owned Axfood Snabbgross chain. Wholesaling is conducted through Dagab. Axfood is listed on Nasdaq Stockholm AB’s Large Cap list. Axel Johnson AB is the principal owner, with 50.1% of the shares.”, http://www.axfood.se/en/About-Axfood/

- **Electrolux**, “Electrolux shapes living for the better by reinventing taste, care and wellbeing experiences, making life more enjoyable and sustainable for millions of people. As a leading global appliance company, we place the consumer at the heart of everything we do. Through our brands, including Electrolux, AEG, Anova, Frigidaire, Westinghouse and Zanussi, we sell more than 60 million household and professional products in more than 150 markets every year. Electrolux has been doing business since 1919. The headquarters are located in Stockholm, Sweden, and the Electrolux share ELUXb is listed on Nasdaq OMX Stockholm.”, http://www.electroluxgroup.com/en/electrolux-in-brief-492/

- **Getinge**, “Getinge is a leading global provider of products and systems that contribute to quality enhancement and cost efficiency within healthcare and life sciences. We employ more than 15,500 people, and have operations in 41 countries.”, https://www.getinge.com/int/

- **Holmen**. “Holmen is a forest industry group that manufactures paperboard, paper and wood products and runs forestry and energy production operations. The company’s extensive forest holdings and its high proportion of energy production are strategically important resources for its future growth. The average number of employees during 2016 was 2 989. Holmen's business concept is to develop and run profitable business within three product-oriented business areas for paperboard, paper and wood products as well as two raw material-oriented business areas for forest and renewable energy. Europe is the key market. ”, https://www.holmen.com/en/about-holmen/

APPENDIX 4: Instructions For Case Assignment And Report: Financial Analysis And Valuation, Applications For A Publicly Traded Company

The course includes a mandatory case assignment. The purpose of the assignment is to use a listed company's annual accounts to carry out a detailed analysis of the company. The purpose of the assignment is mainly to relate what is being treated during the course to a real situation where you, while theoretically working with the area, also have the opportunity to apply your "book skills". You also have the opportunity to work with an authentic company's annual reports, which means that you work with documents from the Swedish business community. The assignment is conducted in a group and you analyze an "own listed company". The assignment is documented in a written report of 20 pages.

The assignment work consists of doing an analysis in which the following parts should be included:

- Introduction: Purpose, delimitation, method, sources and source criticism. *(approximately 2 pages)*
- Company presentation: Description of the company and the industry in which it operates etc. *(approximately 2-3 pages)*
- Analysis of the Company's Surroundings: Using Strategic Analysis Models. Please see main course text. *(approximately 2 pages)*
- Financial Analysis: Selection of appropriate key figures. You should comment on the level and development of individual key ratios and link them to other key ratios to highlight the company's development. The Accounting Analysis section should be concluded with a brief discussion and conclusion regarding the company's profitability and ability to pay. In addition, the section discusses risks and the company's financing opportunities. Figures and tables in appendices. (a*bout 4 pages*)
- Company/share valuation: The valuations should lead to an assessment of the value or price of the company's share. The valuation models that can be used are: 1.) one of the following comparative valuation models: historical comparison or comparison with other companies 2.) one of the following present value models: dividend-based, residual value or cash-flow. *(about 5 pages).*
- Comprehensive analysis and conclusions: Estimation of prospects including proposals for financial measures that the company should take according to your analysis. The report may also contain an analysis of supplementary information, if available. (*about 4 pages*).

You should clearly state your recommendation and argue whether you believe the company is worth buying or selling (if you currently own shares) from a stock point of view. You need to provide clear arguments for and/or against. A conscious choice between the valuation models should be motivated as the basis for your arguments and conclusions.

Please observe, that you can help the reader by using figures, charts and tables in the text.

Available companies to choose from: Atlas Copco, Autoliv, Axfood, Electrolux, Getinge or Holmen.

Tutoring: To support the work of the PM, there is scheduled time for supervision. The possibilities for getting supervision at other times are limited.

Important times for the PM work: Collect the accounts as soon as possible. Search for company name and annual report for each year. The assignment must be ready for final submission Monday, March 13, 2017, at 15.00. The work is uploaded on the course homepage (more information will be available). The work is also sent in word format to the discussants (more information will be available).

More information:
A) Group size: Groups of 4 students collaborate on each assignment. Each student is to keep a diary of activities during the assignment.

B) Scope: The assignment has to be 18-22 pages excluding up to 10 pages of relevant material in appendices. The margins should be 1"or 2.54 cm around. The current text should have Times New Roman fonts, 12 points with single line spacing and even margins.

C) Layout: Remember to reference according to the Harvard system. Use footnotes for comments or internet references. Financial key figures, tables and charts should be done in Excel but transferred to the Word software.

E) Information: Annual reports and additional material that may be required for the task is required to be collected by the group itself through contact with the company in question, through public records, newspapers, external analyzes by banks and fund commissioners, journal articles, interim reports, websites for each company, etc.

F) Tutorial: Tutorials are available under scheduled tutoring time.

G) Grades: Passed or Failed. Any complementary task must be submitted and can be approved no later than 14 days after the date of the regular exam.

APPENDIX 5: English Translation Of The Final Examination

Question 1. Accounting information (20 marks)

The course literature discusses the main steps in an accounting analysis. Describe and exemplify these steps.

Question 2. Strategic analysis and the value concept (20 marks)

During the course we have discussed the use and the course literature discusses the term pro formas.
Explain, according to the course literature, the concept of pro formas and pro forma models, what it means and how they are used. Discuss three (3) different uses. (9 marks)

According to the course literature - in connection with which corporate valuation model is, pro forma is primarily? (3 marks)

According to the literature, there are a number of control and control possibilities that can affect a company's future value creation. Discuss four (4) different examples. (8 marks)

Question 3. Accounting analysis and measurement techniques (24 marks)

During the course we have discussed a variety of measurement techniques to assess the company's profitability, ability to pay, return and risk. Based on the literature and using data in the table below (data for three different industrial companies), define, calculate and discuss the level of (i) two key figures describing profitability, (ii) two key ratios describing payability; and (iii) two examples of key ratios describing returns, individually and in relation to each other, and (iv) discuss and exemplify the concept of risk in this context.

Company	**Alfa Ltd**	**Delta Ltd**	**Gamma Ltd**
Net sales	240 Mkr	160Mkr	70Mkr
Operating profit	20 Mkr	-8 Mkr	12Mkr
Financial income	0,4 Mkr	0 Mkr	0 Mkr
Financial costs	1,5 Mkr	0,4 Mkr	1,2Mkr
Current assets	70 Mkr	80 Mkr	60 Mkr
Inventories	40 Mkr	22 Mkr	50 Mkr
Cash & bank balances	10 Mkr	6 Mkr	8 Mkr
Assets	180 Mkr	140Mkr	120Mkr
Equity	80 Mkr	100Mkr	20 Mkr
Current liabilities	60 Mkr	20 Mkr	60 Mkr

Question 4. Business valuation and comparative valuations (15 marks)

You have recently received a job at a corporate department at a bank and have been asked to value a company. You consider that a comparative valuation is the best method for the purpose. Perform a comparative valuation for the company Ono AB using data in the table below.

Company	**Ono Ltd**	**Doz Ltd**	**Tri Ltd**
Share price, P	90	180	280
Sales, S	86	200	340
Equity, JEK	66	100	120
Earnings per share, EPS	6	18	18
Dividend, D	2	4	6

Question 5. Business valuation and the residual value model (21 marks)

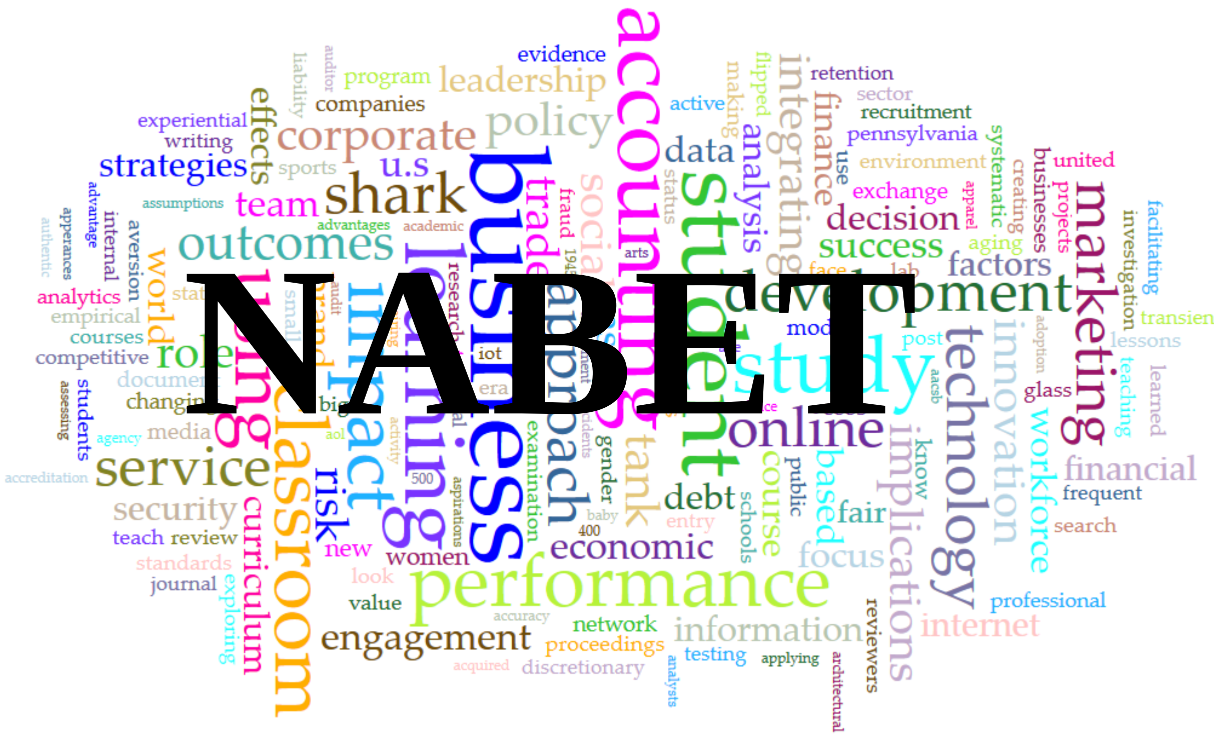
Following your first assignment at the corporate department, the bank now elects to commission you to make a residual value analysis of a company's share. You are at the beginning of 2018 and will do the valuation to that point. Below you have collected the basis for your stock valuation.

In the growth phase, adjusted equity (E) for 2017 is assumed to be 100 kr, the earnings per share (EPS) for 2017 will be 10 kr, the profit is expected to increase by 5 per cent between 2018 and 2021 and over the last ten years, the company has distributed 45 percent of its profits on average, and the yield requirement is estimated at 10 percent. In the maturation phase growth is assumed to be 2 percent and the yield requirement is estimated at 8 percent.

What is the present value of residual gains in the growth phase? (4 marks)
What is the present value of the final value in the maturation phase? (4 marks)
What should the value of one share in the company be? Motivate! (3 marks)

Discuss the advantages and disadvantages of the residual gain model in relation to the cash flow model. (6 marks)

During the course we have discussed and exemplified effects of various environmental and ethical aspects / incidents in terms of return and risk as well as the value concept. You have also encountered examples of ethical and / or environmental considerations / incidents in your work with the practical task. Discuss an example of how an ethical and / or environmental consideration / incident could affect your residual gain calculation. (4 marks)



Northeastern Association of Business, Economics and Technology

OFFICIAL CONFERENCE PROGRAM

40th Annual Meeting
October 26th & 27th, 2017

Days Inn
240 South Pugh St.
State College, PA 16801
(814) 238 - 8454

Thursday October 26, 2017

Registration - Days Inn Atrium **7:30 am - 3:15 pm**

Breakfast – Center/Arbor Room **7:30 am - 9:00 am**

Welcome - Norman Sigmond, Board Chair **8:00 am - 8:15 am**

Session 1: Center/Arbor Room 8:30 am - 9:30 am

Miscellaneous Business Topics

Session Chair: *Jane Brooker*

Professional Skepticism: Innate Sixth Sense, or Learned Skill?

Roberto Mandanici Albright College

Public Company Accounting Oversight Board (PCAOB) Staff Audit Practice Alert No. 10 "Maintaining and Applying Professional Skepticism in Audits" defines professional skepticism as "an attitude that includes a questioning mind and a critical assessment of the audit evidence." While some believe professional skepticism to be an innate gut instinct and sixth sense, others maintain that this skill can be learned through training and work experience. The survey was administered to senior undergraduate students enrolled in the Albright College School of Professional Studies before and after the completion of the Audit coursework. (sample of 70 students across 9 sections, from May 2015 through July 2017). Did students' skepticism awareness improve, decline or remain unchanged as a result of the audit coursework, which includes the study of audit theory as well as extensive review of case studies? This paper will resolve those questions and analyze the results of the professional skepticism survey developed by Professor Kathy Hurtt.

Big Data Analytics in Tax Fraud Detection

Bernice Marie Purcell Holy Family University
Karl Malaszczyk Holy Family University

Big data is the term applied to datasets exceeding the normal confines of traditional database technology. Datasets collected range from all professional fields, including taxation. One use of big data analysis – or analytics – in the taxation field is discovery of tax fraud. Big data is characterized by the terms volume, velocity, variety, and veracity. The characteristics mean that big data employs large amounts of storage space, gathered from diverse sources, stored in diverse formats, and updated at different intervals. The specific processing used in tax fraud analysis of big data is data mining; the process is now often referred to as analytics. Datamining itself is one step in a larger process referred to by practitioners as knowledge discovery in databases (KDD). Two key groups of datamining tasks employed in fraud discovery are predictive tasks and descriptive tasks. Predictive tasks make a prediction for each observation, whereas descriptive tasks essentially describe the data examined. Various agencies impose numerous taxes on society, all of which are subject to fraud. Fraud exists in many forms and the Internal Revenue Code defines fraud in several places. Investigators use various methods to detect fraud including direct and indirect procedures. Direct methods include the matching of reported data to information returns received by the Internal Revenue Service. Indirect methods include analytical procedures, review of documents, observation and informants. These traditional methods of finding fraud can be greatly enhanced using analytics. These and related issues will be presented with respective analyses.

Session 2: Sylvan Room 9:40 am – 10:40 am

Accounting

Session Chair: *Linda A. Hall*

The Efficiency Effects of Local Taxes and Zoning in a Model with Labor-Leisure Choice

Samuel Enajero Bowling Green State University

Zoning laws designed to protect neighborhood characters play major roles in modern economies. Early work on zoning includes Hamilton (1975) and Oates (1977). They constructed models containing the Tiebout (1956) assumptions of ever-moving households who search for localities that provide packages of public goods, services and taxes that maximize their utilities. In order to eliminate potential fiscal and environmental externalities associated with incoming households, zoning ordinances which stipulate minimum quantities of housing or minimum lot sizes serve as a tool to create homogeneous communities. Models with labor-leisure choice following the tradition of Becker (1965) have appeared in some areas of public finance, such as tax competition papers of Gordon (1986) and Bucovetsky and Wilson (1991). Some of the models in public economics including Atkinson and Stiglitz (1980) examine how taxes affect household behavior with respect to time allocation. Altman (2001) argues that studies possessing predictive power on household income-leisure choice should focus on target income. None, however, has considered the effects of local income taxes or property taxes plus zoning. While there is a general conclusion in the literature that taxes are distortionary, this paper finds that taxes and zoning are non-distortionary and household utility is enhanced when taxes are combined with zoning.

Can Indicators Predict S&P 500?

Pawan Madhogarhia York College of Pennsylvania
Michael Tschudy York College of Pennsylvania

Investors and traders are searching for ways to outperform S&P 500 Index. This study explores whether technical and/or fundamental indicators can predict movements in S&P 500. The study utilized technical indicators only and then coupled the technical indicators with fundamental indicators to assess the extent of predictability of S&P 500 returns. Technical indicators showed more predictive ability over shorter time-periods. Over longer time-periods, a combination of select technical and fundamental indicators provided increased predictive ability versus solely technical or fundamental indicators.

Baby Boomers in Back Office Accounting: How Will Small Businesses Replace Their Aging Bookkeepers?

Mark A. Nickerson State University of New York at Fredonia
Linda A. Hall State University of New York at Fredonia

While recent research predicts an imminent shortage of talent and prospective partners in CPA firms due to retiring baby boomers, it seems another important population of aging professionals in the accounting industry has been largely ignored: bookkeepers. The United States Department of Labor Bureau of Labor Statistics currently reports that bookkeepers and accounting clerks will experience a decline in employment from 2014-2024 compared to an increase in employment for accountants and auditors during the same time frame. In many companies, technology, software, and outsourcing have driven the projected decline in bookkeeping and accounting staff. On the surface, this negative growth indicates that the need for new bookkeepers will decrease substantially in the near term. Upon looking deeper into the BLS and SBA data, professional journal articles, and media articles, we find that the trend toward lower employment and automation replacing bookkeepers may not be wholly accurate. The combination of an aging population of bookkeepers currently in the workforce and fewer new entrants into the field may not be sufficient to meet the needs of companies, especially small businesses. We conducted a convenience sample of small businesses to test our basic assumptions and to assess the need for a larger study. Our hope is to develop a guide for small businesses on best practices for securing employees with the skills sets they desire, and for adopting technology or other strategies to automate their bookkeeping and accounting functions.

Session 3: Willow Room 9:40 am – 10:40 am

Finance

Session Chair: *Lillian Kamal*

Long Run Elasticity Estimates of US Household Saving and Policy Implications

Lillian Kamal University of Hartford
Bharat Kolluri University of Hartford

This paper highlights a number of determinants of US household saving in order to cast light on potential steps the government can employ to promote savings, especially as the population ages. It builds on the earlier work of Cohn and Kolluri (2003) on the determinants of saving for the former G-7 countries of Canada, France, Germany, Italy, UK and the US (which are now part of the G-8 group) - all of which face the potential financial problems arising from rapidly aging populations. The paper uses quarterly data for the period 1960-2016, to investigate the effects of the independent variables that are most susceptible to government policy: interest rates, government surplus or deficits, social security contributions, personal debt and household wealth on personal saving in the US. As the data involved are time series observations, we apply co-integration and error correction techniques to distinguish between short-run and long-run equilibrium relationships, and present the results. Particular attention is paid to the effects of interest rates, social security contributions, government surplus, personal debt and household wealth through the derivation of the long-run elasticity estimates. Based on the empirical results obtained, the paper prescribes appropriate public policy recommendations. One way in which government policy may improve the stock of capital is through incentives for household saving. But any such attempt should consider the potential feedback effects to and from the real rate of interest and other independent variables under consideration.

Passive Investing: Agency and Ethics Consequences

Bradley C. Barnhorst DeSales University

As passive investing has dramatically increased in recent years (estimates are that in 2016 $700 billion shifted from actively managed assets to passive), there arise many questions about the agency effects of this shift, with respect to corporate governance. Furthermore, what ethical burden do passive investors share with regards to corporate governance or socially responsible investing? These topics will be explored using stakeholder/shareholder, political science, and ethical frameworks.

Fast Changing Markets, Transient Competitive Advantage and Key Organizational Element for Firms

Jeffrey Yi-Lin Forrest Slippery Rock University of Pennsylvania

By combining systemic thinking and traditional logic of reasoning of microeconomics, this paper establishes a main result on how the base of loyal customers diminishes with increase in the number of competing firms. On top of this result, the rest of the paper provides deductive explanations by using the systemic yoyo model for why markets change faster and customers are less patient than ever before, and what the most important organizational element is for firms to successfully surf through waves of transient competitive advantages one after another. Other than what is illustrated in this paper, this work provides a practically useful intuition for making sound and quick managerial decisions.

Session 4: Logan/Harris Room 9:40 am – 10:40 am

Business Education

Session Chair: *Audrey Pereira*

Online and Face-To-Face Similar for Technical and Didactic Learning but Not Role Modeling

Audrey Pereira — Fitchburg State University
Monika Wahi — Laboure College

As colleges evolve from face-to-face (F2F) course delivery to online, questions remain as to the equivalency of these methods. A study was conducted comparing learning on technical and didactic skills and role modeling between online and F2F sections of “Introduction to Computer Information Systems for Business” taught by the same professor at a state university in the Northeast United States (US). Grades on select assignments and exam questions that fell in the categories of intending to teach technical skills, didactic skills, and role modeling were evaluated and compared between the two course formats. In addition, at the end of the course, an anonymous survey was conducted among students who self-reported their acquisition level of technical skills, didactic skills, and role modeling. Over the Fall 2016 and Spring 2017 terms, data were collected from two F2F and three online courses. Overall, grades from 106 students (42% F2F and 58% online) and surveys from 82 students (40% F2F, 60% online) were available for analysis. It was found that overall, technical and didactic skills acquisition was similar between the F2F and online classes, but role modeling learning was greatly increased in the F2F course. Recommendations of how to improve role modeling learning in online course delivery will be presented.

Using a Virtual Lab to Teach an Online Business Analytics Program

Charles Mutigwe — Western New England University
Bruce Mtigwe — National University of Science & Technology (Zimbabwe)
Tendai Chikweche

Significant advances in cloud computing technology and the ubiquity of consumer electronics devices, such as, tablets and smart phones that are connected to the Internet have made it possible to develop flexible and cost effective virtual lab systems to support online learning courses that require a computer laboratory component. In this paper, the authors describe their experience of designing and using a virtual computer lab for teaching an online business analytics class. The virtual lab provides an opportunity for students to do hands-on assignments in navigating business data warehouses, creating data cubes, writing SQL queries, creating dashboards and other visualizations, writing reports, and using descriptive and prescriptive models for data mining. The authors describe alternative cloud architectures for designing virtual labs and discuss their criteria for selecting the optimal deployment method.

Taking Employee Training to the Next Level: A "Flipped-Classroom" Approach to Workforce Development

Stanley Joseph Kania Wilkes University

Professional development and employee training are central to the successes of any organization. Training modules, classes, and seminars allow employees to enhance their knowledge and skills in a particular content area resulting in more efficient and effective work output that helps the organization achieve its strategic goals. Advancements in technology and virtual platforms allow organizations to work smarter, not harder, in terms of delivering training programs to employees. The concept and practice of the “flipped classroom” has gained popularity in the past several years as a new model of delivering coursework, specifically in the K-12 educational setting. The pedagogy of the “flipped classroom” removes traditional lecturing and allows students to develop a deeper understanding of a subject by engaging in rich dialogue with one another. The purpose of this paper is to examine the “flipped classroom” as a model for workforce training and development in professional organizations. A review of associated literature will highlight employee training and the influence of online learning and technology of such training programs. The “flipped classroom” will then be examined as a model for employee training through a SWOT analysis. The paper concludes with implications for professional practice, as well as areas for continued research on the subject.

Session 5: Holmes/Foster Room 9:40 am – 10:40 am

Business Education Workshops

Session Chair: *Jennifer Nightingale Massart*

Using a Simulation Game to Teach ERP

Jennifer Nightingale Massart Slippery Rock University of Pennsylvania

Undergraduate students have a difficult time understanding the concept of Enterprise Resource Planning systems (ERP). Participants will learn how to engage students by using a simulation game, such as Lemonade Tycoon, to teach about different modules included in ERP systems along with the concepts of CRM. This simulation or strategy game allows students to manage their own lemonade stand. Students are responsible for paying rent, hiring staff, purchasing assets and ingredients, manufacturing the product and collecting customer feedback. These tasks dovetail with several modules included within an ERP such as Manufacturing, Financials, Human Resources, and Sales and Marketing. The instructor-led discussion will illustrate how functional areas of business are interdependent and need one another for an organization to operate efficiently and effectively. Additionally, the discussion includes how customer feedback, as stored in a CRM and integrated with an ERP, can help a manager make decisions that will improve his/her operations. Finally, the discussion validates the importance of how information systems are critical to everyone within an organization, not just the IT staff. Examples of assignments will also be presented.

The Learning Games Toolbox

Sherry Kay Robinson Pennsylvania State University – Hazleton

Learning games have long been used by business instructors to help students learn and review material. This workshop will present research on the mechanics of learning games, including types of questions, team sizes, game formats and student engagement. Recent research from neuroscience shows that games involving risk and uncertainty can facilitate learning over the long-term. Those attending this workshop will become familiar with the research on learning games and take away the "tools" that can be used to build games by using traditional assignments and activities as a starting point.

Session 6: Sylvan Room 10:50 am – 11:50 am

Management

Session Chair: *Mark A. Nickerson*

Structured Undergraduate Leadership Development: Utilization of skills over 4 years

Annette Rogers University of Hartford
Celia Lofink University of Hartford

In today's competitive educational environment many colleges are branding their programs as "Career-Ready", suggesting undergraduates are being prepared to enter the working world with progressive knowledge, skills, and leadership ability.

The purpose of our longitudinal study is to explore how students evolve their leadership skills and behaviors during their four year undergraduate tenure. We are completing this study in two phases. In Phase I we provide training to a select group of students and ascertain how they understand their leadership. The literature is replete with discussions of leadership in categories such as style, contingency, situation, or transformation (Northouse, 2010). For the purposes of our study we selected the framework of Kouzes and Posner's (2012) identifying five behaviors of good leaders: model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart. This will be used as the training for phase I. Data will collected through a leadership assessment and personal journals. In Phase II we follow their progress over their undergraduate lifecycle and collect data pertaining to their leadership behaviors and skill use. The areas of interest tracked will be sports team activities, project teams, and clubs. From that data we will determine if students are applying and synthesizing the behaviors learned from the phase I training.

Masaru Ibuka - A Case Study of Buddhist Business Approach at SONY (1945-1997)

Hideki Takei Central Washington University

Masaru Ibuka (1908 - 1997) is a founder of Sony Corporation. He founded Sony in 1945 in order to offer everybody innovative and reasonably-priced quality products. With a co-founder Akio Morita, he made Sony a global corporation through effective product, business, organization, and marketing strategies. Indeed, many scholars have discussed such effective strategies of Sony. However, not so many scholars have paid attention to the personal philosophy of Ibuka. In fact, Ibuka has been a hidden behind the co-founder Morita who has been considered a genius of business strategies and marketing. This is very interesting as Ibuka was in charge of product development and policies. Without innovative and attractive quality products, Morita's marketing and strategies would not work at all. Recently, more scholars have paid attention to Ibuka's personal philosophy in order to understand his ways of business. This case study is one of such studies. Through this study, Ibuka's personal philosophy will be discussed in more detail.

The Case of Prioritizing Remediation of Acquired Plasma Centers for FDA-Licensure: A Risk Matrix Approach

Lisa Marie Walters The State University of New York-Fredonia
Susan McNamara The State University of New York-Fredonia

In today's world of competing resources, it becomes necessary to find a way to prioritize many business endeavors. In this case study, students are asked to assist the Director of Plasma Quality and Regulatory Operations (D PQ/RO) and her staff members in prioritizing the remediation activities needed to prepare a slate of recently purchased plasma centers for FDA-licensure. The parent company, biologics giant

Meridian International, recently purchased 30 plasma centers to grow that aspect of its supply chain, as plasma is a key component in several of its product lines. Although 15 of these centers are already licensed by the FDA, 15 are not; those that are not are unknown in terms of their FDA compliance and will need remediation to be successful in their FDA licensure quest. A risk matrix is used to determine the scheduling sequence of each of these 15 centers in terms of remediation support for FDA licensure. Students are challenged to discuss the validity of the use of such a matrix, to propose a remediation schedule for the centers, to provide other uses for the matrix other than remediation prioritization scheduling, and to explain how such a matrix might be constructed for other industries. This case is unique in that it allows the student to consider prioritization of activities in regulated industries, which may use different determinants of risk other than financial.

Session 7: Willow Room 10:50 am – 11:50 am

Finance and IT

Session Chair: *Bharat Kolluri*

Integrating Trading Lab in Finance Curriculum

Pawan Madhogarhia York College of Pennsylvania

Student engagement is vital in business education. Trading labs are considered to add value to finance education. Many different simulation programs and analytical software available target different levels of student preparation. Efficient frontier is one of the major financial concepts in modern finance. Efficient frontier is a standard tool that most financial advisors use to suggest asset allocation to different clients. This paper discusses the use of Morningstar Direct for creating an efficient frontier on this platform in the senior level undergraduate advanced corporate finance course. Additionally, this paper brings out the use of different activities using Morningstar Direct to provide experiential learning of difficult financial concepts.

Using a Final Project in Introductory Finance Course for AACSB AOL

Rick Hedderick Pennsylvania State University - Behrend

In this paper we present a comprehensive final project that is used in the introductory undergraduate finance course. The project is designed to engage students as they apply knowledge from the course to a practical capital budgeting application. In addition, we discuss how the project is used to meet AACSB assurance of learning requirements and gain valuable feedback for improving the process.

Measuring Profitability of IT Investments

Jorge A Romero Towson University

The profitability of IT (information technology) investments has been under scrutiny for decades, particularly since few studies discussed a productivity paradox related to IT investments in the 1990s. Although publicly traded firms are not required to disclose their IT expenses in their annual reports, in the last few years there has been renewed interest in the topic using different datasets and trying to dig deeper into the sources of profitability. However, there are still unanswered research questions about the profitability of IT investment. This study digs deeper into this issue and also looks at competitors investing in similar IT applications.

Session 8: Holmes/Foster Room 10:50 am – 11:50 am

Miscellaneous Business

Session Chair: *Ozge Aybat*

Status of the Big Ten Schools' Information Technology Courses with an Emotional Intelligence Focus

Loreen Powell Bloomsburg University
Michalina Hendon Bloomsburg University

Emotional intelligence is a trending topic. Currently, organizations are finding value in employees with emotional intelligence skills. However, many organizations also contend there is a disconnect between the emotional intelligence skills needed and skills that are displayed among newly graduated information technology hires. This research examined the status of The Big Ten schools' information technology courses with an emotional intelligence focus. A web content analysis of academic course offerings within information technology related disciplines was conducted. This presentation will discuss research findings of the analysis. The presentation will be beneficial to business and information technology faculty as a resource for future coursework design among information technology courses, minors, and concentrations.

I Know I Am, But What Are You: Public Perceptions of Unions, Members and Joining Intentions

Raymond F Gibney Jr Pennsylvania State University
Marick Francis Masters Wayne State University
Ozge Aybat Pennsylvania State University
Thomas Townsend Amli Pennsylvania State University

Students' perceptions of demographic, social and behavioral characteristics of union members were analyzed in comparison to the statistical data regarding union members. Respondents also provided perceptions regarding unions themselves as well as future joining intentions. Overall, respondents accurately identified some characteristics of union members and were incorrect on others. General union image was poor as well as future joining intentions. The results of this analysis suggest that union density declines in the private sector will continue.

Exploring How Service Industry Leaders Operationalize Diverse by Design Team's Values and Assumptions

Noel M Criscione-Naylor Stockton University

Service intense organizations are searching for strategies to propel their organizations to develop service capability, achieve higher levels of performance precision and deliver results with significant return on investment. One identified strategy has been to form multidisciplinary teams, referred to as Diverse by Design, comprised on high-level leaders through frontline staff, challenged to generate specific business outcomes. The purpose of this study is to identify the central values and assumptions necessary to successfully use these teams and identify the influence of participation on participant practice. Structured conversations will take place with service leaders trained to lead these teams with an attempt to identify critical competencies and values that impact the success and failure of the team.

Session 9: Sylvan Room 1:05 pm – 2:15 pm

Session Chair: *Michalina Hendon*

Special Healthcare Topic (30 min)

What are the focus of United States and International Healthcare Comparisons?

David William Jordan Slippery Rock University of Pennsylvania
David Boucher UCI Medical Affiliates

International comparisons between the United States and other nations' healthcare quality, continue to generate significant debate. Sources such as the World Health Organization's or Commonwealth Fund' are somewhat unclear in their focus when discussion system quality and tend to devolve into subjective and questionable metrics with questionable validity and reliability to examine the complex nature of healthcare. This analysis discusses some of the challenges associated with comparisons and discusses metrics that may serve international comparisons better by questioning the premises of continued discourse in the matter. The purpose of international comparison is to evaluate the world laboratory of health care policy and processes; the discussion needs redirected in both focus and content.

Finance and Economics

An Initial Look at a Basic Swedish Finance Course

Lars Lindbergh Umea Universitet (Sweden)
Timothy L. Wilson Umea Universitet (Sweden)

The course that is described and discussed herein is a B level (2nd year) finance course at Umeå University in Umeå, Sweden – Financial Analysis and Valuation (Räkenskapsanalys och Värdering). The course is designed to develop students' ability to comprehend business information and to use different methods and tools of financial analysis and valuation, especially in connection with business valuation. Existing corporate information is used in teaching, and emphasis is placed on the interpretation of observation. Analyses are motivated by the need for ongoing evaluations of companies in financial terms. Various problems are highlighted and discussed; measures such as how business valuation can affect various stakeholders and potential implications are related to ethics and sustainability. A group term paper (PM) is required in the course. The analysis within the term paper, although primarily financial, also has a social and organizational perspective, which affects the choice of the appropriate method of approach.

From Developing to Developed Economies- Study of Entry Mode under Reversed Directionality

Jayaraman Balachander K12 Inc.
Prabakar Kothandaraman William Paterson University

Most of the research studies on entry mode have been done through the lens of manufacturing firms in developed economies entering developing economies, and most of the related frameworks and theories have been developed to explain this perspective. This paper presents an understanding of entry mode strategies of services firms in developing economies entering into developed economies by considering several software services firms in India entering developed economies. The study develops a framework that incorporates multiple theories - both from an emerging economy perspective as well as a services perspective - and presents the findings based on six case study analyses of services firms in India. Results identify addressable market size, cultural aspects, firm size, resource and service characteristics as dominating factors that influenced choice of entry modes. From a theoretical perspective, the authors find that theories such as transaction cost theory, eclectic paradigm, the gradual approach to internationalization, institutional theory do not successfully explain the entry mode strategies for firms in developing economies. Strategic theory, including resource based view, motivation of a firm, network theory have some application but do not explain, in isolation, all aspects of the entry mode choices. The paper also addresses future areas of investigation in this space.

Session 10: Willow Room 1:15 pm – 2:15 pm

Accounting and IT

Session Chair: *Mostafa M Maksy*

Audit Failure, Auditor Independence and Internal Controls

Ermira Mazziotta Muhlenberg College

Audit failures are very costly to the investors, auditors and all the financial statements stakeholders. When an audit failure is identified the reputation of the auditors is also impacted. The auditing profession is still recovering from the aftermath of Enron and the failure of Arthur Anderson, the external auditor, to identify and uncover the financial statement fraud that cost millions of dollars to the investors, employees and all the stakeholders of Enron. The Sarbanes–Oxley Act of 2002 (Pub.L. 107–204, 116 Stat. 745, enacted July 30, 2002) has changed how Public Accounting Firms conduct audits. The Act created the Public Company Accounting Oversight Board (PCAOB) that oversees the audits of public companies and other issuers in order to protect the interest of investors. PCAOB also subjects auditors to external and independent oversight for the first time in history. Previously the profession was self -regulated.

Is Free Cash Flow Value Relevant? The Case of the U.S. Financial Institutions Sector

Mostafa M. Maksy Kutztown University of Pennsylvania

The objective of this study is to empirically identify which accounting definition of free cash flow (FCF) is the most value relevant for the financial institutions sector (FIS). This study aims to provide two contributions to the literature: First, the results would help investors make better decisions, and second, the results may encourage the Financial Accounting Standards Board (FASB) to require FIS companies to use a specific definition of FCF. Using correlations and multiple regression analysis on a sample of 11,662 observations covering the 25-year period from 1988 to 2012, the author empirically shows that the FCF that has the most significant association with stock price changes, after controlling for many factors that may affect stock prices, is the one defined as cash flow from operations less cash flow for investing activities less cash outflow for preferred stock dividends. The author recommends that the FASB require

FIS companies to disclose that FCF in the body of the Statement of Cash Flows or at its bottom together with the cash outflow for income taxes and interest expense. Short of that, the FASB should at least require FIS companies that voluntarily disclose FCF to use only the FCF definition identified by this study.

Status of the Internet and Data Privacy

Loreen Powell — Bloomsburg University of Pennsylvania
Lam Nguyen — Bloomsburg University of Pennsylvania
Kuo-Hao Lee — Bloomsburg University of Pennsylvania

As of April 2017, internet neutrality is gone. Today, broadband internet service providers have the ability to collect, monitor, reduce and censor content and data. Furthermore, many smart device apps also have the ability to collect, track, monitor and sell users data. However, it is uncertain if broadband service providers and smart device apps are collecting, monitoring, reducing, censoring, and selling data. This research examined contract language for collecting, tracking, monitoring, reducing, censoring, and selling data among current broadband internet service providers and common smart device apps. Specifically, an online content analysis of contracts was conducted on four major broadband service providers and twenty smart device apps. This presentation discusses the research findings of the analysis. The presentation will be beneficial to business and information technology faculty as a trending topic to discuss within their courses.

Session 11: Logan/Harris Room 1:15 pm – 2:15 pm

Business Education and Value Creation

Session Chair: *Gehan S. Dhameeth*

The Millennials: Insights to Brand Behavior for Brand Management Strategies

Gehan S. Dhameeth — Wells College

This study is an ongoing investigation that focuses on the relationship between millennials and their brand loyalty. The overall study will be performed in two phases. The first phase will examine the Millennials' relationship to brand loyalty. Based on the outcome of the study one, study two will be pursued. If the results of the study one established "positive", then Millennials' profiles grounded in the body of literature will be challenged. If the study one outcome determined "contrary", the study will move to phase two to understand the degree of the moderation of each dimension that influences brand resonance based on Kevin Lane Keller's work (Brand Resonance Pyramid) established. Eventually, brand management strategies will be proposed in line with the study findings to target the millennial audience. This study intends to use local and international college/university students (n=250) age between 18 and 34. An online survey will be administered to collect data using a questionnaire (46 data points). Linear Regression Analysis for study-one and Partial Correlation for study two is designed for analysis and to interpret the statistical significance of the findings.

Facilitating Students' Active Analysis of the Marketing Environment

John M Zych — University of Scranton

The foundation of a well-developed marketing plan is a thorough analysis of the marketing environment. Environmental factors can be characterized as economic, demographic, political, regulatory, social and technological. The challenge for marketing students is to identify the most important factors to concentrate on and determine how to integrate them with a marketing plan. A series of workshops were conducted to instruct students on the analysis of the marketing environment in real time as it unfolds, rather than exclusively relying on historical data. Students were exposed to a developing environmental issue and shown how to analyze it from multiple perspectives. The techniques students learned then were applied to their own projects which required creation of a marketing plan. The conference presentation will discuss development of the workshops and illustrate their implementation in a Marketing Strategy class. Student reactions to the workshops also will be discussed.

Ranking Online Reviewers as a Variable in Value Creation

Ahmed Gomaa University of Scranton

Recent research in the area of value creation in online health communities is gaining importance due to various academic and commercial perspectives. Positive patient reviews attracts and retains patients. Physicians and health care providers are aware that a shift in the patient selection mechanism is taking place. One problem is the validation of the patient review. Specifically, how much impact should such review have on other patients as they browse different online health communities? This paper proposes a new algorithm that ranks each reviewer by weighting the type of feedback they provide for each type of service providers. The weighting is for both “contribution to”, and “engagement with”, the online community. The “contribution to” variables are A) number of comments, B) number of check-ins, and C) Stars rating left for the provider. Those variables help creating a “Contribution Weight” for the reviewer. Another weight, the “Engagement weight” is calculated based on A) the number of reactions and B) comments to other reviews. All variables are represented as a binary matrixes to be able to calculate the corresponding Eigen vector and generate a weight for the reviewers based on those variables. The advantage of calculating the weight in this fashion is that it allows the reviewer total weight to impact the evaluation of the service provider even if that reviewer submitted review did not receive any positive feedback yet from the community, but it is based on the reviewer prior interaction. The algorithm variables are selected based on two datasets. First, the data available from Medicare.gov which provide information about groups, individual physicians, and other clinicians currently enrolled in Medicare. Second, is from Yelp dataset, which provides a subset of business, along with the stored attributes.

Session 12: Holmes/Foster Room 1:15 pm – 2:15 pm

Business Workshops (20 min)

Session Chair: *Noel M. Criscione-Naylor*

Using Service Learning as a Component of Business Courses

Stephanie Adam California University of Pennsylvania

In this workshop, we will evaluate the creative use of service learning as an assessment component of business courses. Particularly, we will discuss how service learning was strategically used in a Compensation Management course in order to mimic organizationl volunteerism policies. Through service learning, students are educated not only on "giving back," but also on how to identify the type of career and organization which they'd like to pursue. Utilizing student experiences in a Compensation Management course, the workshop will incorporate a discussion of service learning and its value in the business classroom. Due to the emphasis on ethics in today's businesses, many company leaders are incorporating philanthropy into their employment policies. As a result, the interaction between community outreach and corporate operations is at a unique crossroads. Through our time together, we will define service learning in context, examine how it can be used as an assessment tool, and evaluate student impressions of the service learning opportunity in the business classroom in an effort to encourage practitioners to develop innovative ways to incorporate it into their course requirements.

Building Service Capability Through Workforce Management in Service Intense Organizations
Noel M. Criscione-Naylor Stockton University

Service intense organizations are challenged with an increasing competitive market within the bounds of a recovering economic climate. For some organizations, attention has been directed to product enhancement whole others direct their attention to talent development. Yet, there are a variety of strategies that cannot only drive fiscal health, but achieve improvement in service capability. Workforce management or centralized scheduling is a powerful stratedgy that will maximize labor while driving improved service capability. The process of successfully implementing this strategy has been convoluted and this workshop or panel discussion will discuss and provide essential steps necessary to launch and sustain this strategy that requires a cultural and managerial culture change with alignment from the top, down through the organization.

Deliberative Dialogue on the Role of Business in Society
Susan Aloi West Virginia Wesleyan College

Decades ago, business students were taught that the primary, or even sole, role of business was to maximize profit for the owner(s). Over time, however, society has developed higher expectations. Today's new employees, the "millennials," are concerned with the purpose of the organizations in which they spend their working days. What do these more recent trends regarding perceptions on the role of business in society mean for the education of business students? What is the role of business schools and their faculties in ensuring that business students are introduced to a variety of perspectives and approaches regarding the roles of business? In this workshop, you will learn how to apply the technique of deliberative dialogue in a business classroom to help students explore and discuss the various roles of business in today's society.

Session 13: Sylvan Room 2:25 pm – 3:25 pm

Management & Leadership

Session Chair: *Susan Aloi*

Reciprocity as the New (Old) Paradigm in Business
Matt Fuss Geneva University

Reciprocity is the new (old) paradigm in business. It is offered as an alternative to a traditional Hobbesian perspective. The Hobbesian paradigm in which relationships are essentially a competition with incompatible self-interests leading to a winner and a loser is an inaccurate, albeit a traditionally accepted philosophical underpinning for social critique. The unexamined assumption of the validity of the egoism/altruism dichotomy has lead to an inherent bias on the part of the critics, and therefore needs to be replaced with the Aristotelian concept of reciprocity as the dominant paradigm for interactions between individuals. Reciprocity, the giving of benefits to another in return for benefits received, is a defining feature of social exchange. Cooperation (reciprocity) is our natural inclination as humans. Strong reciprocity is the natural evolution of traditional reciprocity. It is the people within any enterprise, and their interactions with each other, that ultimately produce excellence or mediocrity. Aristotle viewed the polis as a partnership for living well , a collaboration, a partnership entered into for the purpose of living well. Business are activities creating, maintaining, and altering structures within which people can enter into partnerships for living well. Reciprocity is the driving force behind successful businesses.

The Impact of Trait Narcissistic CEOs on Corporate Performance

Mark Arvisais Stevenson University

Many CEOs and corporate senior executives are afflicted with the trait of narcissism. In the last decade, narcissism and its influence on leader behaviors and their organizations has gained attention in scholarly research. Research on trait narcissism among corporate leaders adheres to two camps. In the first, narcissism is only negative and harmful to the business and its stakeholders. The alternative perspective is that narcissism can be beneficial for organizations and argues that managing and not restraining narcissistic leaders is the optimal path. Some of the problem is that research has not fully investigated narcissism's relationship to objective measures of corporate performance. Only then, can the scholar understand its true impact. This paper is an effort to augment knowledge by exploring the association between the trait narcissistic CEO and specific corporate objective measures. The paper explores the relationship between the narcissism ratings of 67 CEOs and corporate performance measures of their respective organizations.

Do Lucky CEOs Hurt Innovation?

Won Yong Kim Augsburg University
Kwnagjoo Koo Augsburg University

Stock option is one of the most widely-used equity-based compensation scheme to mitigate misalignment between manager's and shareholders' interest. And yet, it is sometimes suspiciously used as a tool of extracting shareholders' wealth to managers (Bebchuk et al., 2009). Typical way to do so is using the opportunistic timing such as backdating, spring-loading, etc. As shown in Bebchuk et al. (2010), opportunistic timing of option grants increases the incident of lucky grant, which is that CEO receive stock option when the price is low. We want to measure how this lucky grants affect technical innovation, which is one of the most critical sources of economic growth (Kogan et al, 2012). Using patent citation as a proxy variable for technical innovation (Hall et al., 2005), we find that the probability of technical innovation decreases if CEO received lucky grant in the previous year. To control possible endogeneity problem for determining CEO's lucky grants, we also use Two-Stage Least Squares (2SLS) model, finding the consistent result with simple Ordinary Least Square (OLS) model. Based on the results, we conclude that lucky grants may reduce the incentive for CEO to invest long-term project and negatively affect to firm's technical innovation, which may hurt the value of the firm in the long run.

Session 14: Willow Room 2:25 pm – 3:25 pm

Business Education and Related

Session Chair: *Bradley C. Barnhorst*

A Clear Vision for Integrating Managerial Accounting for Student Success

Jeffery Hillard Stevenson University

Managerial accounting is presented as a "fruit salad" of loosely related topics, concepts, formulas, examples, applications and terminology, hampering the efficiency and effectiveness of student learning and retention. Four integration pathways are reviewed. First, relevance is consistently integrated with a clear explanation of why should students learn this topic and why are ethics important by championing the positive role of trust to career success. Next, managerial accounting processes are integrated by introducing and repeating a temporal process framework for current decision making, future planning processes and feedback/control loops. The third integration pathway addresses rote memorization of unconnected formulas without integration with Excel problem solving models. Computational efficiency is consistently maintained with "the bridge", one primary Excel based problem solving methodology supported by one standardized formula and interactive graph. The final integration pathway connects the dots with practical storytelling, relevant service and manufacturing examples, a “clean line” of terminology and applied Excel projects in bridge formats. The four integrating pathways: relevance to career success, guiding students with process frameworks, consistent computation with the Excel bridge methodology and connecting the dots with consistent examples, terms and Excel projects all combine to enhance student learning and retention success.

Job Satisfaction in Public Accounting: The Impact of Gender and Line of Service

Joseph Michael Larkin Saint Joseph’s University

The extant literature is replete with studies of job satisfaction within the realm of public accounting firms, or as more commonly known as, professional services firms. This study is unique in that it considers not only recent hires, but also interns who have just completed their internship experience, and those who have completed an internship and are finishing their final year of school and have intentions of accepting a full-time position with their employing firm.

This study reports the results of a survey of 100 accountants from Big Four firms, including recent tires, just completed interns and current final year students.. Globally, Respondents were asked to indicate how satisfied they felt with numerous areas of their occupation. These areas include pay, promotion, work itself, supervision, coworkers, variety, identity, significance, autonomy, and feedback. Most notably, interns indicate higher satisfaction than full-time employees in seven of the ten facets studied in the survey. Females showed higher levels of job satisfaction than males, while those working in the Tax practice indicated higher job satisfaction than those in Audit and Advisory. The results should be considered by students, recruiters, supervisors, and others who hold an interest in public accounting. The findings can guide both prospective and current accounting students as they consider accounting as the starting point for their career paths. Also, recruiters can use the findings of the study, to strategize and fine tune their recruiting and retention efforts.

The Business Model Canvas: A Tool for Teaching Entrepreneurship

Cathy A. Rusinko Thomas Jefferson University

The purpose of this presentation is to demonstrate how to use a specific business model tool--the business model canvas (BMC)—to teach entrepreneurship. The BMC is a one-page, visual tool, “….that describes how an organization creates, delivers, and captures value.” (Osterwalder and Pigneur, 2010). While the BMC has been used for a variety of applications (e.g., strategic planning, innovation generation), it is also effective for teaching entrepreneurship. The BMC can be used as one of multiple tools in a course solely dedicated to entrepreneurship, or as a stand-alone tool for a course in which entrepreneurship represents one topic, or one module. Audience members will leave the presentation with an understanding of the BMC, and some ideas for using it to teach entrepreneurship at the undergraduate and graduate levels.

Session 15: Logan/Harris Room 2:25 pm – 3:25 pm

Miscellaneous Business and Education

Session Chair: *Abdulaziz Bahha*

Lessons Learned While Writing My eText
Abdulaziz Bahha University of Cincinnati Clermont College

Providing current instructional resources for students, especially in technology-based courses challenges instructors to keep pace with Moore's Law; it is like balancing an elephant on a razor blade. In Applied Technology for Personal and Professional Productivity, the course instructor teaches for the University of Cincinnati Clermont College, instructor currently using at least two textbooks to meet this challenge—but it is costly to students. When the author for our primary textbook retired, it prompted the instructor to consider replacing the outdated material, synthesizing the content from two texts into to a single text, aligning material with the learning objectives of the course and creating an accessible resource for students. After collaborating with the University of Cincinnati Clermont College Instructional Design & eLearning Team, instructors decided that writing an eText for course could support learning while helping me keep pace with ever-changing technology. As an example, Microsoft Sway is a digital storytelling app that may be replacing Microsoft PowerPoint for creating presentations. The purpose of this presentation is to share lessons instructors has learned to research and writing an eText that incorporates the latest technologies.

Creating Stronger Student Outcomes and Engagement Through Electronic and Social Media Integration with Curriculum
Charles Weeks Stockton University

The Business Studies program at Stockton University offers a concentration in Financial Planning, one required course being FINA 3131 Retirement Planning. The instructor in that course noticed that traditional methods of readings assigned before class, followed by lecture and traditional class discussions seemed less effective: discussions were difficult because students were not prepared, in class students were distracted by their laptops/tablet/phones in non-productive ways, and they were underperforming expectations on tests. This paper will discuss how the professor incorporated electronic and social media into the course delivery, and its impact on student outcomes. The presentation will discuss pros and cons of these approaches. In this pilot semester exam scores incrementally increased with mean scores rising 1.2%. However, the classroom experience was much improved as the students were more engaged. The discussions were richer, and participation outside the class, before and after meeting, was increased. An interesting side benefit was that past students who learned of the social media accounts also became engaged.

Tax Policy: Revenue Generation, Social Engineering, and Economic Development
Jerry Belloit Clarion University of Pennsylvania

Currently Congress is wrestling with a significant overhaul in the United States Tax Code. Over the years the US Tax Code has become increasingly complicated and difficult to understand. This paper will discuss the tax policy the revenue generation component, social engineering within the tax code, "corporate welfare", and economic development. In this discussion, alternative methods of raising revenue will be explored. The paper will also address some of the more obvious social engineering components, selective "corporate welfare issues, and how tax provisions encourage or discourage economic development. The paper will also exam regressive provisions in the current code and alternative revenue generation options.

Session 16: Holmes/Foster Room 2:25 pm – 3:25 pm

Miscellaneous Business

Session Chair: *Jeffrey Yi-Lin Forrest*

Successfully Transition into the Era of Transient Competitive Advantages

Jeffrey Yi-Lin Forrest Slippery Rock University of Pennsylvania

This paper establishes a practical procedure for a firm to transit smoothly into the era of fast strategic changes while its once sustainable competitive advantages have become transient. To accomplish this goal, this work first establishes two theoretical results by employing systemic thinking and traditional logic of microeconomic reasoning. The first result shows under what market conditions new competitions will naturally appear within an established market; the second result demonstrates why competitions within any business organization always exist inevitably. By combining previously published conclusions derived by using anecdotes and inductively reasoning and these theoretical results, this paper advances the systemic reasons for why a list of time-honored steps would practically work so that firms could successfully surf through waves of transient competitive advantages.

Why Did the Dinosaurs Become Extinct? Will Brick and Mortar Schools Follow Suit?

Robert John O'Connell York College of Pennsylvania

The vast majority of creatures living during the times of dinosaurs no longer exist. Similarly, we look at some businesses and see that they, also, are beginning to die off – some because the service or product they provided is no longer needed or wanted, and others because the product or service can now be provided in a more efficient or desirable manner. In 2008 during the recession more than 6,000 brick and mortar stores closed, and some analysts predict that this year more than 9,000 will close. Unlike past brick and mortar retail chain store closures that arguably resulted from poor management and planning, what occurred more recently appears endemic and may threaten the existence of other brick and mortar institutions like consumer banking and higher education. The initial proliferation of online selling did not initially seem to significantly impact Fashion Bugs' brick and mortar clothing sales. When first noticed, the one or two percent decreases were attributed to other business factors. However, by 2013 the last of the last of the 1,200 Fashion Bug stores closed. According to the U.S. Department of Education 2016 Digest of Education Statistics, between 2010 and 2014 enrollment in post-secondary degree-granting institutions decreased by four percent. Acknowledging the proliferation of online schools, some brick and mortar schools incorporated online classes into their curriculum. This exploratory research investigates the causes of the noted decrease and examines how some brick and mortar schools are addressing the issue.

Trends that are Transforming Retailing

Denise T. Ogden Pennsylvania State University-Lehigh Valley
James R. Ogden, Professor Emeritus Kutztown University of Pennsylvania

The retailing environment is undergoing major changes that are impacting the industry, consumers and shopping as we know it. The Internet has allowed new entrants and has transformed retailing. While Walmart is still the biggest brick and mortar retailer in the world, Amazon.com is a dominant force in online retail and technological advances. Department stores are closing anchor stores which has an impact the viability of malls. As online and alternative retail formats grow, many traditional retailers are struggling. Malls throughout the U.S. are experiencing high vacancy rates. These changes present opportunities and challenges. This paper explores several major shifts that affect retailing, including the growth of omni-

channel retailing, the Internet of Things, the sharing economy, preference for experiences, technology advancements and the "retailization" of the world.

Session 17: Sylvan Room 3:35 pm – 4:35 pm

Miscellaneous Business

Session Chair: *Stephanie Adam*

Development Outcomes: Why Some Countries Develop and Others Fall Behind
Ruben Berrios Lock Haven University of Pennsylvania

The main question raised in this paper is: What is it about Chile that has set it apart from Peru? Chile and Peru are neighboring countries. Both had very similar GDP per capita in the early 1970s but today the average Chilean is twice as rich as the average Peruvian. In 1962 Peru had a higher GDP per capita than Korea but today Koreans are twice as rich. Why has Peru failed to keep pace with other emerging economies even though it is a resource abundant country? These are some of the questions raised in this work in an attempt to show why some countries grow but others lag behind even if they continue to grow at a modest pace. The paper examines economic policies and other institutional factors and makes use of measurable indicators to show that countries might be of initial similar circumstances but some have been able to leapfrog over others. Some of the questions being raised are: What are some of the factors that have led to a more successful model of development? What are the important differences in economic policy they have followed? Why do countries seem to be caught in primary production and unable to build its capital goods industry? How can countries build a more modern industrial structure and compete internationally? Why is it that despite posting above average rates of growth development has not blossomed? The paper tries to tackle some of these question in comparative perspective.

Do We Really Measure Risk Aversion?: How Do We Interpret Measured Risk Aversion?
Insoo Cho York College of Pennsylvania

While more risk averse individuals are less likely to become entrepreneurs, theory predicts that more risk averse entrepreneurs pick ventures with higher expected returns and so they should survive in business longer than their less risk averse counterparts. Using successive entry cohorts of young entrepreneurs in the NLSY 79, we find contrary to theory that the most successful entrepreneurs are the least risk averse. This finding suggests that commonly used measures of risk aversion are not indicators of taste toward risk. Instead, measured risk aversion signals weak entrepreneurial ability– the least risk averse are apparently those who can best assess and manage risks. Indeed, our interpretation is consistent with recent experimental evidence linking cognitive ability with a greater willingness to accept risk.

Strategies to Mitigate Occupational Burnout
Jason M Matyus Waynesburg University
Stephanie Adam California University of Pennsylvania

There is an increasing amount of employee turnover and loss of production due to occupational burnout. An increase in change management initiatives and continued downsizing policies for organizations requires a need to look at strategies to mitigate employee burnout. The participants for this study, chosen for their profession as an HR professional consisted of three HR professionals with direct knowledge or experience of occupational burnout. Additionally, internet research material on occupational burnout supplemented the interview responses to triangulate the study data. The results of that data analysis produced six themes consisting of lack of motivation, behavior modification, employer intervention, reassigning employees, the employee responsible for identifying occupational burnout, top-down approach to and occupational burnout program intervention. The findings from this study reinforce prior studies that there are negative outcomes for employees as well as organizations. Even though there are steps to mitigate occupational burnout by management and employees, there is still a struggle identify and prevent occupational burnout. Finally, human resource departments play a critical role in identifying and preventing occupational burnout in employees by taking steps at the onset of burnout.

Session 18: Willow Room 3:35 pm – 4:35 pm

Miscellaneous Business

Session Chair: *Arshad Chawdhry*

Nonprofits and Information Security: The Legal Mandate for Implementing a Comprehensive Information Security Plan

Susan R Fiorentino West Chester University of Pennsylvania
Thomas Imboden West Chester University of Pennsylvania
Nancy L Martin West Chester University of Pennsylvania
Jeremy Phillips West Chester University of Pennsylvania

High profile information security data breaches in the for-profit and governmental sectors such as those that occurred at Target and the Office of Personnel Management have saturated the news and raised awareness about the widespread scope of the problem. Not surprisingly, organizations are questioning the security of their own confidential information, and are concerned about the potentially crippling effects of a data breach, which include not only financial loss, but reputational damage as well. Nonprofits are particularly vulnerable, as resources in many nonprofits are spread thin, and necessary training is often overlooked (Gloeckner and Herman, 2016). This paper examines the state of information security compliance through the lens of the nonprofit organization and provides a comprehensive review of information security laws most relevant to nonprofit organizations. The authors conducted an exploratory survey of 64 respondents in an effort to better understand the compliance environment in nonprofit organizations, including overall familiarity with information security law and organizational implementation of information security policies. In light of results showing a general lack of awareness about the law of information security and lack of preparedness for securing confidential information, the authors propose a risk-management strategy for developing and implementing a comprehensive information security plan in the nonprofit organization in light of current legal mandates.

The Effects of Student Debt on Homeownership

Daniel Hummel University of Michigan – Flint

In the United States student debt is a growing problem as more young adults attend college and these students fund their education with student loans and the costs of education continue to increase across the country. Many observers have noticed that students graduating with large amounts of student debt are unable to purchase those things typically associated with educated people such as new homes. The apparent connection is the inability to meet savings and income requirements to receive a mortgage for a house purchase due to student loan payments. New graduates are delaying important stages of their life such as having children or buying homes by as much as seven years. Given the importance of family development and homeownership to the economy in the United States this is beginning to have impacts on the economy. Policymakers might start to address concerns related to high levels of recent graduate indebtedness through loan forgiveness or other initiatives that address the issue in a reactionary way. They may also start to address the root cause of the problem which is the high costs of higher education. This study is interested

in the potential effects of student debt on homeownership in the United States. It is hypothesized in this paper that levels of student debt have a negative effect on homeownership.

Extent and Implications of Rising Student Loan Debt in the U.S.

Arshad Chawdhry California University of Pennsylvania

According to the latest statistics for 2017, the student loan debt is in excess of $ 1.45 trillion owed by about 44 million borrowers. Over the last three decades, student loan debt has skyrocketed as the tuition cost has increased by more than 1,000 percent. An increased number of students are leaving colleges/universities with the amount of debt without having sufficient means to pay it back. Most students and their families do not fully understand the burden of student loan debt upon entering the college. The students are hoping to pay back the loans from the increased earnings from college degree. However, income from most entry-level jobs does not enable them to make the required monthly payments, causing default on the loans. According to a “Life Delayed” Report, many borrowers are making sacrifices in other areas of their lives including big ticket purchases such as home or a car; even personal life events such as marriage and children are getting put on the back-burner due to overwhelming student loan debt they carry (Lanza, 2016). Student loans have become a normal way of financing higher education. The average amount of student loan debt has increased from $ 10,000 in 1993 to more than $ 37,000 in 2016. After graduation, over 11 percent of these borrowers default on their loans. This can have significant implications for the financial markets and the entire economy. Appropriate actions must be initiated to deal with the student loan debt problems in the United States. This paper will discuss these and related issues, including the history and proliferation of student loan usage in the U.S.

Session 19: Logan/Harris Room 3:35 pm – 4:35 pm

Miscellaneous

Session Chair: *Roger Hibbs*

The Economic Significance of the VITA Program in Butler County, Pennsylvania

John Golden Slippery Rock University of Pennsylvania
Rhonda Clark Slippery Rock University of Pennsylvania
David Culp Slippery Rock University of Pennsylvania
Jean Bowen Slippery Rock University of Pennsylvania

The Center for Community Resources (CCR) and Slippery Rock University have partnered with the Volunteer Income Tax Assistance (VITA) program for the past five years. Client participation in the program has grown steadily each year. This paper discusses VITA in Butler County and the growth of the program. The authors specifically look at the economic impact of VITA’s participation, especially with respect to the Earned Income Tax Credit (EITC) and the Child Care Tax Credit. The paper ends with a recommendation on the continued expansion of the VITA program in Butler County and estimates the increased economic impact of an additional 5% increase in the number of returns claiming the EITC and Child Care Tax Credit from money “left on the table” by filers that do not take advantage of these tax credits.

The Economic Impact of Location-based Development Policy on Firm's Performance: Evidence from Rural India

Duong Trung Le SUNY - Binghamton University
Ritam Chaure SUNY - Binghamton University

This paper evaluates the impact of a location-based infrastructure development program on manufacturing enterprises' business activities and performance. Rashtriya Sam Vikas Yojana (RSVY) - the program in question – was carried out by the central government of India to facilitate development in the country's most economically backward regions and reduce regional economic imbalances. Using data from the National Sample Surveys, we adopt a Fuzzy Regression-Discontinuity Design to exploit RSVY's transparent assignment mechanism. Specifically, we find evidence indicating a greater level of business engagement as well as profitability for treated firms, almost immediately after the program's introduction. We also test for a mechanism and show that treated firms were potentially benefiting from a better infrastructural environment following RSVY intervention, as suggested by a significantly lower reported probability of experiencing electricity outage and/or power cut. Lastly, the result from our heterogeneous tests show that the policy effect is mainly driven by Own Account Manufacturing Enterprises (OAMEs), the micro-entities which dominate rural India's informal sector. Overall, our comprehensive finding contributes to the current unsettled literature on impact evaluation of location-based policies, providing at least one indication against anecdotal criticisms on the distributional effectiveness of such programs.

Workshop for Proceedings/Journal Reviewers

Norman C Sigmond Kutztown University of Pennsylvania
Cori Jo Myers Lock Haven University of Pennsylvania

The process of reviewing articles is tedious. It involves attention to detail and dedication to the final product; a publication in which all involved can take pride. For the authors of submitted work, their success in the review process can affect their career path. For the publication, each "accepted" paper is symbolic of the quality of the publication. The review process involves far more than merely reading an article and commenting on the overall quality of it. It will usually involve review of English usage, reformatting, and commenting on concept and theme. In some cases, reviewing the correctness of technical and statistical applications might be appropriate. Presentation and application of the referencing system that is approved by the publication (at NABET, APA is required) is also important in the review process. This workshop will, in essence, provide guidance and instruction for new Proceedings and Journal reviewers. The presentation can also prove valuable for the authors of scholarly work.

Session 20: Holmes/Foster Room 3:35 pm – 4:35 pm

Entrepreneurship and IT

Session Chair: *Denise T. Ogden*

The World Is Not Ending, But the World You Know Definitely Is

Lewis A Leitner Stockton University

Advances in technology, especially those involving artificial intelligence and genetic sequencing, are moving rapidly toward an inflection point that will change the nature of business, healthcare, employment and human longevity in very specific ways. It is imperative that academic and business professionals fully absorb the nature of the coming changes for it is certain that "the bells toll for thee." This presentation will focus specifically on the major technologies of today that are laying a foundation for a series of technologies that will make the innovations of the late 19th century and all of the innovations of the 20th century look like mere tinkering. The presentation will be presented in an interactive way with the individuals sitting in on the session.

Who Is an Entrepreneur? Maybe We All Are.

Denise T. Ogden Pennsylvania State University-Lehigh Valley

Entrepreneurs have played a vital role in the history and growth of the world. There is an established academic field that researches all aspects of entrepreneurship. Despite the proliferation of research, there is no one accepted definition of entrepreneur. This paper explores the varying definitions of the term. Whether a person is an entrepreneur or small business owner may not matter much to the person being defined but the definition takes on greater importance when writing reports and or/conducting research on entrepreneurs.

The Internet as a Common Carrier: Implications for the Disabled

Timothy J. Stanton Mount Saint Mary's University

The 1990 Americans with Disabilities Act extended a host of civil rights to the disabled. The law and its subsequent amendments, however, did not explicitly address Web accessibility. Understandably, this issue has grown in importance over the years. During the Obama administration, the Federal Communications Commission moved to guarantee net neutrality by effectively making the Internet a common carrier. At the time of this article, the Trump administration is still formulating policy on net neutrality. This paper investigates the implications of common carrier status for Web accessibility for the disabled. If common carrier status for the internet survives the regulatory and legal processes, then advocates for the disabled can more forcefully argue that common carrier status mandates that Web content be accessible to those with disabilities.

Session 21: Sylvan Room 4:50 pm – 5:45 pm

****Best Paper Presentation****

Session Chair: Marlene Burkhardt, NABET Conference Director

The Role of Supervised Learning in the Decision Process to Fair Trade U.S. Municipal Debt

Gordon H Dash University of Rhode Island
Nina Kajiji University of Rhode Island

Determining a fair price and an appropriate timescale to trade municipal debt is a complex decision. This research uses big data informatics to explore transaction characteristics and trading activity of investment grade U.S. municipal bonds. Using the relatively recent data stream distributed by the Municipal Securities Rulemaking Board (MSRB) to Thomson Reuters Municipal Markets Division (MMD) we provide an institutional summary of market participants and their trading behavior. Subsequently, we focus on a sample of AAA bonds to derive a new methodology to estimate a trade weighted benchmark municipal yield curve. The methodology integrates the study of ridge regression, artificial neural networks, and support vector regression. We find an enhanced radial basis function artificial neural network outperforms alternate methods used to estimate municipal term structure. This result forms the foundation for establishing a decision theory on optimal municipal bond trading. Using multivariate modeling where the target variables are defined by three popular liquidity measures, we investigate the proposed decision theory by estimating weekly production-theoretic bond liquidity returns-to-scale. Across the three liquidity measures and for almost all weeks investigated bond trading liquidity is elastic with respect to the modeled factors. This finding leads us to conclude that an optimal trading policy for municipal debt can be implemented on a weekly timescale using the elasticity estimates of bond price, trade size, risk, days-to-maturity and the macroeconomic influences of labor in the workforce and building activity.

Friday, October 27, 2017

Registration – Days Inn Foyer/Atrium **7:30 am - 2:00 pm**

Breakfast - Center/Arbor Room **7:30 am - 9:00 am**

Welcome, and Annual Business Meeting **7:45 am - 8:20 am**
Norman Sigmond, Board Chair
All conference participants may attend.

Session 22: Center/Arbor Room 8:20 am – 8:50 am

Special Presentation

Discussion of the NABET Conference Proceedings and the Journal of Business, Economics and Technology (JBET)
Norman Sigmond Kutztown University of Pennsylvania
Kurt Schimmel Slippery Rock University of Pennsylvania
Jerry Belloit Clarion University of Pennsylvania

This presentation will discuss the history, and the status the two NABET publications. How conference attendees can submit for possible publication will be covered, as well as, suggestions that could prove helpful for the attendees. We will also discuss an improved team approach that will be employed to expedite publication of the Conference Proceedings, and how interested parties can become reviewers for these publications. The presentation will also encourage those who have never been published. Various steps and procedures and ideas for efficiently completing work that is currently in-process will be discussed. The discussion will primarily be based on the experience of the three presenters. However, input from experienced authors in the audience, and others will be encouraged.

Session 23: Sylvan Room 9:00 am – 10:00 am

Economics and Business Education

Session Chair: *Jui-Chi Huang*

The Mainstreaming of Fair Trade: An Interdisciplinary Assessment of the Legitimacy and Longevity of Fair Trade
Kimberlee Josephson Lebanon Valley College

The organizational patterns of trade and engagement have substantially evolved within the past century between developed and developing countries, and there are many discourses on how to remedy the imbalance present in the global economy. Numerous economists have touted the notion that ‘Aid through

Trade' should be a main focus for development and Fair Trade has become increasingly popular not only among activists but also consumers. There has been a significant rise in public awareness of social issues concerning market transactions, and this has furthered the popularity of conscious consumerism and generated greater interest from the business realm to get involved. Although Fair Trade originated to serve as an innovative supply chain, which aids in poverty reduction by engaging the world's 'poor' in the trading system, it now is a powerful marketing mechanism in need of continued assessment. The mainstreaming of Fair Trade, along with the approaches employed by Fair Trade Organizations (FTOs), may be of concern given the focus on small-scale production and reliance on sales of primary goods. FTOs emphasize an outward-oriented development (OOD) model and, despite the fact that trade has traditionally been deemed a vital component for economic growth, such an approach is problematic since it establishes dependency-based relationships and requires interregional trade networks to be strong.

Reflective Thinking Used as Teaching Pedagogy in the First Year Seminar

Sada Jaman LaGuardia Community College
Andrea Gombor Irias LaGuardia Community College

One of the primary components of First Year Seminar Course (FYS) for the Business discipline is reflective activity using ePortfolio as a tool. ePortfolio provides an opportunity for the first semester students to articulate and define their academic goals through scaffolded reflective activities that also allow them to make connections with their major. The approach of defining the academic goals in the ePortfolio not only helps the students think critically about their futures but also helps them to understand the importance of a timely graduation. This paper will present the integrative pedagogy and practices that connect lessons, classwork and ePortfolio reflections that have been effective in teaching students to set and achieve academic goals. Included are results of post surveys in the FYS courses that students complete every semester. Faculty and administration can examine the results to see if the students retain and apply their academic plans in the following semesters and demonstrate a clear understanding on defining the academic goals.

Team Formation in the Classroom

John S. Pearlstein Stockton University

Most student teams are formed unwittingly and accidentally the first day of class when students choose the seat they will stay in for the remainder semester. Many professors are reluctant to create groups themselves beyond a random method so they are not blamed for poor team composition. This is especially true for Capstone Business and Entrepreneurship classes were a heterogeneous team is more likely to be successful. Instead students are given the opportunity to choose their own teams, which they do predominantly with students sitting in adjacent seats. A procedure whereby students actively interview each other and make choices based on shared goals, heterogeneous skills, perceived personality match, and complimentary class/work schedule has been tested and shown to be superior to methods used in the past. During a single class period, students were asked to interview each other in 3-4 minute segments. They could talk about whatever they like, but were directed through initial discussion and materials to focus on choosing teammates that would have complimentary skill sets, interest in the same project, similar goals for the assignment, consistent work styles, and accommodating meeting schedules. Post exercise surveys showed that students enjoyed the exercise and getting to know all their classmates. End of semester post project surveys showed that students perceived the team created through interviewing to be more cohesive, more available for meetings, and had higher performance compared to teams they had worked on in the past. In addition, students then rated interviewing as a preferred way of choosing teams in the future.

Session 24: Willow Room 9:00 am – 10:00 am

Business Education and IT

Session Chair: *Jerry Belloit*

Internet of Things (IoT) Promises Dramatic TCO Savings for Business
Gerald Paul Wright Husson University

Research has shown that a successful preventive maintenance program should improve the performance and safety of the equipment of your company, and is a critical element of proper facilities management. Conducting regular preventive maintenance on equipment extends the equipment's lifetime and results in a lower Total Cost of Ownership (TCO); thereby, positively impacting a company's bottom line. Some recent Internet of Things (IoT) devices include sensors to monitor equipment performance and utilize Artificial Intelligence to predict pending asset failures. Developers of these 'smart' IoT devices claim that the devices are a shift away from the preventative maintenance model to an as needed maintenance model and result in a dramatically lower TCO for business.

The Effects of Prescribed Exercise Curriculum on Academic Performance
Scott Bradshaw Kutztown University of Pennsylvania

The purpose of this study is to examine the impact of a prescribed exercise curriculum on the academic performance of students enrolled in developmental education classes at the community college level, as well as whether gender introduces a differential result in relation to the following research questions: 1) Do students who participate in a prescribed exercise program concurrently demonstrate higher performance than those who do not participate in a prescribed exercise program, as indicated by their academic grades? 2) Will gender of students participating in a prescribed exercise program have a differential result on their performance as indicated by their academic grades? It has been reported that exercise can have a profound effect on students, helping them achieve their academic potential (Ratey & Hagerman, 2008). Theories such as Ratey and Hagerman, Bailey, and others will be investigated to determine impact on students' academic progress. This program examines Mid-Atlantic USA community college students enrolled in developmental education classes, as well as KINS 170 Fitness and Wellness. Data from 2005 through 2015 is reflected. All students attending community college must be tested in the subject areas of reading, math, and English composition, assessing their ability and readiness for college level work. This evaluation allowed for exploration of the effectiveness of the intervention with regard to prescribed physical exercise behavior and its effect on students grades, and gender.

Performance and Frequent Testing
Robert Liebler Kings College

Frequent testing is a teaching method in which more than a few exams/quizzes are given during a semester. Evidence in the literature indicates that an experimental group receiving frequent testing sometimes outperforms a control group not receiving frequent testing; only rarely does the control group outperform the experimental group. The issue addressed in the present paper is the relation between performance on the frequent testing and performance on traditional exams.

Session 25: Logan/Harris Room 9:00 am – 10:00 am

Analysis of "Shark Tank"

Session Chair: *Roger Hibbs*

Dissection of the Sharks: A Detailed Analysis of the ABC TV Show Shark Tank

David John Schweitzer Marywood University
Christopher Speicher Marywood University
Stan Kenia Marywood University
Kelly Kemmerer Marywood University
Kenneth Luck Marywood University
Stanley Kania Marywood University
Arthur Comstock Marywood University

Shark Tank is a television series in the United States that holds a captive audience of over 7.5 million viewers who watch entrepreneurs pitch their business plans to potential investors in hopes of securing funding to launch or grow their company. The present study examines the impact on a company from appearing and being offered a deal on the ABC show, Shark Tank. This research will explore the overall economic impact on a company from appearing on the Shark Tank, such as variations in sales figures and net income. Adversely, this study wants to also examine the impact on a company if they do not receive a deal from an investor and the associated outcomes on sales and financial figures. While this show remains widely popular with it mass audience, much remains to be studied to understand the true impact of the Shark Tank environment on the overall organizational health of a company.

Session 26: Holmes/Foster Room 9:00 am - 10:00 am

Business Education

Session Chair: *Justin Matus*

Accreditation and Thin Slicing Data in the Classroom

Justin Matus Wilkes University

Higher education is under increasing pressure from the government, watch dog groups and consumers to prove the value of their programs. Business programs seeking accreditation, in particular, are held to very high standards to include the measurement and documentation of quality and outcomes. These demands come at a cost, not only to students, but to faculty as well. This session will examine the issues surrounding accreditation, the collection, analysis and dissemination of data as well as the value of such efforts. A brief overview of the current literature will be presented followed by a discussion and question and answer session. Suggestions for future research will also be presented.

Technology Demonstration Projects and Research

Marlene E. Burkhardt Juniata College
Christopher Peterson Juniata College
Daulton Romano Juniata College
Emily Alexander Juniata College
Anna Kauffman Juniata College
Paul Lesur Juniata College
Maxime Delattre Juniata College
Kiernan Keating Juniata College

The Management of Advanced Technologies class develops technology demonstration projects and engages in technology research. Last semester we utilized beacons for marketing purposes and developed a survey to address attitudes toward and behavioral analysis of cell phone device selection. Preliminary findings will be reported.

Integrating Codification Research and Memo Writing into Intermediate Accounting

Sean Andre West Chester University of Pennsylvania
Phyllis Belak West Chester University of Pennsylvania

The ability to effectively communicate is a very important skill for accountants. The AICPA has identified communication skills as a core competency, and demonstrating competence in effective written communication is a component on the CPA exam. This paper provides an overview of an approach taken by the author in an intermediate accounting course to incorporate both memo writing and codification research. Results show that by the end of the semester, students report significant increases in their understanding of the codification, their perceived ability to research using the codification and present what they find in a professional business memo.

Session 27: Sylvan Room 10:10 am – 11:10 am

Marketing and Related

Session Chair: *Loan Ngoc Tuong Pham*

An Investigation of Diversity Factors: The Role of Racioethnicity and Gender in Sales Recruitment Decision Making

Prabakar Kothandaraman William Paterson University
Bahar Ashnai William Paterson University
KiHee Kim William Paterson University
Michael Gatlin William Paterson University

Regulators and policy makers have long recognized the importance of a diverse workforce to enhance social and economic opportunities for women and minorities who have been traditionally underrepresented in the workforce. Federal government, through legislation, attempted to improve diversity in organizations. Consequently, companies began viewing diversity in recruiting as a compliance issue and tended to depend on legal advice in initiating policies that demonstrated compliance. More recently, companies recognized that a diverse workforce was better for business and began imparting diversity training and mentoring with limited success. Based on skill set evaluation and selection decision data involving potential entry-level sales candidates, this research provides important insights to organizations that seek to hire diverse workforce. The study focused on evaluation of skill set and hiring decisions where candidate-recruiter pair was matched and mis-matched on racioethnicity and gender. Results from our study would help companies with recruiting practices for entry level positions in sales that would actually contribute to a diverse workforce.

Explaining the Intensity of Factory Accidents: Some Evidence from the Apparel Sector of Bangladesh

Jafor Chowdhury University of Scranton

In the last three decades, the apparel sector has become the primary growth engine of the Bangladesh economy. However, during this period, the sector has also witnessed a spate of apparel factory accidents some of which were catastrophic. Evidently, such accidents are much less frequent in countries that compete with Bangladesh in the global apparel market. Accidents in the supply chain are costly for all concerned: foreign buyers, buying agents, apparel workers, factory owners, and source country. The factors that cause the accidents and determine their effect merit systematic investigation. This study examines the relationship between the intensity of factory accidents and a set of predictors in the context of the apparel sector of Bangladesh. The intensity of an accident is measured by the injuries and fatalities resulting from it. The predictors include the characteristics of the accidents and factories where the accidents occurred. The sample consists of 264 accidents taking place from 1990 to 2016, mostly involving fires, building collapses, explosions, and fire panics. The accident list is assembled by searching the archieved version of a number of on-line newspapers published from Bangladesh. The datbase is constructed by coding the information published in newspaper reports on each accident events. The results show that the predictors explain a great deal of the variations in the two dependent measures. The limitations of the study are noted and the implications of the results for both policy and actions are offered.

Brand Engagement and Loyalty Based on Personalities: A Study of Vietnamese Consumers

Loan Ngoc Tuong Pham Banking University of Ho Chi Minh City (VietNam)
Jung Seek Kim Bloomsburg University of Pennsylvania
Lam Dang Nguyen Bloomsburg University of Pennsylvania

Increasing engagement and brand loyalty has been recognized as the major marketing goal of firms. In this global economy, only those companies that have loyal customers and have ways of attaining them can survive in the marketplace. This paper examines the impact of personalities on brand engagement and brand loyalty of 307 consumers in Vietnam by adopting the brand engagement in self-concept (BESC) scale of Sprott, Czellar and Spangenberg (2009), and the Big Five Personalities scale of McCrae and John (1992). Using a series of paired sample t-test and through nested path models, the authors find that personalities affects brand loyalty not only directly, but also indirectly through mediation by BESC. Among personality traits, agreeableness and openness to experience positively affects BESC, while neuroticism does negatively. Moreover, BESC is found to relate positively to brand loyalty. Also, the authors document the significance of BESC as a predictor and mediator as it captures about a quarter of variation in brand loyalty and mediates completely the Big Five personalities except agreeableness. Managerial implications, limitations, and suggestions for future research are discussed.

Session 28: Willow Room 10:10 am – 11:10 am

Business Education and State-of-the-Art Search

Session Chair: *Murray James Pyle*

Document Search Functionalities to Improve Retrieval Accuracy

James Otto Towson University

Extensive network interconnectivity, cheap storage, and big data processing have all provided organizations with the ability to access, save, search and analyze massive collections of data and documents. And this data is growing rapidly at an increasing rate. Much of this data is in the form of text (documents, emails, tweets, text, etc.). To leverage these vast document stores, analysts must be able to sift through these mountains of documents to find only the most relevant text for their requirements. This paper provides an overview of the many powerful search capabilities provided by state-of-the-art document search engines and proposes additional search functionalities to improve the power of document filtering and search retrieval accuracy.

Learning Outcomes Resulting From the Use of Publisher Specific Tools in Business Statistics: A Study of Student Competence Based on Rapid Feedback and Perceived Usefulness.

Murray James Pyle Mercyhurst University
Ahmed Gomaa University of Scranton

The research of the benefits of online homework in achieving learning objectives has provided mixed results. In this paper, we present an empirical explanation of the mixed results showing in the literature. Specifically, the online homework is affected by the perceived competence of the student in the subject matter and in the perceived usefulness of the homework. Accounting for those variables provides an explanation of the mixed results. A Principal Components analysis on the survey results indicated strong internal consistency for both perceived usefulness and perceived competence. The data is overlapped with system generated data. The paper questions four hypothesis, specifically A) Perceived usefulness of system improves performance, B) Perceived competence improves performance, C) immediate automated feedback improves perceived usefulness of system, and D) immediate automated feedback improves perceived competence.

Factors Influencing Accounting Students' Career Aspirations

Brian Trout Millersville University of Pennsylvania
Eric Blazer Millersville University of Pennsylvania

Accounting enrollments and hiring are on the rise. CPA examination candidates are decreasing. This study compares characteristics of students that intend to take the CPA examination to those that do not. Reasons why accounting students do or do not intend to take the CPA examination are also examined. Significant differences in a student's intentions to take or not take the CPA examination were found when compared to a student's desired career field and mother's education level. Career alignment or misalignment were primary factors in planning to take or not take the CPA examination. The proportion of students that intend to take the CPA examination declines by class level and the majority intend to work outside of public accounting. This study will be of interest to the profession and public as the decline in CPA examination candidates coincides with a high percentage of CPAs projected to retire in the next three years.

Session 29: Logan/Harris Room 10:10 am – 11:10 am

Miscellaneous Business and Education

Session Chair: *Cori Jo Myers*

Why Do Women Get Involved in Entrepreneurial Activity in the United States?

Sunando Sengupta Bowie State University
Falih Alsaaty Bowie State University

This paper builds on an earlier paper by Dr Falih Alsaaty, titled "The Entrepreneurial Spirit of the Women in the United States: Trends and Prospects". The earlier study explored the phenomenon of entrepreneurial spirit of the women, the different sectors where the entrepreneurship is focused, the status of minority women owned firms vs women owned firms in general and found that women entrepreneurship in general is growing and the growth was mostly in micro enterprises. Our present study attempts to explore the root causes of the growth of minority women entrepreneurship by looking into such factors as divorce rates, availability of funds for small minority owned businesses, overall growth of minority population, growth and enrollment increase in entrepreneurship programs across colleges in the United States.

Let's Be Honest

Cori Jo Myers Lock Haven University of Pennsylvania
Peter Huegler Lock Haven University of Pennsylvania

Cheaters do win… well, only until they get caught. Today, there is so much pressure to succeed and win in high school, in college, in athletics, and in the professional world that sometimes cheating and unethical behavior seem like the best or only way to gain an edge and win. Certainly, some competitors surmise that there is a quicker, easier way to outsmart the competition with an effective means of deception, and it seems like a good idea as the accolades and awards mount -- until they get caught. Unethical behavior continues in the business world as more than one-third of executives admit that they would justify unethical behaviors when facing an economic downturn or challenges meeting financial targets ("EY Global Fraud," 2016). Pressure for good performance not only drives unethical behaviors in business, but increasingly is considered one of several contributors to unethical behavior in high school and college as cheating and academic dishonesty continue to rise. While codes of conduct, ethics training and formal systems of auditing may help clean up the workplace and be necessary, we offer another approach by addressing unethical behavior in high school and college in a more comprehensive way that provokes greater deliberation of the ethical ramifications in decision making. More closely reviewing academic honesty policies and developing business programs' curriculum to more effectively deal with dishonesty and unethical behavior may help decrease the degree to which it occurs in high school, college, and maybe even the workplace. This paper is intended to synthesize literature on academic dishonesty to understand what it is, why it happens, how to assess the prevalence of it and of course, how to address the behavior.

Corporate Social Responsibility: Support from Three Relatively New Corporate Types

Douglas L. Nay East Stroudsburg University of Pennsylvania

Corporate Social Responsibility has been endlessly debated since Milton Friedman's 1970 proclamation that maximizing social responsibility by business is a matter of making profits and providing jobs, rather mimicking Adam Smith's trickle down theory. The world has changed with globalization, technological innovation and investor pressure for maximum quarterly profits. Sustainability strategies are on the increase and productivity increases are inching forward with a new working style and seeming social concern from Millennials. Three new corporate forms are giving new options to social entrepreneurs for pursuing social

good. These three relatively new types of corporations are the B Certified Corporations, Benefit Corporations and Low Profit Limited Liability (3LC) corporations. The Certified B Corporations and Benefit Corporations are both brain childs' of three Stanford friends, two of whom had a previous successful venture in AND1 athletic shoes with a profit and social purpose. The B Lab non-profit they formed has been the main catalyst behind thirty six states passing legislation (with seven more in progress) to allow the Benefit Corporation as a legitimate enterprise either as a new venture or as a conversion from another corporate type. Over 2500 companies are now Benefit Corporations. A benefit Corporation has a social purpose and a for profit purpose. The social purpose is declared at the start and may be changed. Control of incorporation rules rests with the states and in most states an annual or biannual report on progress toward the social purpose. Certified B Corporations are more closely monitored and supported by B Lab, pre examined, reexamined annually, and reported on publicly. The dual purpose, hybrid nature of Benefit Corporations and Certified B Corporations protects corporate officers and governance for investing in social problem-solving from investor suits for not pursuing maximum wealth for the company.Fewer states have adopted the Less Profit Limited Liability 3LC legislation with about 1600 companies in eight states and two native American Indian Nations offering this option. These corporate types are the first new types since 1977 and provide support and impetus to social entrepreneurship.

Session 30: Holmes/Foster Room 10:10 am – 11:10 am

Miscellaneous Business

Session Chair: *Roberto Mandanici*

A Descriptive Study of Changing Internal and External Factors Impacting Business Growth

Ernie Post Kutztown University of Pennsylvania
Autumn Crouse Kutztown University of Pennsylvania

Entrepreneurs technical assistance needs for sustaining growth and the internal and external challenges that they encounter are constantly evolving. Business advocacy organizations often report to legislators that business issues most important to their members relate to corporate tax reform, rising health care costs or workforce development issues. However, when other options beyond traditional external factors are offered to business leaders to choose then their most important and critical issues become more nuanced than often reported by advocacy groups. This presentation will report the findings on three research questions that utilizes data from a five-year executive leader forecast survey that is conducted in a southeast Pennsylvania MSA region. The research questions summarize data from over 400 completed surveys and they include: 1) what emerging business technical assistance services are most frequently needed to help businesses continue their growth, 2) what internal or external challenges to business owners are most likely to impact their business growth, and 3) which federal, state or local business legislation/regulations are most important to their business survival. This presentation will address significant differences found between various industry sectors relating to the research questions and trends identified over the period of the annual survey from 2012 to 2017. The implications for advocacy groups and economic development organizations seeking to assist their regional business needs will be discussed. This research can benefit economic development organizations, entrepreneurs, legislators and business thought leaders.

Empirical Study of the Profile of an Embezzler: The Implications for the Community

Roberto Mandanici Albright College

This paper will examine the results from a study of newspaper articles covering indictments of employee-related fraud or embezzlement. The scope of the study will include researching over 300 US-based periodicals for news articles mentioning occupational fraud indictments during the past 5 years (2012 to

present). Unlike similar studies conducted by the Association of Certified Fraud Examiners (ACFE) or the "Big Four" independent accounting firms, which report results of fraud cases uncovered by members of those organizations, this study will focus on unbiased news reports as published in the Nation's periodicals. The study will attempt to understand the profile of the typical employee fraudster: male or female; employee role within the organization; length of time at current employer; timespan of the fraudulent activity; amount embezzled; lone wolf or collusion; geographic location; employer business sector; employer category (non-profit, sole proprietor, corporation); employer size; etc.

Session 31: Sylvan Room 11:20 am – 12:20 pm

Miscellaneous

Session Chair: *Kustim Wibowo*

Internet of Things (IoT) Business Prospective: Providing Security Solutions

Kustim Wibowo Indiana University of Pennsylvania
Jiang Feng Wang Indiana University of Pennsylvania

The potential impact of the IoT is vast, reaching to every aspect of technology, business and life, especially in consumers' experience. The IoT connects remote assets and provides a data stream (and a stream of control system) between the assets and centralized management systems, offering the ability to integrate those assets into existing organizational processes to provide information on status, location, functionality, time, situation, condition, and possible threats. Like other Internet based services, IoT based services are also being developed and deployed with less or without security consideration. Also, since the IoT usually deployed by different organizations and individuals to support a variety of applications in an organization. Therefore, by nature IoT devices and services are vulnerable to malicious cyber threats as they cannot be given the same protection that is received by enterprises services within the enterprise perimeter. There are many possible security holes in IoT technology model which make possible several business security models are also available in IoT related business model. This research will focus on IoT security holes that will make possible for future IoT security business models.

Assessing the Impact of Student Prepared Chapter Outlines on Learning Outcomes

Eric Blazer Millersville University of Pennsylvania
Brian Trout Millersville University of Pennsylvania

A common faculty complaint in higher education is the failure of students to read the textbook and adequately prepare for class. This study examines the use of student prepared chapter outlines as a strategy for encouraging students to read the textbook, better prepare for class, increase student engagement, and ultimately improve learning outcomes. The effectiveness of the strategy is measured using longitudinal assessments of student learning outcomes in upper and lower level accounting courses. The study also contrasts the differential impact of the strategy on high-stake and low-stake assignments, as well as offering evidence on its effectiveness for both accounting and non-accounting majors.

Architectural Innovation and Innovation Success

Paul Lamore Kings College

Over the last 40 years a variety of typologies have been developed regarding innovation strategies for new product development. This paper is the starting point for exploring possible antecedents of the various types of innovation strategies, and which strategies may lead to higher levels of commercial success. The results of a previous study are presented, which examined market performance and the new product development portfolio mix with the following antecedents: proactive and responsive market orientation, organizational culture, and resources allocated towards R&D. What is missing from this study is the nature of the innovation effort, in terms of which innovation strategies were used for exploiting current markets versus pursuing new markets. Of particular interest is the Architectural approach (Henderson and Clark, 1990), whereby the relationships between existing components are reconfigured in such a way that the resulting system design offers compelling new functionality and utility. This approach can be directed towards enhancing product performance in existing markets, or towards developing new markets. Future studies will include the nature of the new products in the portfolio based on innovation strategies, and compare success in new markets using an architectural approach, as opposed to a more invention driven radical approach.

Session 32: Willow Room 11:20 am – 12:20 pm

Business Education

Session Chair: *Bernice Purcell*

An Evaluation of the Work Force Readiness of Recent College Graduates

Don Goeltz Holy Family University
Bernice Purcell Holy Family University
Jan Buzydlowski Holy Family University

This presentation and paper describe a Work Force Readiness research project at Holy Family University. The project was designed to assess the hard and soft skills sought by Philadelphia-area employers, with the intention of incorporation of the results into curriculum design. The paper reviews prior skills surveys at the national and regional levels and highlights some unique aspects of the final Holy Family University survey, such as division of skills into three categories (soft skills, function skills, and technical skills). The primary contribution of the research is asking the respondents for comparison of importance of a skill and the presence of the skills in hires of recent college graduates, as most surveys ask only for one aspect of a skill or the other. The findings of the survey are examined at the category level and by skill level, for soft, technical, and functional skills, including details of the statistical study. The paper concludes with some recommendations for teaching and curriculum development, along with areas for further research. Conference attendees will benefit from this session by learning the process used by the researchers and how to implement change at their institutions. In the short run, attendees immediately learn some important considerations regarding skills that their institutions graduates need to be marketable in the business realm.

Experiential Learning for MBAs: Are We Closing the Business Competency Gap?

David Nash Temple University
TL Hill Temple University
Marilyn Anthony Temple University

Recent literature highlights the pragmatic and pedagogic challenges faced by MBA programs trying to serve the expressed needs of employers while providing educational value to students. In June 2017, The Economist cited employers' complaints that business schools "encouraged students to think rigidly, to value cautious consideration over risk taking" and described industry-led curriculum design initiatives that focused on "experiential learning with large companies, solving real-world problems." Building on Kolb's theory of experiential learning and critiques of the mismatch between MBA education and the professional competencies required by employers, the Temple University/Fox MBA has developed a competency-driven curriculum capped by a highly structured, industry-academic-led, live consulting project. In its design and execution, the capstone offers student teams a systematic approach for practicing in-demand business competencies while synthesizing knowledge and applying both to the solution of a pressing business problem for a client expecting practical results. Using over 200 Professional MBA student self-assessments conducted since 2013, this paper provides empirical evidence of the impact of experiential learning. The results indicate the model achieves both professional and educational goals, though perhaps at the price of over-emphasizing competencies that students do not value in the short term. This paper describes the role of experiential education in competency and professional development, offers initial tests of several theoretical relationships, and concludes with implications for MBA education that balances student and marketplace demands.

Employer Needs Study

Susan Aloi — West Virginia Wesleyan College
Tracie Dodson — West Virginia Wesleyan College
Kelly Sharp — West Virginia Wesleyan College

The partnership between the academic business discipline and the business industry is one of supply and demand. As a School of Business, we need to ensure that we are supplying graduates who are prepared for their fields and can meet demands of today's employers. During Academic Year 2016-17, three School of Business faculty from West Virginia Wesleyan College partnered with the West Virginia Chamber of Commerce to identify current and future employment needs across the state. Specifically, our study was designed to identify the knowledge, skills, and attitudes that West Virginia businesses need from employees. One of our primary goals of the research was to ensure that our College's business and economics students are developing the right knowledge, skills, and dispositions to find employment in West Virginia after graduation, and be ready to contribute to improving the state's economy. While the results of our research are applicable to institutions in our region, the process is replicable and potentially significant for any academic institution. In our presentation we will provide information on the development of our survey instrument, access to the instrument, description of the process we used to partner with various professional associations to gather data, multiple uses of the results, and lessons learned throughout the study.

Session 33: Logan/Harris Room 11:20 am – 12:20 pm

Business Education

Session Chair: *Kuan-Pin Chiang*

Active and Experiential Learning in the Evolving Quant-FIN Classroom

Gordon H Dash — University of Rhode Island
Nina Kajiji — University of Rhode Island

Contemporary quantitative and mathematical finance pedagogy, or quant-fin, is evident in courses like 'Financial Derivatives and Risk Management'. Quant-FIN courses typically seek to integrate applied mathematical and capital market theories. But, the practice of this integration often reduces to a presentation of tedious asset-pricing formulae, applied statistical methods, and graph theory. This is further complicated with the growing prevalence of "Big Data." Today, to be successful in their careers quant-FIN majors need to understand and implement a multitude of different solution techniques. This suggests that today's business school pedagogy has a need to incorporate a classroom-based quant-FIN directed experiential learning model (ELM). The proposed workshop demonstrates how the cloud-based decision-making system, WinORSe-AI 2017, (pronounced and abbreviated as: Win.O.R.S.) is currently used to implement an ELM and, as a consequence, create a 'flipped' and 'Active Learning' classroom environment. Win.O.R.S is available to students through an Internet browser. Student's initiate fetches of real-time equity, options, futures, and fixed-income data to: a) create option spread portfolios (e.g., butterfly, straddles, guts, etc.); b) construct, simulate, hedge and maintain real-valued equity and bond portfolios; c) examine volatility hedging concepts and forecast future asset values by using a "Big Data" capable artificial neural network; and, d) implement a dynamic futures hedge against priced assets. Win.O.R.S also takes the student into the competitive field of automated trading system. Within the operational environment, managed portfolios are traded by machine learning algorithms. It is here where students learn to compare risk-adjusted performance across alternate risk-mitigation instruments and theories.

An Integrated Approach to Teaching Financial Statements Analysis Using Bloomberg and Thomson Reuters

Octavian Ionici American University
Ajay Adhikar American University

In an information age where data is currency, it is critical for students to have the skills to access, manipulate, analyze and interpret real-market data. This paper provides a project for financial statements analysis using Bloomberg and Thomson Reuters. The paper has proven very helpful for students to learn how to effectively use Bloomberg and Thomson Reuters for conducting a financial statement analysis project and for faculty to develop an effective learning experience closing the gap between theoretical knowledge and the expectations of the 21st century workplace. The project also supports the implementation of the learning framework to address the spirit and intent of the AACSB business and accounting standards related to information technology skills and knowledge (AACSB 2017).

Creating Personal Learning Environments with Social Media

Kuan-Pin Chiang Central Connecticut State University

Technological advancement has changed students' lifestyle and behavior. Students are digital natives and wired individuals who turn first to digital channels for information, communication and entertainment. Therefore, they should not be considered as passive information consumers; rather, they are active co-producers of content and are constantly sharing information. Because of increasing importance of social media, learning has become highly self-motivated, autonomous, and informal, as well as an integral part of college experience. Although high education institutions have course management systems such as Blackboard to enhance teaching and learning, this kind of platforms does not allow students to manage and maintain a learning space that facilitate their own learning activities and connections to their peers and social networks across time and place. Therefore, the objective of this study is to create and adapt a pedagogical approach termed personal learning environments (PLE) for social media marketing curriculum in an effort to utilize social media as platforms for integrating formal and informal learning and fostering self-regulated learning.

Session 34: Holmes/Foster Room 11:20 am – 12:20 pm

Miscellaneous

Session Chair: *Tesfalidet Tukue*

Relationship between Advertising and Product Quality Revisited: The Case of Product Warranty (Claims)

Tesfalidet Tukue Saint Joseph's University

The literature on the relationship between advertising and product quality has been long been debated as a result of divergent theories and mixed empirical evidences (e.g., Horsky and Simon 1984; Tellis and Fornell

1988; Chenavaz and Jasimuddin 2017). This study aims to tackle the long-standing debate on the association between advertising and product quality using the magnitude of product warranty (claims) as a proxy for product quality in manufacturing firms. The study hypothesizes and finds negative (positive) association between advertising and product warranty (claims) that deviate from the industry norm.

Workshop for Proceedings/Journal Reviewers

Norman C Sigmond — Kutztown University of Pennsylvania
Cori Jo Myers — Lock Haven University of Pennsylvania

The process of reviewing articles is tedious. It involves attention to detail, and dedication to the final product; a publication in which all involved can take pride. For the authors of submitted work, their success in the review process can affect their career path. For the publication, each "accepted" paper is symbolic of the quality of the publication. The review process involves far more than merely reading an article and commenting on the overall quality of it. It will usually involve review of English usage, reformatting, and commenting on concept and theme. In some cases, reviewing the correctness of technical and statistical applications might be appropriate. Presentation and application of the referencing system that is approved by the publication (at NABET, APA is required) is also important in the review process. This workshop will, in essence, provide guidance and instruction for new Proceedings and Journal reviewers. The presentation can also prove valuable for the authors of scholarly work. New and experienced reviewers, as well as, authors should find this workshop to be beneficial.

The Effect of Relative Resource Strength on Levels of IPO Underpricing

John S. Pearlstein — Stockton University

During the 1990's the market for initial public offerings was very strong setting new records for not only the shear number of IPO's, but also the level of underpricing. After the Internet Bubble burst in 2000, there has been steady research interest in initial public offerings (IPOs) by both finance and strategy researchers. The study takes a different approach to the relationship between issuers and underwriters and focuses on the pairings of issuers and underwriters at the deal level instead of at the firm or industry levels. The theory presented here suggests that there are stronger and weaker issuers, as well as stronger or weaker underwriters measured by their resource contributions and peers. In situations where strong underwriters bring weak issuers to market, underpricing is significantly higher than when the strengths are equal. Conversely, when weaker underwriters bring stronger issuers to market the level of underpricing is significantly less. These results suggest that an issuer's choice of underwriter can substantially effect the firm's IPO proceeds, and that issuers should look for an underwriter with a similar level of strength, rather than the conventional wisdom to contract with the strongest underwriter that agrees to take the firm public.

Session 35: Sylvan Room 1:40 pm – 2:40 pm

NABET Workshop & Business Related Topics

Session Chair: *Kurt Schimmel*

Special Workshop (30 min)

Monetary Policy From WWII to the Great Inflation

Conway Lackman Kutztown University of Pennsylvania
William Carlson Kutztown University of Pennsylvania

This paper examines the influence of monetary policy during the Great Inflation of 1965-82. Four presidents, three Fed chairs, and many Keynesian economists made wrong decisions. Many were misled by the Phillips Curve Theory which turned out to be wrong. They failed to learn from the history of 1946-63. Three times there were outbursts of inflation: the WWII inflation, the Korean War inflation, and the inflation of 1955-6. And three times the inflation was eliminated. What did Truman, Eisenhower, and the Fed do correctly that the others did wrong later on? The WWII inflation situation was capped by price and wage controls. When the controls were removed prices and wages (aided by strikes) popped up to where they would have been without the controls. The inflation was stopped because the money stock went from 109.27 to 107.72 from 3Q47 to 3Q49, a two year negative annual growth rate of -.71%. This restraint was strong enough to eliminate the inflation and also push us into the recession of 1948-9. The initial Korean War "panic" buying inflation subsided during UN occupation. In January price controls were introduced, but were loosened periodically and when taken off by Eisenhower in April 1953 inflation actually dropped due to a sharp drop in money growth from 4.62% at the end of 1952 to .61% a year later, enough to stop inflation and lead to another recession. The inflation of 1955-6 and 1Q57 is a bit puzzling since money growth from 2Q55 to 1Q57 averaged a modest annual rate of 1.29%. Then money growth went to a negative rate of -.60% over the next year, enough restraint to stop inflation and cause a recession.

Lowering the Cost for Faculty Who Use Frequent Testing

Robert Liebler Kings College

Frequent testing is an educational method in which more than a few tests/quizzes are given. One problem with frequent testing is that it is costly for faculty to create new quizzes. Reusing quizzes lowers the cost for faculty but raises the ability of students to cheat. In this paper, I discuss a method for dealing with this problem.

Session 36: Willow Room 1:40 pm – 2:40 pm

Accounting & Marketing

Session Chair: *Thomas Coe*

Do Analysts Respond to Write-offs? An Examination of S&P Midcap 400 Companies, 2002-2017

Carolyn Mancini Quinnipiac University
Thomas Coe Quinnipiac University

This study examines the recommendations of analysts who track the companies that compose the S&P Midcap 400. We examine how analysts' recommendations over the last 60 quarters, from 2002 through 2017, consider the potential impact of, or respond to, the reported write-offs or expenses that typically do

not constitute a firm's operating activities. First, do analysts predict or respond to price changes for the company's stock price for the quarter? Second, do analysts do a good job during the bull market prior to and predict the collapse of equities in the 2007-2009 period, as well as anticipate the recovery? Third, to what extent, if any, do analysts take into consideration the activities that sporadically affect a company's overall earnings, such as write-offs of tangible and intangible assets, merger expenses, legal expenses, or other one-time items?

Corporate Governance, Accounting Standards and Accounting Fraud: A Comparison Theoretical Study in the US and China

David Daniel — East Stroudsburg University of Pennsylvania
Sheila Handy — East Stroudsburg University of Pennsylvania
Xu Weichu — East Stroudsburg University of Pennsylvania

This study examines the differences in the relationship between corporate governance and accounting fraud in two countries: the United States and China. In investigating the relationship between corporate governance and the incidence of accounting fraud, we focus on the three different aspects: different characteristics of the board of directors, ownership structure, directors' financial incentives. Considering two different accounting standards: International Financial Reporting Standards (IFRS) which is rule-based and US Generally Accepted Accounting Principles (US GAAP) which is principle-based, we proposed that accounting standards moderate the relationship between corporate governance and accounting information quality to lead to occurrence of accounting fraud. Last we also discuss the limitations and the need for further empirical study.

Applying Vintage Marketing Differentiation Strategies Today

Robert L. Williams — Susquehanna University

During this marketing management workshop participants will be introduced to 16 marketing strategies with origins that date back to the 1846-1946 century. They will learn how the perceptive creation and use of one or more of these strategies helped companies of their era maintain and sustain dominance. Participants will learn why and how these vintage strategies were invented, how they were first used or introduced and how and why these proven strategies continue to contribute to innovate marketing strategies used today in companies around the world. Additionally, participants will be introduced to a Brand Flux Model that illustrates why and how brands must respond to the fast-paced, constantly-changing (fluxing) business environment. The 16 strategies are from the recently published (Palgrave) textbook Vintage Marketing Differentiation: The Origins of Marketing and Branding Strategies.

Session 37: Logan/Harris Room 1:40 pm – 2:40 pm

Finance and Risk

Session Chair: *Michael J. Gallagher*

Property-Liability Insurers' Discretionary and Non-discretionary Loss Reserve Error: Relation with Investor Sentiment

Fang Sun — Gannon University
Xiangjing Wei — Gannon University

We examine whether investor sentiment is associated with loss reserve estimates of Property-Liability (P/L) Insurers. Using the Michigan Consumer Confidence Index as a proxy for sentiment, we find that the level of investor sentiment is negatively associated with discretionary component of loss reserve error. In contrast, our evidence does not suggest a similar relationship holds for investor sentiment and non-discretionary loss reserve error. Further analysis indicates that stock insurers are more sensitive to investor sentiment than mutual insurers, in term of discretionary component of loss reserves. The results are consistent with our hypothesis that P/L insurers cater to investors' optimism (pessimism), driven by investor sentiment, via loss reserve claims. Our study discovers a new rational for why insurers may use discretion over their loss reserves.

Net Pension Liability Impact on School Districts after Incorporation of Governmental Accounting Standards Boards (GASB) Statement number 68

Michael J. Gallagher DeSales University

This paper analyzes twenty school districts in the state of Pennsylvania and applies ratio analysis to understand the potential effect of GASB number 68 on the financial statements of these entities. The financial statements were picked on a random basis from the Electronic Municipal Market Access (EMMA, 2016) database. EMMA is a research and data retrieval system of the Municipal Securities Rulemaking Board (MSRB). The MSRB provides resources to trade municipal bonds and access to the financial statements of entities selling these securities. The paper was developed as a result of the requirement by GASB to "recognize their long-term obligation for pension benefits as a liability for the first time, and to more comprehensively and comparably measure the annual costs of pension benefits" (GASB, 2016).

The public schools in Pennsylvania incorporated GASB number 68 for the fiscal year ended June 30, 2015 and restated the financial statements for the fiscal year ended June 30, 2014. The effects of these restatements created a situation where most of these districts now show a negative fund balance caused by an increase of liabilities of over one hundred percent. Many of the decision makers are uncertain of the long-term changes that this recognition will have on the operations of the school district. Bond ratings have suffered because of the volatility and uncertainty causing negative effects on the balance sheet, increased current recognition of pension expenses, and a possible interest rate increase. All of these effects are illustrated in this paper. This is at a time where many people are questioning the performance of many of the school districts.

Session 38: Holmes/Foster Room 1:40 pm – 2:40 pm

Marketing

Session Chair: *Christine A Lai*

Marketing the Idea of Volunteering In a Post-Communist Era

Christine A Lai SUNY Buffalo State

Approximately twenty years after the conclusion of Croatia's war of independence, Croatia is still transitioning through its post-communism status. Since 2013, when Croatia gained admission into the EU, Croatian institutions of higher education and cultural organizations are attempting to shift the population's negative perception toward volunteerism in order to create and expand their volunteer work force and implement a more structured service learning education element into the curriculum of institutions of higher education. A semi-structured interview format was utilized to allow employees of cultural organizations and students to freely discuss their impressions and opinions regarding the utilization of student volunteers. This paper examines attitudes toward volunteering from a historical perspective. When examining volunteerism in Southeastern Europe, it is important to consider that under communism, preservation of culture and social welfare was the responsibility of the State. Before Communism, cultural and social entities were the responsibility of organized religion and associations. Communist ideology embraced the concept of community involvement for societal improvement which resulted in State imposed "volunteerism". Hence, volunteering was perceived as mandatory labor to compensate for the State's inability to provide social and commercial necessities. As post-communist countries transition, it is still difficult to change the mentality of the general population to accept the idea of volunteering. Overall, most organizations demonstrated a willingness to consider student volunteers as service learning participants and students perceived positive externalities from applied concept learning. This paper concludes with suggestions for strategies to generate a positive cultural shift in attitudes towards volunteering.

Relationships Between the Digital Marketing Techniques: A Systemic Model

Philip Van Berten Stevenson University

Social network marketing, big data, viral marketing, and design thinking are some of the latest tools that the marketing practitioners have developed. In regard, it looks like a big change is happening in marketing management. This paper offers to briefly clarify the respective role and appropriate usage of these techniques. This research offers an integrating model of the relationships and places of the digital marketing tools inside an already existing solid systemic approach of the marketing domain.

Session 39: Sylvan Room 2:50 pm – 3:50 pm

Sport Management and Risk

Session Chair: *Ronald Dick*

Expanding the "Limited Duty Rule" in Baseball

Joshua D. Winneker Misericordia University
David Gargone Misericordia University

Baseballs flying into the stands and hitting fans is a common occurrence during a baseball game. Unfortunately, some of the fans suffer serious injuries from the foul balls and subsequently file lawsuits against the stadium owners. In the majority of jurisdictions that have ruled on these types of cases, the courts follow what is known as the "limited duty rule" or the "baseball rule". Under this rule, the stadium owner is protected from civil liability for the fans' injuries if the owner provides sufficient protected seating for those fans who desire it and that the high risk areas behind home plate are screened in. With the recent rash of devastating injuries to fans sitting along the first and third baselines, including a toddler being hit in the face at a New York Yankee game, it is time that the limited duty rule be extended to require stadium owners to provide protective netting in these parts of the stadium as well. If the stadium owner fails to do so, they should lose their limited duty protection and have to face civil liability from the injured fans.

Naming Rights & Sponsorships of Sports Facilities and Teams- Where are We and Where are We Going?

Ronald Dick Duquesne University

his paper focuses on various aspects regarding the naming rights of stadia. The first naming rights deal of a major stadium was in 1972 regarding the Buffalo Bills and Rich Products located in Erie County, NY; the home of the Buffalo Bills. The cost was $1.5 million for 25 years. From 1996 to 2000 several additional naming right deals occurred. MLB allowed the first signage on the outfield wall with a sign GAP, a clothing store chain. Additional advertising on outfield walls occurred at the major league level that previously was reserved for the minor leagues and independent baseball. Airlines and banks are two major industries that have identified the business importance and benefits in the naming of sport facilities. There are fundamentally two types of advertising which are in-arena for fans/spectators at the facility, and television for fans viewing from their homes. Both can be helpful for the exposure of a corporate logo and branding of a company's products. There are millions of consumers watching on television while in-arena advertising is capped at the individuals present. This paper develops these and related issues in this continuously expanding enterprise of naming rights.

Women in Sports: Moving Communicatively Past the Glass Ceiling and Glass Cliff and through the Leadership Labyrinth

Dorene Ciletti — Duquesne University
Elesha Ruminski — Frostburg State University
Isidora Knezevic — Duquesne University

In the sports sector, few women hold leadership positions, whether in professional sport, at the collegiate level, or in Olympic governance. In fact, women hold only 22.2% of leadership positions in the NFL, 18% in the MLB, 22.6% in the NBA, 19.1% in MLS, and 34.4% in the WNBA (Lapchick, 2015). Women in sports face obstacles concerning career development and advancement to leadership roles not unlike those faced by women in other industries, including the military at 14.5% (Huyck, 2012), science, technology engineering and math (STEM) at 33% (Reuben, 2014), and the construction industry at only 2.6% (Fortino, 2014). Shaw and Hoeber (2003) note that "assumptions about appropriate leadership characteristics, the organizational environment, and reward practices" affect the progress of women in sports leadership positions (p. 348). Ryan and Haslam (2007) argue that a "glass ceiling" prevents women from reaching highest positions while a "glass escalator" accelerates men through organizations. An additional obstacle women face is a "glass cliff," when females that break the "glass ceiling" are assigned into positions that are associated with high risk. The labyrinth metaphor (Eagly & Carli, 2007) is a helpful alternative for examining women in sports leadership, especially when considering the unique barriers women face. Women do not face one absolute barrier to high-level leadership and advancement; instead, they face numerous obstacles that together form a labyrinth that must be carefully negotiated to move forward in leadership. This work will explore how communication informs sports leadership and management, with the labyrinth as a replacement for the glass ceiling metaphor.

Session 40: Willow Room — 2:50 pm – 3:50 pm

Miscellaneous

Session Chair: *James Otto*

Authentic Simulated Startup: Bringing the Real World Into the Classroom

Susan McNamara — State University of New York – Fredonia
Anne McNamara — University of Pittsburgh

In our changing world, college graduates need a new set of skills in order to be successful in jobs that may not exist yet. In particular, the ability to work on a team and with diverse people are important as jobs become more collaborative and as our country becomes more diverse (Hugh & Jones, 2011). This case study examines an innovative approach to teaching organizational behavior grounded in Kolb's model of experiential learning (Kolb, 1976) and features of problem-based learning (e.g., Rossano, Meerman, Kesting, & Baaken, 2016). Specifically, the class uses a student-centered approach that is scaffolded across the semester by having student teams create and remain part of an authentic simulated start-up business and includes continual reflection of their experience. Data comes from surveys of 151 undergraduate students across six semesters taken after course completion. Results indicate that the top skill students' report they developed through this course is the ability to work on a team. This is statistically significantly higher than any other skill students reported they developed. The next highest skills developed through the course include ability to work with diverse people and understanding oneself. Qualitative analysis of students' open-ended responses parallel quantitative findings. In addition, students stated that the course helped them develop an understanding of business in the real world. The paper will fully outline the design of the course, how the course elements impact engagement, and the skills as reported by students and desired by employers.

Rationing, Age, and Bias in Bedside Decision-Making: A Systematic Literature Review

Natalie Dick Slippery Rock University

Health care resources are finite and often scarce. This forces either explicit or implicit resource allocation – or rationing – decisions. When explicit rationing is not clearly defined and health care professionals face scarcity of resources, they must perform bedside rationing. The practice of rationing, including bedside rationing, raises ethical questions of justice, as well as, cost versus utility. While several approaches have been developed to address these ethical questions, none have achieved consensus on either ethical validity or prioritization. Moreover, the ethical problems of both explicit and implicit rationing have further implications when questions of bias are introduced. Since unaddressed bias can lead to unjust disparities in health outcomes, there is an ethical imperative to reduce or eliminate bias in health care decision-making. This is supported by a respect for human vulnerability, both in the general sense and in terms of special vulnerability. Many factors could affect bias in health care decision-making, but bias related to adult age may have a special importance for the debate on rationing. Age is often included as an explicit justification for health care rationing, although consensus on the ethical grounding of this argument has not been established. This study employs a systematic literature reviews to clarify key questions related to bias in bedside decision-making due to patient age. These questions include clarification on concepts related to bedside rationing, age and decision-making bias, and bias related to bedside decision-making.

Document Search Using a Simple Programming Language

James Otto Towson University

As the number of documents available to access, review, and analyze explodes, analysts combing through huge document libraries for specific information need more powerful search capabilities. This paper explores the idea of providing relatively a simple search programming functions to research analysts. Such a language would provide tools that go far beyond the typical boolean queries currently available to document searchers. The proposed search programming language provides analysts with fundamental programming functions such as code re-use, storing query strings and intermediate results as variables, incorporating queries as callable functions, providing decision controls (such as if..else decision points), supplying looping control (such as do...while loops), and simple debugging tools. Of course, organizations providing searchers with such powerful tools will need to protect their data stores against search programs that might impose undue processing overhead on their systems (for example, infinite looping) or accesses too many data store documents. This paper examines how such a system might be designed and issues related to its implementation.

Session 41: Holmes/Foster Room 2:50 pm – 3:50 pm

Miscellaneous Business

Session Chair: *Marlene Burkhardt*

Small Firm Distributions to Shareholders: An Examination of Theory and Practice

Carolyn Mancini Quinnipiac University
Thomas Coe Quinnipiac University

This study examines the characteristics of companies that are valued and described as small-cap, micro-cap, and nano-cap stocks. Over the latest twelve months, there were 465 (of 1187) small-cap, 277 (of 1072) micro-cap and 82 (of 3,195) nano-cap companies in the U.S. which paid dividends. However, of these same companies, 584 small-cap, 430 micro-cap and 371 nano-cap companies paid dividends at some point in their history. We examine the characteristics of companies in these market classes and compare dividend payout policies with popular dividend theories, such as life cycle, signaling, clientele effect, location, and residual theories. Additionally, we look at other distribution events of these companies, such as stock splits, stock dividends and share repurchases.

Graduate Business Programs - Evolution, Present, and a Look into the Future

Roger Hibbs Kutztown University of Pennsylvania

This article discusses the origns of the MBA, the future of MBA programs, successful MBA models, and current trends in MBA and graduate business programs. Also discussed are content models and using stakeholders to determine MBA content.

Session 42: Logan/Harris Room 2:50 pm – 4:30 pm

Business Education

Session Chair: *Sunita Monda*

A Practical Online Course Engagement Rubric for Enhanced Student Performance

David Jordan Slippery Rock University of Pennsylvania
Sunita Monda Slippery Rock University of Pennsylvania

This study is an extension of ongoing research that examines the efficacy of an online course engagement rubric to help increase student performance through pedagogical design and participation measurement. Students' active engagement through their individual and collective efforts is defined by their interface with course content, peer collaborative learning, and instructor interaction for specific course performance. In a prior study, the authors identified constructs and measures associated with student engagement using a performance rubric that incentivizes students for associated positive course engagement behaviors. Based on that prior research, this study evaluates the modified engagement rubric in a simplified form as an extension of the prior research. The simplified engagement rubric is intended to compel online course participation beyond that of "checking the boxes for points" and course completion, while acknowledging certain limitations associated with online course participation and measurement in a practical setting. A linear regression is estimated to include student engagement measures, student academic metrics from student records, and demographics with course grades as the dependent variable. Data retrieved are associated with 11 online courses from a mid-sized public university.

Three Views on Facilitating Accounting Student Success After Transfer Within Higher Education

Carol M. Jessup University of Illinois Springfield
Sidney Askew Borough of Manhattan Community College - CUNY
Barbara Thomas Triton College

The goal of this paper is to highlight the situation of preparing community college and upper division college accounting majors for success. Students attending community college represent a broad continuum from various segments of the population; this promises some relief in terms of the input side with the identified “pipeline” shortage situation in the profession. Given the present and projected disruptions in the accounting environment, there are benefits to be derived to students, faculty, and employers if the outputs of the pipeline align to the quality expected of accounting professionals today. It is important that accounting faculty be fully informed of various issues and work to facilitate success.to help students reach their academic and professional goals. Several common critical success factors were noted across discussions of the perspectives of three accounting academics.

Conference Concluded 4:30 pm

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