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BARGAINTOWN.COM

Gary Brunswick, Northern Michigan University

CASE DESCRIPTION

The case focuses on a (fictitious) small but growing website that competes with market giants such as eBay.com, Craigslist.com and many others. The entrepreneur behind Bargaintown.com is troubled by one aspect of his business – sellers who may be obtaining their products through illegal and/or illicit means. While the business is quite profitable, the entrepreneur (Lars Bobnock) wonders what, if anything, he can or should do about this potential problem. The primary purpose of the case relates to business ethics, and how a firm should respond to the potential of unethical and illegal practices. The case has a moderate level of difficulty (3-4), and is designed for 2nd to 4th year undergraduate students; it can be taught in one class session, or spread over two or more class sessions. Students can expect to spend 2-4 hours to complete the case, outside of normal class time.

CASE SYNOPSIS

Lars Bobnock, and his wife Tuula, had an idea and started a local or regional version of a website similar to eBay.com or Craigslist.com, and they called the business Bargaintown.com. A unique feature of Bargaintown.com was that buyer and seller could drop off / pick up items at the garage connected to the Bobnock home. Sales revenue for Bargaintown.com started to accelerate after several years, and Lars began to wonder whether or not some of the sellers on Bargaintown.com were actively engaged in criminal activities – namely stealing products from brick and mortar retail stores and then selling them on Bargaintown.com. Lars contemplates 5 different options as a way to deal with the possibility of his involvement in illegal, immoral and/or unethical behavior via Bargaintown.com.

CASE BODY

Introduction

"Man, sales are really starting to take off". Lars Bobnock, founder and CEO of Bargaintown.com said this his wife, Tuula, as he looked at the quarterly sales for his small but growing company. Some of the regular sellers on Bargaintown.com seemed to be fueling this massive growth, but in the back of his mind Lars wondered about a few of these sellers. Where were they getting the products from that they were selling ? From the listings on Bargaintown.com, at times some of these items seemed to be new and in perfect condition, still in the original packaging. How were these items obtained and why were they being sold ? Lars hadn't mentioned any of his concerns to his wife, Tuula, but increasingly he wondered if he should do something before it is too late.

Bargaintown.com: The Beginning Years

About 10 years ago, Lars started working as an electrical engineer for the local electrical utility. While Lars was an electrical engineer by training, he had also developed some strong skills in the area of software engineering and programming, based upon some of his work experience with the local electrical utility where he worked. In his spare time he was helping his wife, Tuula (a stay-at-home spouse), with a small side business they had started on eBay. Tuula

was selling various items that they no longer used, or items they saw at rummage sales, thrift stores and estate sales.

The items they purchased at various rummage and estate sales were typically grossly underpriced, and in turn Tuula and Lars would buy them, turn around and then sell them on eBay, sometimes for a very handsome profit. As the couple became more interested and involved in this side business, they started to talk about starting their own local or regional version of eBay. Could they make it easier for individuals to buy and sell items ? As an added feature, Lars and Tuula could help with the delivery (i.e., a seller could drop something off at the Bobnock house, and the buyer could then pick it up at their convenience). Otherwise the seller and buyer would arrange for their own shipping.

After doing some additional research, Lars and Tuula launched a website called Bargaintown.com, where they charged a 5% fee for anyone listing (and eventually selling) an item on their website. They also offered, at first, to allow the seller to drop off the sold items at their house (so the buyer could pick up the item at their convenience), and this was done at no cost. However as the company grew, more and more of the garage at the Bobnock house was being occupied by these items, so eventually they charged a flat fee of $10.00 for this service (note: this is the column below labelled “Drop Fee”). Otherwise, the seller and buyer worked out the delivery arrangements on their own (i.e., either the item was shipped using normal methods, or the buyer and seller arranged on their own for transfer of the item)

In the first year sales started out slowly, but eventually word-of-mouth got around. After some local and regional advertising was done via traditional media (i.e., newspapers, radio stations, and a brief TV commercial) sales really started to take off:

Year 1	Overall Sales Revenue	5% Commission	Drop Fee	Total
Quarter 1	$ 1,411.27	$ 70.56	NA	$ 70.56
Quarter 2	$ 3,936.33	$ 196.82	NA	$ 196.82
Quarter 3	$ 7,449.49	$ 372.47	NA	$ 372.47
Quarter 4	$ 12,014.56	$ 600.73	NA	$ 600.73
Yearly Totals	$ 24,811.05	$ 1,240.58	NA	$ 1,240.58
Year 2				
Quarter 1	$ 25,377.57	$ 1,268.88	$ 120.00	$ 1,388.88
Quarter 2	$ 33,469.03	$ 1,673.45	$ 710.00	$ 2,383.45
Quarter 3	$ 49,551.32	$ 2,477.57	$ 840.00	$ 3,317.57
Quarter 4	$ 88,479.12	$ 4,423.96	$ 1,290.00	$ 5,71396
Yearly Totals	$ 196,877.04	$ 9,843.86	$ 2,960.00	$ 12,803.86
Year 3				
Quarter 1	$ 105,467.14	$ 5,273.36	$ 3,470.00	$ 8,743.36
Quarter 2	$ 151,598.22	$ 7,579.91	$ 3,900.00	$ 11,479.91
Quarter 3	$ 167,429.39	$ 8,371.47	$ 4,620.00	$ 12,991.47
Quarter 4	$ 201,469.04	$ 10,073.45	$ 5,730.00	$ 15,803.45
Yearly Totals	$ 625,963.79	$ 31,298.19	$ 17,720.00	$ 49,018.19

In looking at the spreadsheet showing sales growth over the past several years, Lars noticed there was a definite uptick in the number of buyers and sellers who took advantage of his "drop off / pick up" service (labelled as "Drop Fee" in the spreadsheet above). For example, this service was used about 573 times during the 4th quarter of the most recent year, which averages between 6 and 7 times a day, 7 days a week. Why such an increase in this service, Lars wondered to himself ? Furthermore, would the neighbors start to complain if there was too much traffic in the neighborhood (and might they call the police or the city manager) ? Could Lars and Tuula contract with a local business (which is zoned as commercial, vs. residential) as a drop-off and pick up point ? Maybe one of the local equivalents of the "UPS Store" would be interested ? Lars also read about a mobile app called Roadie, which used Waffle House locations (and other retailers) as a point of drop off and pick for packages. Maybe something like that would work ?

Year 2	Drop Fees	# of Total Drops	Avg. Drops Per Week
Quarter 1	$ 120.00	12	.92
Quarter 2	$ 710.00	71	5.46
Quarter 3	$ 840.00	84	6.46
Quarter 4	$ 1,290.00	129	9.92
Yearly Totals	$ 2,960.00	296	5.69

Year 3	Drop Fees	# of Total Drops	Avg. Drops Per Week
Quarter 1	$ 3,470.00	347	26.69
Quarter 2	$ 3,900.00	390	30
Quarter 3	$ 4,620.00	462	35.54
Quarter 4	$ 5,730.00	573	44.08
Yearly Totals	$ 17,720.00	1,772	34.08

A Dilemma For Lars ?

In taking his analysis even a step further, Lars looked at some of the current listings on Bargaintown.com, and started to notice something he had thought about in the past: many of the items being sold on the website appeared to be brand new, in the original packaging. Furthermore it seemed like it was the same group of sellers who were offering these brand new items, in the original packaging. Other sellers clearly were selling used items, and advertised them as such. Where were these new items coming from, thought Lars ?

After a few minutes of searching on the web, Lars found an article from the Wall Street Journal he had remembered reading years ago:"*As Shoplifters Use High-Tech Scams, Retail Losses Rise", by Ann Zimmerman, Wall Street Journal, Wednesday 25 October 2006, pages A1 and A12.*

This article talked about several examples of individuals, as well as groups who would target certain brick and mortar retailers for certain items, and then would sell these items online as a way to "monetize" their efforts (i.e., convert stolen goods to cash). In the article, for example, the case of William Swanberg was described. William used technology to print his own UPC stickers, which he would place over the existing UPC barcodes on expensive Lego sets in stores like Target. So, the sticker would scan for a $10.00 price, but in reality the Lego set should've scanned for $100.00. He was eventually caught, after he had stolen over $ 600,000.00 of these Lego sets (and it was a federal crime, since he crossed state lines while obtaining these mispriced Lego sets from Target stores), was convicted and sent to federal prison. The article also talked about gangs of thieves who go after easy-to-steal and highly sought after products like baby formula and cordless power tools, just to name a few. These gangs develop daily "shopping lists" and thieves are sent to retail stores to steal the requested items. These items are eventually sold online, which has coined the term "efencing", or fencing stolen goods online. Lars started to wonder whether or not some of his sellers on Bargaintown.com fit this profile, based upon the range of new items (in original packaging) which were regularly being sold by certain sellers.

As a basis of comparison, Lars did some searching, and found the eBay.com policy on stolen goods, which read as follows:

*The sale of **stolen property** violates state, federal, and international law, and we notify law enforcement of any attempts to sell **stolen property** on our site. We also support the investigation and prosecution of sellers who violate this **policy**. Make sure your listing follows these guidelines.*
Stolen property policy - eBay
https://pages.ebay.com/help/policies/stolen.html

When launching Bargaintown.com, a lawyer whom Lars had hired when he set up the LLC for his company suggested using a policy very similar to what eBay had developed. Lars had taken the lawyers advice, but still wondered if he was either breaking the law, or providing a mechanism for criminals to steal and make easy money from their illegal efforts. Was Lars engaging in immoral behavior ? Was he unethical ?

After doing some additional research, both Lars and Tuula recognized that there are different ways to define or think of ethics, such as egoism, utilitarianism, duty-based theories, and virtue ethics. While at church Lars thought about the golden rule (do unto others…..) but also wondered if there was a professional set of ethics that would relate to business practices. Then he wondered how he would react if the local TV station suddenly showed up at his front door and started asking questions about Bargaintown.com possibly being involved in the selling of stolen goods. What would he say ? What would his mother say if she saw Lars being interviewed on the local TV station ? What would his customers think ?

Options for Lars and Bargaintown.com

A lot of ideas were swirling inside of Lar's head as he contemplated a variety of possible scenarios related to his concerns. One thought which Lars wondered about was requiring sellers to sign something, indicating that what they (the seller) was listing on Bargaintown.com was not stolen, and legally could be sold. On a somewhat related note Lars also wondered if he could require sellers to provide written documentation as to where they obtained products. This would be particularly relevant if the items were being sold as new and in the original package, especially if there were multiple items being sold (either at once or over a period of time). What would be acceptable as written documentation, though, thought Lars ?

Another (perhaps extreme) option which Lars had entertained was to just sell his business (Bargaintown.com) and be rid of his concerns about whether or not he was breaking the law, or if what he was doing was unethical and/or immoral. Given the acceleration in $ sales revenue, though, Lars had some real reservations about selling the website and business at this point. Perhaps in the not too distant future, Lars wondered if he could quit his job as an electrical engineer for the local electrical company, and focus his energies totally on the business, given the growth of Bargaintown.com. Maybe franchising was on the horizon ?

A third option which Lars had thought about was to discontinue the "drop off / pick up" service using the garage at his home, where sellers (for a fee) could drop off sold items, and then the buyer could pick these items up at their convenience. Might Lars and Tuula potentially be in possession of stolen goods at any point in time, albeit unknowingly, and could this be placing their business, and themselves, in legal jeopardy ? But would this necessarily stop some of the sellers

on Bargaintown.com from trying to "efence" items that were illegally obtained ? Could Lars contract with a local business to serve as the drop off / pick up point for his customers ?

A fourth option occurred to Lars; should he just set up a meeting with the local county prosecutor to "put all the cards on the table" and ask for guidance from the highest ranking legal official in the county ? Or, might this raise some red flags in the mind of the county prosecutor ? Maybe Lars would be better off just meeting with his own lawyer to seek advice and counsel ?

A fifth option seemed to be lurking out there also – maybe doing some in-depth research on competitors such as eBay.com, Craigslist.com, and other smaller website and mobile apps as to their legal statements and policies regarding the sale of stolen goods via their websites and/or apps. Why" reinvent the wheel" if it already exists, thought Lars.

CONCLUSION

For each / all of these options, Lars first wanted to share his thoughts, ideas and concerns with his wife, Tuula, to see what she thought about all of this. Beyond that, he had no particular plan, but thought he (and Tuula) should systematically look at each of the 5 options he had considered, and should analyze the characteristics, advantages and disadvantages associated with each option. Then, and only then, could the future path for Bargaintown.com be determined.

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Stolen property policy - eBay
https://pages.ebay.com/help/policies/stolen.html
"*As Shoplifters Use High-Tech Scams, Retail Losses Rise", by Ann Zimmerman, Wall Street Journal, Wednesday 25 October 2006, pages A1 and A12.*

A HOLISTIC EDUCATIONAL APPROACH FOR OFFSITE TEACHER EDUCATION PROGRAMS

Peter Cowden, Niagara University-Ontario

ABSTRACT

This paper examines the cultural impacts on off-campus school-based teacher-training programs. These programs offer teacher candidates to experience a real world understanding of the culture of a school. The study concludes that teacher candidates benefit from immersion in the school environment. This allows teacher candidates to experience first-hand knowledge, which does not occur with textbook. Furthermore, off-campus teacher-training programs encourage the teacher candidates to celebrate the demographics of a school. In summary, the cultural impacts may help change attitude, clear biases, remove barriers, and assist in creating a holistic approach in modifying and adapting appropriate instructional strategies to each individual student. This paper focuses on an off-campus approach to teacher education.

INTRODUCTION

With the need to find new ways to create a healthy financial institution, university administrators adjust their business practices toward a more international or global extension in the cultural context. As such, many colleges and universities are considering locating these enhanced business ventures, which concern teacher-training programs, in off-campus school-based locations. An off-campus school-based location is a local school in which a teacher-training program occurs. Teacher candidates experience the day-to-day routines of a school while attending to their studies. This is opposite to an on-campus school-based location, where a teacher candidate attends to their studies while experiencing the day-to-day routines of the university environment. This paper focusses on the merits of creating off-campus teacher training programs.

When considering off-campus school-based locations it is important that the approach in pursuing a balanced budget should not sacrifice sound pedagogy. Of prime consideration must be the culture of these school-based locations. The culture of a school is the unofficial curriculum that can make learning meaningful. It consists of the environment and day-to-day school routines, such as the way interactions occur, how communication takes place, the diversity of the school and classroom, similarities and differences shared, and how all of this affects students. The culture of the school is also the way in which teachers and administrators conduct themselves so that a maximum learning milieu can occur. In on-campus school-based locations, a student will learn about inclusion. In an off-campus school-based location, the inclusive nature of this type of teacher training program allows teacher candidates to witness the on-site inclusive environment of the school. They feel the heartbeat of the local school that one cannot experience from a textbook or through second hand information that occurs at on-campus programs. It is a direct way to experience the working environment of the profession they have chosen.

There are many cultural aspects to school based teacher training programs. This article will examine:

1. *How off-campus school-based instruction prepares teacher candidates ready to be engaged in the real world.*
2. *How teacher candidates attending classes within a local school levels the playing field for those who came from a different culture or country.*
3. *How off-campus school-based teacher candidates have the opportunity to witness the most current on site accommodation for students with disabilities.*
4. *How teacher candidates get to see the demographic first hand in the local area.*

Off-campus school-based instruction prepares teacher candidates to be engaged in the real world.

The nature of learning is in the everyday action of the school. To locate teacher candidates' learning in the local school is to present an experiential learning environment that allows them to witness and experience what their future students, and themselves as future teachers, will go through. Normal activities such as school bells, assemblies, track and field, communicating with parents, communicating with administration, communicating with colleagues, communicating with students, and routines and rules of school buses, are events that one can see, hear and experience. For example, one can see the children lining up to get on a school bus, hear the overhead announcement, feel the tension in the air during exam time, touch the holiday decorations, and smell the pizza and hotdogs on special days. One can experience a fire drill or a lock down and see the issues connected with it. A teacher candidate can experience how the administration works with teachers and parents to make the school a working endeavor. The memory of these senses remains with the participants. It remains with the teacher candidate. Off-campus school-based teacher candidates not only experience the "utopia" side of the school, they also are exposed to unexpected incidences such as school yard bullying, a flu outbreak, a fire, a bomb threat, or any other emergency crisis. This reality check prepares them to respond better and faster to an unexpected situation in school, following emergency protocol.

Most importantly, they may see and model teacher-student interactions such as incorporating simple steps into teaching mannerisms. For example, acting friendly, smiling, speaking in a soft tone, and giving compliments will help the student feel more at ease in the classroom (Cowden, 2010). A simple everyday act, such as to saying good morning to the principal, the caretaker, fellow teachers and to students, is a conscious effort made socially and reaps psychosocial benefits. It builds a very positive relationship that prepares teacher candidates to be mentally and psychologically ready to start their day. The simple acts that facilitate the mental process of perception, memory, judgment and reasoning exists in professional research (Lynch & Gussel, 1996). Since human cognition is both conscious and unconscious as well as concrete or abstract, a teacher candidate in an off-campus school based program can use the experience of the environment to generate new knowledge on how to navigate the culture of the school, a key in the prevention of job burnout. The prevention of job burnout may seem a bit early to discuss in a teacher-training program, however, it is a vital part of the discussion.

Since teacher candidates' beliefs and values guide how they relate to school personnel, students and situations in the school, they are more likely to create and maintain healthy relationships with others by experiencing. The on-site experience gives them a sense of purpose, awareness, and community. It also gives them understanding.

Teacher Candidates attending classes within a local school levels the playing field for those who came from a different culture or country.

We live in a land where we relish cultural differences. If one of the purposes of schooling is to mirror the cultural makeup of the community, it naturally extends that our teacher-training programs should mirror this cultural diversity in the candidates they accept. It is quite possible that some of these candidates will be first generation citizens with limited exposure to a local school. They may not understand what it is like to be educated in our elementary or secondary school system. Being part of an off-campus school-based teacher-training program allows them to experience and not just read about the environment in which their future profession exists. Furthermore, bridging this gap by placing teacher candidates in the field instead of the university can help those teacher candidates whose first language is not English receive a better start (Williams, 2013). It also encourages the teacher candidates who have English as a second language, to exchange their unique gifts and to experience and discuss differences and similarities with other teacher candidates.

We must not ignore the issue related to the satellite nature of the off-campus school-based program; supportive services usually are not be offered at the school site. Services such as program and career counseling, essay writing help, and tutoring may not be readily available for these candidates. To assist with off-campus school-based teacher training for all and especially this population, university administrators need to tailor the experience and needs of new students to help them ease into university study by providing a more extensive and comprehensive service (Galardi, 2012). Off-campus or off-site teacher training programs are willing and able to offer a service that had not been able to offer in the past. They are willing to bring the entire training program to several different sites to accommodate students who are not able to travel to the main campus facility. For example, PASS Program (2017) of University of Calgary, offers the entire training program curriculum and services supported by qualified faculty and staff. Their logo says it all, “Find the concept or clue… click and move”.

Off-campus school-based teacher candidates have the opportunity to witness the most current on site accommodation for students with disabilities.

The report from Office of Disability Employment Policies asserted that attitudinal barriers often lead to illegal discrimination, are not overcome simply through laws. The report stated that the best remedy is “familiarity”. It is important to have people with and without disabilities mingle as coworkers, associates and social acquaintances. The desired outcome is a change of attitude leading to “comfort, respect and friendship” (Office of Disability Employment, 2017). This is a key concept and advantage for the teacher candidate in the off-campus school-based teacher-training program. It is probable that a teacher candidate may understand the literature and research concerning a person with a disability. However, does this actually occur in the culture of a school? Does a person with disabilities have accommodations similar to what the candidate the? Do they have acceptance within the culture of the school? What about the concept of bullying? What does the school actually do to make their learning and learning environment a place of value? These are issues where understanding is an important ingredient in learning. Off-campus school-based teacher training programs allow teacher candidates to experience working answers to these and other questions. It can allow the candidate to see how the research results in practice. The

candidate can experience the classroom needs for such accommodations as an updated wheelchair, interpreters or interveners. It also allows the teacher candidate to experience first-hand exposure to assistive technology software and hardware. These devices or technologies could be intimidating to teacher candidates without them actually experiencing how a person with a disability uses these devices. Experiencing schoolchildren using these devices may help to demystify any myths about the person with a disability. They may also learn how students with disabilities navigate elements of inclusion, differentiation and Universal Design for Learning and Technology (Hodgkinson, 2000). They may begin to appreciate barriers that students with disabilities face. Those who are most informed regarding the abilities and needs of individuals with disabilities are most likely those who will approach them with support and encouragement and engage them with strategies and behaviors that will enable and encourage them to move from dependence to greater independence (Sze & Cowden, 2012). Off-campus school based teacher training programs that are engaged in the school culture can satisfy this need.

Those involved in the off-campus school-based teacher-training program get to see the demographics first hand in the local school as part of the culture of the school.

Almost two decades ago, Kraglund-Gauthier, Young, & Kell (2014), at the Center of Demographic Policy, stated that there has been a major increase in student diversity including minorities, immigrants, students whose second language is English and students from poverty or wealth. Our demographic landscape has been changing rapidly in the last 10 years due to immigration, social and economic policies (Moran, Vozzo, Reid, Pietsch, & Hatton, 2013). Schools are a natural component of this trend. Off-campus school-based teacher training programs allow the teacher candidate to witness first-hand the characteristics of the demographic distribution in the community. With this first-hand observation, teacher candidates can form a more realistic, compassionate, intellectual and accurate assessment of the various cultures that make a community. It allows them to witness the various cultures interacting with each other and be able to value the similarities and differences while increasing respect and understanding for everyone. This is an important analytical skill that one must obtain and pass on to our next generation of educators: teaching them how to think through experiencing and not what to think by accepting second hand opinions as truth. Off-campus school-based programs allow this condition to occur.

Similarly, university instructors living and breathing in the “Ivory Tower” because of their long-term commitment to their subject matter and their relationship with the university can benefit from off-campus teaching. There are always questions as to how many actually visit the school sites or even remember what it is like because they have been away from the local school environment for decades. According to Massey and Gouthro (2011), putting the program in a local school not only benefits the teacher candidates, but also, at the same time, brings the university instructor back to a street level where everyone speaks the same “language”. Off-campus school-based programs allow the university instructor to re-connect with practitioners in the local school. When the university instructor witnesses what is happening in the school, it may even spark their interest in investigating current issues in the school field.

CONCLUSION

It is important for administrators to realize that in pursuing a balanced budget they should not sacrifice sound pedagogy. It appears to this author that off-campus school-based teacher training programs not only do not sacrifice sound pedagogy, but also may actually improve it.

This program places the teacher candidates' learning in the field instead of the university. It gives more understanding between the literature and actual classroom practices concerning a person with a disability. It allows teacher candidates to witness the various cultures interacting with each other in the classroom and be able to value the similarities and differences while increasing respect and understanding for everyone. Being part of an off-campus school-based teacher-training program allows teacher candidates to integrate in the current as well as future culture of the teaching profession. This unofficial curriculum can make learning meaningful.

As administrators look to find new ways to create a healthy financial institution while maintaining sound pedagogy, it appears that moving towards off-campus school-based teacher-training programs satisfies this condition. This paper is not intended to compare on-campus versus off-campus program effectives. However, while this is a major condition, further research is required to account for other factors regarding off-campus school-based teacher candidate programs. Issues such as costs included in moving a university program to a local schoolboard, providing similar services for candidates and professors that occurs at the university, and distance and isolation from the university, before one can make a proper assessment.

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BLACKBERRY LIMITED: IS THERE A PATH TO RECOVERY?

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Saad Nazir, Pace University
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Dan Baugher, Pace University

CASE DESCRIPTION

This case is primarily intended for use in the corporate strategy section of a business policy or competitive strategy course. It can be used as an overview of the many decisions and actions that an organization has to undertake to sustain a competitive advantage. This case can also be used to augment discussions of strategic analysis, specifically both internal and external environmental analysis and strategic formulation.

The case is rich enough for advanced and graduate students, and has been developed in a manner that will allow students to diagnose the root(s) of the company's issue(s) as detailed in the case, and then form opinions and suggestions for any strategy that the company should pursue. In doing this, students should consider the activities, history, and goals of the company as presented.

It would be effective at the business strategy level, especially, to discuss the implications of industry life cycles, and at the corporate strategy level to discuss implications of diversification. The case also lends itself to discussions of strategic implementation and the effect of leadership on innovation.

CASE SYNOPSIS

In late 2016, Blackberry stock has been trading for less than $7.9 a share that is only a fraction of $139, which is a drop of 94% since 2008. [1] The competitive landscape shifted in recent years, and BlackBerry lost its strong position in the industry. The company faced a severe reduction in hardware revenues and mobile subscribers. [2] BlackBerry Limited hired John Chen, a turnaround specialist, as its new CEO to get former dominating smartphone producer back to profitability.[3] Soon after joining the company, Mr. Chen formulated a turnaround plan that emphasized focus on corporate and government enterprises. This new plan significantly reduced the company's operating costs. [4] After Mr. Chen started turning the wheel, BlackBerry appeared to be stabilizing, but the sustainability of his strategy was still a big unknown.

INTRODUCTION

In mid-2017, Blackberry stock was trading for less than $7 a share that is only a fraction of $139, which was a drop of more than 94% since 2008.[1] The competitive landscape shifted in recent years, and BlackBerry lost its strong position in the industry. The company faced a severe reduction in hardware revenues and mobile subscribers.[2] BlackBerry Limited hired John Chen, a turnaround specialist, as its new CEO to get former dominating smartphone producer back to profitability.[3] Soon after joining the company, Chen formulated a turnaround plan that emphasized on corporate and government enterprises. This new plan significantly reduced the company's

operating costs.[4] After Chen started turning the wheel, BlackBerry appeared to be stabilizing, but the sustainability of his strategy was still a big unknown. Nonetheless, there have been rumors regarding a potential sale of the company to Samsung Group, privatization of operations to reduce the risk of shareholder activism, hostile takeovers as well as about the company to remain focused only on software and licensing agreements.[5] Each of these would be a very different scenario as compare to what the Canadian tech giant faced just a few years ago. Although BlackBerry's adequate performance led many industry experts to speculate on what lies ahead, the company's new CEO Mr. Chen seems to be optimistic about the future of Blackberry.

Looking at Blackberry smartphone division's struggle to compete, it remained a question as to what strategy the company should adopt to revive the admiration and boost demand for Blackberry smartphones. Smartphone industry had become immensely competitive with giant competitors like Apple Inc. and Samsung Group as the two companies held most of the market share in smartphone industry. The success of Blackberry in smartphone industry may sound farfetched but was not impossible. While Blackberry had previously held significant market share in smartphone space, the landscape had changed as Blackberry would have to fight with two very large competitors. By adopting a rigorous and innovative strategy, it was possible for the company to regain popularity among customers. Moreover, due to Blackberry's specialization in data & mobile security there seemed to be potential in Blackberry's software security enterprise division, which perhaps had not grasped as much attention and resources of the company as the smartphone division. Therefore, had the company restructured its overall business strategy and utilized all the resources to recognize and capitalize its competitive advantage in any particular product or service that it offers, Blackberry Limited would possibly perform better, become more competitive and experience increasing profit margins.

RESEARCH IN MOTION

Milhal "Mike" Lazaridis and his childhood friend Doug Freign founded Research in Motion (RIM) in 1984. Lazaridis was born in Istanbul in 1960 and came from a Greek working class family. His father's aspirations to become a tool-and-die maker led the family to relocate to Ontario, Canada. Lazaridis displayed remarkable intelligence at an early age and excelled in both reading and science. Lazaridis was frequently exposed to electrical engineering and sharpened his intuitive understanding of the basic science behind every electrical innovation.[3] After graduating High School, Lazaridis decided to attend the University of Waterloo. However, he dropped out before graduation and decided to try his luck in business at the age of 23. The Canadian government enabled the formation of RIM by granting Lazaridis and Freign a $15,000 loan. The duo set up RIM headquarters in Waterloo, Canada, as an electronics and computer science consulting company. According to Lazaridis, the name Research in Motion meant, "we never stop, we never end"[3] signaling innovation that would drive RIM forward.

During the company's early years, Lazaridis accepted all sorts of contracts, most of which entailed writing code or making small insignificant technological gadgets. None of the early projects proved to be a commercial success, but they generated enough revenue to keep the company viable for more than a decade.

However, the company's game changer was introduction of e-mail and data devices. Lazaridis had been exposed to e-mail while in college, at a time when only professors and scientists were using the service. Lazaridis was convinced that data will become extremely important in the near future, but it was hard to find the funding for a project involving e-mail, because the early

1990's was a time when major mobile carriers were interested in devices with voice capabilities and in selling as much as possible until the market would become saturated. Reading e-mails on a handheld device was unheard of. A nonexistent demand for devices with e-mail support did not loosen Lazaridis' determination; hence, he developed initial prototypes by writing gateway codes hooked up to a HP Palmtop, the company's first device with "e-mail on a belt". Although the device was not commercially applicable, it became extremely popular with RIM employees. Lazaridis recalls that "employees started taking these things home, and they wouldn't return them".[3] What he then understood was that the idea of "e-mail on a belt" had the potential to generate a high demand, but the challenge lied in making such a product practical enough for consumers to use on daily basis.

The business aspect of RIM was made easier by the emergence of Harvard graduate Jim Balsillie. In 1990's, Balsillie was an employee of a small technology company called Sutherland and Schultz, which would become one of RIM's clients. Lazaridis and Balsillie first crossed paths when Sutherland and Schultz tried to acquire RIM. Lazaridis passed the offer, but he got a chance to see Balsillie in action that was impressive. Lazaridis wanted someone to help out with the business aspect of the company. When a company from the Netherlands bought Sutherland and Schultz in 1992, Balsillie was left without a job. Lazaridis was quick to pick up the phone and invite Balsillie to join his company.[3] Due to RIM's small size and limited resources, Balsillie had to accept a severe salary reduction and to spend $250,000 to acquire 33% of RIM. Balsillie believed in Lazaridis' abilities and potential for the company, so he agreed to the terms.[3] The two shared duties as co-CEOs and formed a powerful leadership team in which Lazaridis focused on product development, and Balsillie took responsible for the business part of the company. Balsillie was clear about different responsibilities and said, "My job is to raise money, and Mike's job is to spend it".[3]

With limited success up until 1992, RIM made a conscious decision to leave its comfort zone and pursue home run products such as wireless data. Balsillie truly believed that the future could be great for RIM, and according to former Senior VP Patrick Spence, "Balsillie was really strategic in terms of how he was thinking and really ambitious in terms of what he wanted to do".[5] Introduced in 1996, the Interactive Pager 900 contained peer-to-peer messaging and also an e-mail gateway. Unfortunately, the device had several deficiencies and operating errors. Also, the device was also too big and bulky to gain commercial acceptance.[3] Due to its size, Lazaridis nicknamed it "the Bullfrog".

Following "the Bullfrog" came "the Leapfrog". The revolutionary component of "the Leapfrog" was its ability to send e-mails at any time from any place. This product set the stage for the eventual, hugely popular signature product we know today as BlackBerry. The product was a success: BellSouth, which had spent over $300 million in building its mobile "Mobitex" network ordered Leapfrogs worth $60 million in 1997.[3] In order to get the necessary funds to continue its product development, RIM went public at the Toronto Stock Exchange in 1997, and the IPO raised more than $115 million.[6]

THE BLACKBERRY AND ITS SUCCESS

Lazaridis was responsible for developing RIM's next version of a wireless data device that would have better parts, longer battery power, and a bigger screen. RIM hired Lexicon, the company that was credited for naming Apple's PowerBook and Intel's Premium brands to come up with a name for the device. The buttons on the new device looked like tiny seeds. Lexicon

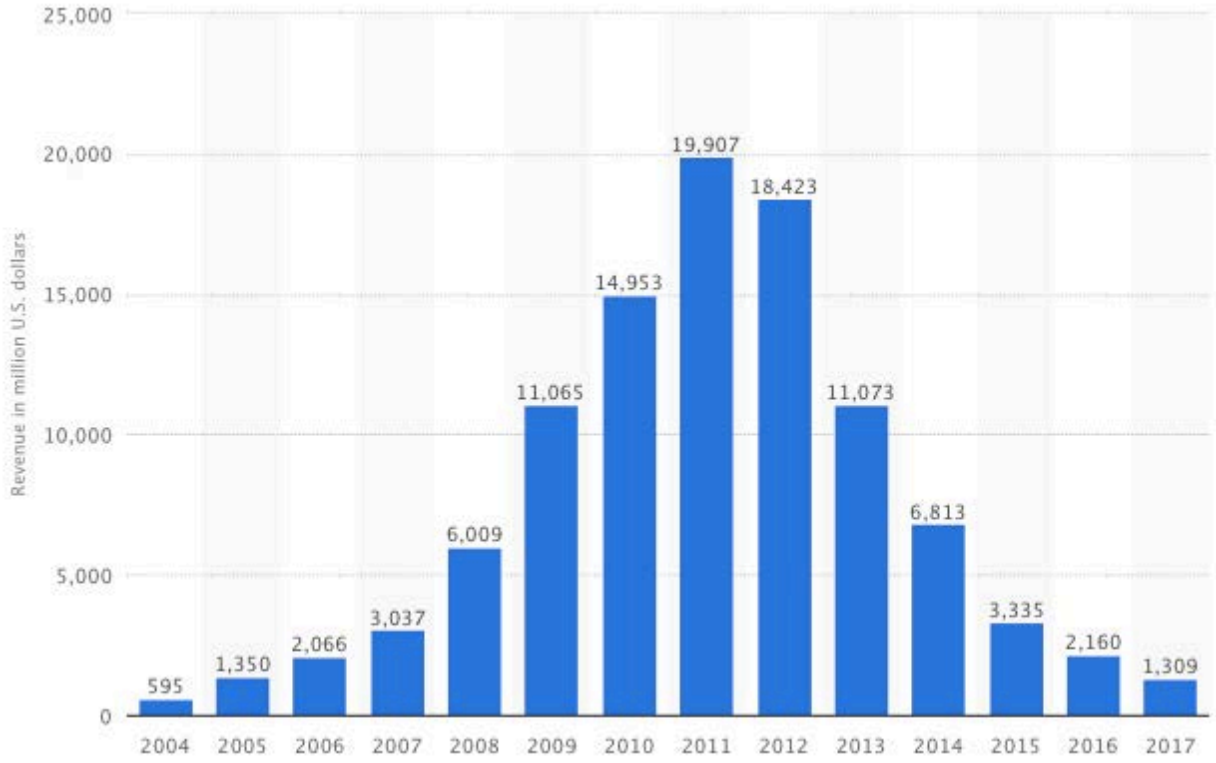
played around with different fruit names such as strawberry and melon, before it eventually settled on BlackBerry.[3] Thus, RIM had a great product with a catchy name, and it became Balsillie's responsibility to spread the word on the new offering.

The BlackBerry 850 hit the market in 1999, with wireless data, e-mail, and a tiny QWERTY keyboard.[6,7] Initially, the Leapfrog and the early BlackBerry device was mostly used by law enforcement, firefighters, and ambulance workers. One of the things that this niche group greatly valued was the product's extreme reliability and security features. Balsillie thought this would resonate well with corporations on Wall Street. He knew that corporate IT departments often made decisions regarding companywide hardware and purchased the same devices for all their employees. RIM next resorted to a guerilla marketing strategy, in which hundreds of devices were given away to ground level employees at Wall Street. The strategy became an instant success as Wall Street employees got hooked on the device and subsequently pressured IT departments to make BlackBerry the official device for their companies. Big corporations like Credit Suisse and Merrill Lynch gave in to this pressure and ordered BlackBerrys by the thousands.[3] The success led RIM to go public on the NASDAQ in 1999 and raised an additional $250 million to invest in the development of its technology.[8] Revenues increased from $47.34 million in 1999 to $84.96 million in 2000, with BlackBerry accounting for 41% of the revenues.[9] Balsillie, along with his management team, utilized the same guerilla tactic at the Capitol, where security and reliability are perhaps even more desired features than they were in corporate world. Soon, a large number of politicians and congressional staffers were ordering BlackBerrys.

RIM's reputation was also seriously enhanced during the tragic events that transpired on September 11, 2001. Instead of relying on cellular telephone systems Blackberry functioned on data systems that held up extraordinarily well. Data systems could be used exclusively to communicate data in the form of text messages or emails by using dedicate data networks which were abundant in lower Manhattan. Almost all cellular networks shut down during the terrorist attacks, which disabled both incoming and outgoing telephone calls. However, the BlackBerry and its network remained operational, enabling victims to call loved ones and keeping vital communication lines between law enforcement and rescue workers open. One of the sufferers of tragic event, Ms. Federman recalled, "I had my cellphone in one hand, and it was useless, and my BlackBerry in the other, and it was my lifeline that day".[10] In the eyes of the government there was no doubt that BlackBerry's features were important for public servants. Therefore, almost directly after the events on 9/11, the American government ordered three thousand BlackBerrys for representatives, staffers, and senators.[3]

This initial success meant that growth was rapid at RIM in this period, and it was enhanced by something that the company did not anticipate. All of a sudden, actors, athletes, and other high profile individuals were spotted using BlackBerrys. Among other organizations, the BlackBerry was standardized for 31 out of 32 teams in the NFL.[5] This created a demand among the general consumers, who wanted to use the same device they saw their favorite celebrities using. The increase in demand resulted in rapidly expanding sales and market share; RIM had more than 2 million users in 2004 and sold devices in 40 countries through 80 carriers.[5] The massive popularity in the 2000's saw RIM emerge as a dominant producer of smart phones, and at its peak in 2009 it had acquired 20.1% market share (see Exhibit 1) and sold nearly 15 million devices per quarter.[3,11]

Exhibit 1 - RIM (BlackBerry) Revenue 2004-2017.



Source: Statistica 2017

According to former account and carrier manager Chris Key, the BlackBerry became so popular with major companies that CTO's often referred to it as "digital heroin",[5] and many started calling it "CrackBerry". With competition from Google, Samsung, and Apple mounting in the mid 2000's, RIM decided to focus on its core competencies in security and reliability. Lazaridis and Balsillie were convinced that enterprises would continue to drive the market, and therefore continued to create devices that primarily appealed to professionals.[3]

PATENT TROLLS

Despite RIM's success, all was not rosy because its management failed to keep an efficiency check on product and service development, which led the company into trouble with patent trolls. A critical component of tech industry is presence of companies called patent trolls. These are companies that do not manufacture or provide services but instead seek to make money on patent infringement claims. These companies often have no other assets than a portfolio of patents, and the patents are usually purchased from others. RIM got tangled up with one of such patent trolls. NTP Inc. was a company with a portfolio of 50 patents, one of which was in the field of mobile e-mails. NTP took the Canadian tech giant to court, where RIM successfully proved that its e-mail system was invented before the patent in question.[3] However, NTP's attorneys persisted and uncovered that an enhanced version of SAM software being used by RIM was launched after NTP's invention. The judge subsequently disregarded RIM's initial explanation. The case was long and complicated, and it consumed considerable amount energy and resources of RIM. Consequently, Lazaridis and Balsillie accepted a $600 million settlement to close the case in 2006.[3]

This was a huge financial setback to the company. As RIM was experiencing exponential growth after the success of Blackberry, the company needed all its funds and resources to keep pace with the growth. This setback experienced by RIM also became one of the reasons that made managerial and financial obstacles for the company in the long run.

INDUSTRY LANDSCAPE

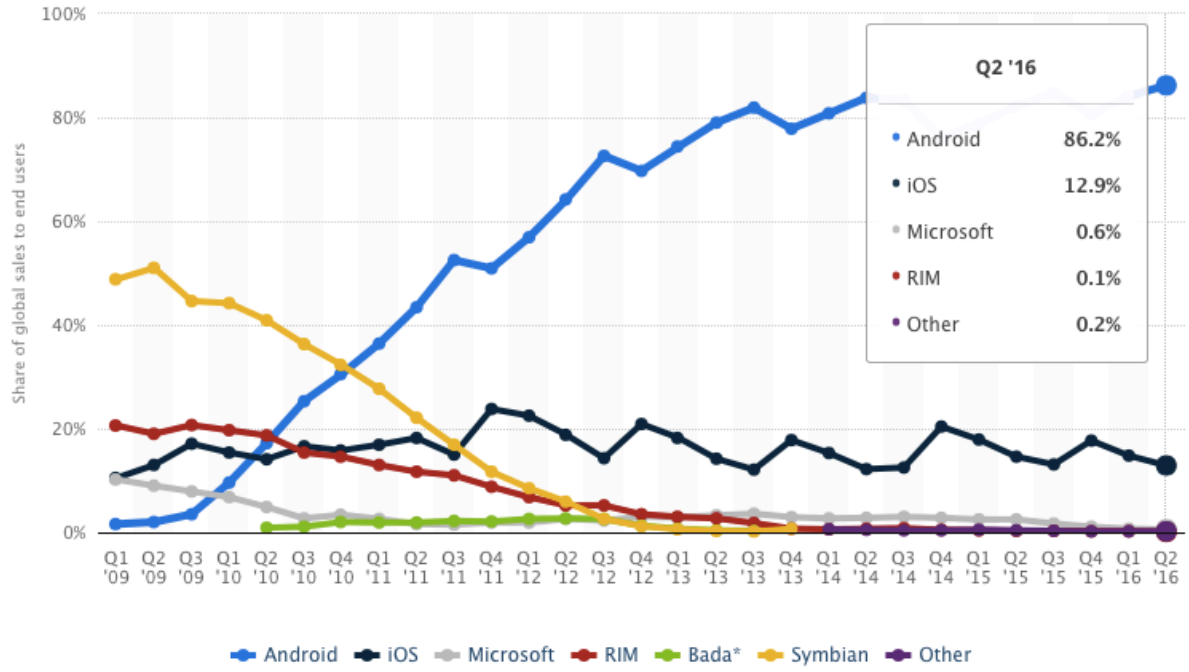
Apple Inc. entered the smartphone industry in 2007 when its CEO, Steve Jobs, introduced the world to the company's newest innovation, the iPhone. Apple had a completely different strategy than that of BlackBerry's. Apple's strategy was to cater to all the smartphone customers and not just the corporations. Steve Jobs and management at Apple believed that the individual consumer would drive the next surge in the market.[3] Clearly, RIM's management did not believe that the market was shifting, and BlackBerry continued to enhance what it thought made its product great —enhanced battery life, security, and e-mail. In 2006, corporations accounted for the majority of RIM revenues, and the company intended to keep enterprises as its main target market.[3] Lazaridis believed that the iPhone would be a fad and could not understand why anyone would want an iPhone, given its poor battery life and capacity. He was also extremely skeptical of the touchscreen keyboard. In an interview in 2007, Lazaridis said, "As nice as the Apple iPhone is, it poses a real challenge to its users. Try typing a web key on a touchscreen on an Apple iPhone, that's a real challenge. You cannot see what you type"[12]. BlackBerry's inventor believed that consumers prefer typing e-mails and messages using a physical keyboard rather than using a touchscreen. Co-CEO Balsillie declared that the iPhone was "not a sea-changer for BlackBerry".[11]

With further developments in touchscreen phones, consumers cared more about iPhone and Android phones' access to applications rather than battery life, security features, and QWERTY keyboards. The touchscreen smartphones also gained traction among suppliers. Software developers found it easier to work with Android and iPhone systems as compare to Blackberry's complex Java based system.[3] Consequently, iPhone and Android phones experienced rapid growth and market acceptance, which created internal tensions within RIM. There were those who thought that the company should change its strategy, but the co-CEO's unanimously rejected that notion.

The competitive landscape changed further when the "Bring Your Own Device" (BYOD) trend emerged in 2009, when consumers started to take their personal devices to the workplace.[13] The BYOD trend had been directly related to the BlackBerry and the way device became popular in the first place. It was the pressure from ground level employees that led IT departments to adopt the BlackBerry - a bottom up rather than a top down process. When all of a sudden those same employees started bringing iOS and Android devices to work, RIM lost its incentive to procure large numbers of BlackBerry. Consumers valued the additional features in iPhone and Android phones, such as cameras, games, and Internet browsing.[3,5]

In several instances, corporations abandoned BlackBerry as the company phone, because products like the iPhone also had e-mail capabilities. Android-based smartphones overtook RIM in terms of market share in Q2 of 2010, and iOS (iPhone) followed shortly in Q3 of 2010 (see Exhibit 2).

Exhibit 2 - Global smartphone market shares 2009-2016. Source: Statista.com



Source: Statistica 2017

When it was unable to acquire a license to sell iPhones, Verizon contacted RIM with an offer to collaborate on developing an "iPhone killer", which meant a smartphone with touchscreen capabilities and no QWERTY keyboard. The result of this partnership was the "BlackBerry Storm", which unfortunately could not gain popularity among consumers because the Storm's touchscreen was not easy to use, and the device was slow and full of bugs.[3] Verizon subsequently shifted its focus towards Google and its Android operating system, and launched a gigantic marketing campaign for Motorola's Droid smartphone that operated on Google's Android platform. The new campaign called "iDont" highlighted the iPhone's shortcomings.[3] However, instead of hurting Apple, the campaign enabled Android phones to steal market share from companies like Palm, Microsoft, and eventually RIM. The Blackberry Storm debacle therefore ended up hurting the company considerably.

RIM tried its luck with a touchscreen phone once again in 2010, when AT&T contracted the company to make a competitor to the iPhone. This could help AT&T to differentiate itself from Verizon, which now had obtained licenses for the sale of the iPhone. The result was the "Blackberry Torch", but this too was not a commercial success.

Even though iPhone and Android phones were gaining market share rapidly, Lazaridis remained optimistic of the BlackBerry's sustainable advantage. He warned his fellow RIM directors in a board meeting that trying to sell all-touch smartphones in a crowded market would be a huge mistake.[14] Lazaridis maintained full confidence that RIM would catch up to Apple and Google (Android) with their newest device, the BlackBerry 10. When developing the BlackBerry 10, Lazaridis decided to acquire QNX Software, a leading edge software maker. QNX had the technology that the BlackBerry 10 operating system needed.

However, tensions were now growing between Balsillie and Lazaridis. Lazaridis was certain that the BlackBerry 10 would resurrect the company while Balsillie was doubtful.[14] One of

the keys to the company's early success had been the co-CEO structure: where Lazaridis was responsible for engineering, product management and supply chain, while Balsillie focused on sales, finance and other corporate functions.[3] This complementary leadership structure was successful for a long time, as Lazaridis and Balsillie worked well together. However, the growing tension between the two led to a breakdown of communication, and RIM missed internal deadlines for launch dates as confusion and doubt spread among the company's employees.[3]

In order to fix the problem, Lazaridis decided that for their turnaround project, the BlackBerry 10, the development team would report directly to him and circumvent other top-executives like Balsillie. The breakdown of communication and friction between management led to a disastrous 2011 for the company, where RIM's network experienced tremendous difficulties for the first time, and the company was forced to undertake substantial layoffs due to rapidly decreasing sales. Balsillie also started to separate himself from the company. He established an academic institution that focused on international affairs and tried to buy a National Hockey League team, but the move opposed by the NHL. At an icebreaker in a weeklong seminar regarding arctic issues in 2010, Balsillie said that BlackBerry's success was due to extraordinary luck in key moments and voiced his concerns regarding the future by saying "This is a rapidly expanding market. We have a diminishing share of that market, but who knows?"[6] To end the managerial issues, the board at RIM finally decided to relieve Balsillie and Lazaridis from their duties as co-CEOs in January of 2012 but allowed them to remain on the Board of Directors. Thorsten Heins replaced Lazaridis and Balsillie as CEO in 2007. Mr. Heins had previously held an executive position at Siemens before joining RIM.[14]

THE BBM MESSAGING SERVICE

To generate revenue for RIM, former co-CEO Balsillie saw great potential with the BBM messaging service. The BBM messenger was developed as an application for the BlackBerry in 2005, and it enabled users to communicate by using their devices' PIN numbers. The BBM was innovative and is credited with being the first instant messaging service on wireless devices.[14] Among the BBM's key strengths were its reliability and the fact that users could send an unlimited number of messages without any extra cost, unlike standard SMS text messaging. Further, the messaging service was very secure and gave users the privacy they sought.

With increasing competition and decreasing sales and market share of Blackberry, Balsillie wanted to make the BBM platform available on all devices. He envisioned that telecom carriers could integrate BBM as their own enhanced version of SMS text messaging. This could generate additional sales for the carriers, which would get RIM a percentage of the carrier's revenues.[14]

Balsillie's plan created a divide at RIM's management, particularly because BBM was still a key driver of sales of BlackBerry devices. Making the BBM service available to competitors could lead to market cannibalization. As Balsillie continued his push for the BBM strategy, the new CEO squashed it a few weeks after taking office. Lazaridis showed full support for the CEO's decision, whereas Balsillie subsequently resigned from the Board of Directors in March 2012 and sold entire stock of the company that he possessed.[14] In a statement to Canadian newspaper, Globe and Mail, Balsillie left no doubt as to why he left: "My reasons for leaving the RIM board in March 2012, was due to the company's decision to cancel the BBM cross-platform strategy."[15]

THE BLACKBERRY 10

During Heins' tenure as CEO, BlackBerry finally released the BlackBerry 10 in to the market in January 2013 and changed the company name from Research in Motion to BlackBerry Limited. The BlackBerry 10 was not a commercial success, and the company continued spiraling downwards. Despite a number of good reviews, the new phone did not sell very well. Afterwards, Blackberry decided launched the Z10, an all touchscreen version to compete in smartphone market. When the Z10 launched, BlackBerry had a confusing marketing campaign and was unsuccessful in communicating the new device's distinctive competencies.[14] The Z10 was also late to market and was launched at a time when the market was crowded, and there was low demand for new touchscreen smartphones. In fact, the people that were willing to buy new editions of BlackBerrys were consumers who still valued the QWERTY keyboard. Also, many loyal BlackBerry customers thought the new system was far too different from the classic BlackBerry design, and that the new phones seemed to have relinquished all ties to old BlackBerry devices. The company incurred a quarterly loss of $965 million in second quarter of 2013, mostly due to a huge number of BlackBerry Z10 phones that were not sold.[14] As a result of the company's underperformance, Toronto based Investment Company, Fairfax Financial Holdings Ltd, tried to take over Blackberry Limited by offering a price of $4.7 billion, but the deal did not materialize.[16]

Despite RIM's diminishing position in the industry, its management continued to remain optimistic. Former managing director for the U.S and Canada, Andrew MacLeod, stated, "I am heartened by the fact that we have tons of assets – IP assets, technology assets. We have a culture that at its core is about innovation and are in an industry that moves incredibly fast".[5] This signaled that there was a belief internally at BlackBerry that its core competencies could redefine the industry with new innovations. Lazaridis solidified this notion in an interview to Globe and Mail, "Many companies go through cycles. Intel experienced it, IBM experienced it, and Apple experienced it". He further went on to say, "People counted IBM, Apple and other companies out only to be proven wrong. I am rooting that they are wrong on BlackBerry as well".[14]

In order to prove naysayers wrong, BlackBerry needed to address the immense reduction in sales that it experienced since FY 2011. The company sold $1.431 billion worth of hardware in FY 2015 (see Exhibit 3), a reduction of 91% since FY 2011. Further, the sale of services reduced 49% while software performed better with a reduction of 20% for the same period.[17, 18, 19, 20]

Exhibit 3 - BlackBerry revenue mix in millions USD 2010-2014.

Revenue mix	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Hardware	15,956	13,794	6,648	3,785	1,431
Service	3,197	4,086	3,910	2,698	1,620
Software	294	318	261	235	234
Other	460	237	254	95	50
Total	**19,907**	**18,435**	**11,073**	**6,813**	**3,335**

Source: BlackBerry (RIM) annual reports

FUTURE OF THE SMARTPHONE INDUSTRY

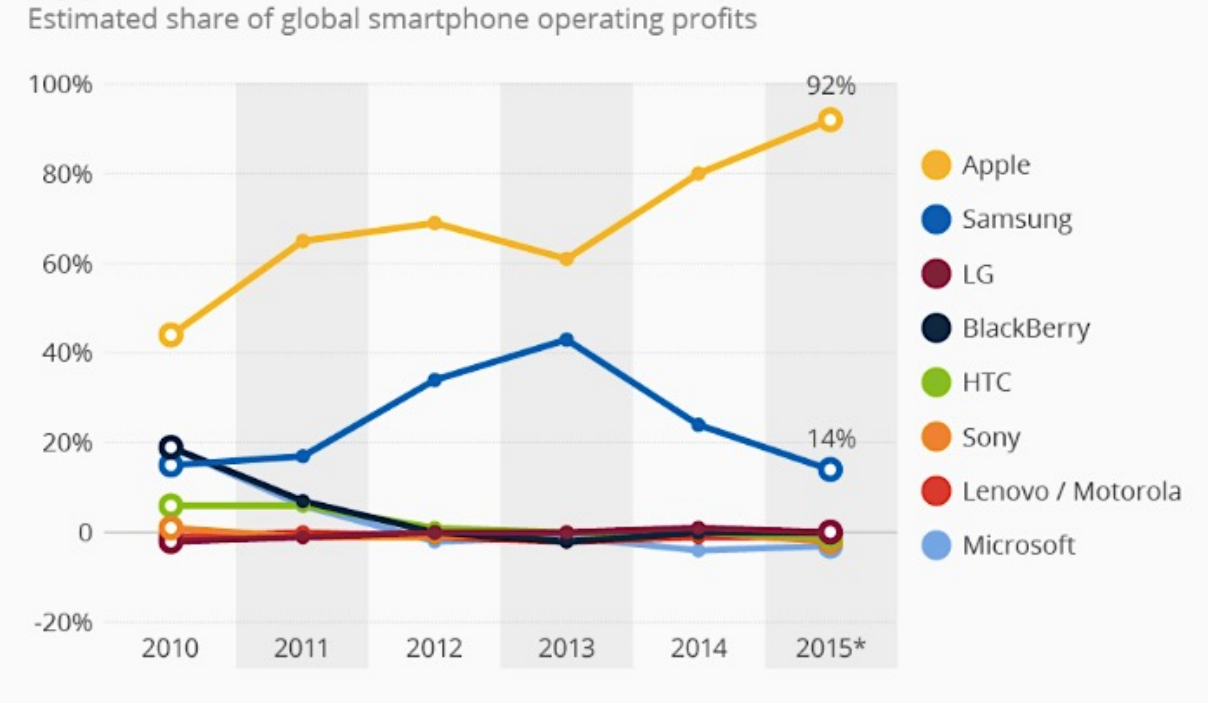
The smartphone industry had been experiencing rapid development and high growth during past decade. There were over a billion units of smartphones shipped worldwide, which constituted more than half of total mobile phone shipments. The industry was a large one, with total industry

sales revenue reaching $429 billion in 2016. Although it was a flattering number, but new trends showed that smartphone industry growth rate had started declining. Growth in smartphone shipments was 40 percent in 2014, down from 46 percent in 2013.[21] This trend was expected to increase in future, as growth in smartphone shipments was forecast at a 9.8% compounded annual growth rate for the period 2014-2018, which constitutes 1.9 billion units in 2018.[22] The primary culprit for this decrease was the low growth in North America and Western European markets. Most individuals in these countries already had existing smartphones, so growth was driven by replacement sales due to a low number of first time buyers. Research showed that as much as 60 percent of sales were expected to be replacements in North America and 40 percent in Western Europe. Along with the increase in reliability and lifespan for smartphones, such replacement sales put a downward pressure on the growth rate. More importantly, only 25% of smartphone shipments will reach mature or developed markets by 2018.[21] As a rational response to the conditions in developed markets, smartphone manufacturers were shifting their focus towards emerging markets, for instance China and India was the most lucrative of the emerging markets.[21]

Recent developments had made the industry much more complex and competitive. The most significant development had been the vast reduction in entry barriers, enabling emerging manufacturers to collectively become a significant force in the industry. Low entry barriers were propelled by two trends that were expected to continue. Firstly, Google's Android operating system was open source software that allowed mass adoption and customization. Secondly, turnkey reference designs from chipset companies like Qualcomm and MediaTek were shortening the design and manufacturing process.[21] This was due to the expertise of such tech companies to provide fully packaged solutions with certified and tested components that were ready to go.

Most emerging manufacturers originated out of Shenzhen, China, that were taking advantage of the low cost supply chain of their home market and expanding sales beyond their borders. In December of 2014, Chinese smartphone producer, Xiaomi, cemented its position as the world's most valuable tech startup, with value exceeding $46 billion.[23] The emergence of low cost Chinese manufacturers had segmented the market into a two-tier pricing strategy. Xiaomi, Vivo, Huawei, and countless other Chinese, no-name brands were making very affordable products with attributes that were good enough for most consumers. Apple had branded its iPhone as a luxury good, where a huge selection of well-implemented apps and other services went a long way of differentiating the iPhone from other smartphones. Due to these features, Apple was charging a premium for its product, which resulted in positive operating margins (see Exhibit 4). [21] The emergence of Chinese players had put everybody else virtually in a "no-man's land" between Apple and low-cost providers. As a result, average prices on Android phones had dropped, a trend that was likely to continue. Industry forecasts projected smartphones to have an average selling price of $241 worldwide by 2018.

Exhibit 4 - Smartphone manufacturers operating margin 2010-2015.



Source: Statistica.com

In many respects, the smartphone industry resembled a duopoly. Apple and Samsung accounted for the vast majority of industry sales and for most of the profits generated by the top 10 manufacturers.[21] Nonetheless, Apple and Samsung's dominance and profit margins would be challenged in the future, primarily because of the competition emerging from China. Chinese manufacturers were expected to ship more than 350 million smartphones in 2018. The increase in competition was squeezing industry incumbents such as Motorola, Nokia, and Blackberry, and such competition was rigorously pressuring their profit margins.

Most existing smartphones were similar in design, had touchscreen capabilities, ranging from four to seven inches. The similarity in design meant that innovation in hardware was at a historic low, because new hardware had to fit existing design models.[21] Curtailed difference in hardware had increased the importance of marketing expenditures, and leading industry incumbents in Western markets were allocating more and more resources to brand building and advertising. Another critical success factor in the industry was intellectual property. IP strength not only protected against infringement claims, but also constituted a significant source of revenue due to licensing agreements.

By 2017, in operating systems, Android dominated with 81.7% market share. Apple's iOS ranked at number 2, with 17.9% market share.[24] The main difference between iOS and Android operating systems was that Android was spread across a broad range of manufacturers and prices, while iOS was Apple's exclusive operating system designed only for Apple products. Windows phones were also generating some momentum and had a market share of 0.3% in 2017 and ranked at number 3 in the industry.[24] Mobile network carriers functioned either with or without subsidies. It was a norm for mobile network operators (such as AT&T and Verizon) to subsidize, or pay to the manufacturer of smartphones to carry their products. In unsubsidized markets, the competition

was higher, and the markets were characterized by a more open supply profile in which manufacturers had the incentive to sell directly to the end consumer and circumvent network operators. It might be beneficial for the market if carriers commit to offering many operating platforms, because doing so would increase competition and reduce the duopoly features of Android and iOS. However, having iOS and Android in their portfolio was ultimately beneficial for carriers because it means that they distribute the vast majority of competition among manufacturers.[21]

SMART PHONE INDUSTRY COMPETITOR ANALYSIS

Apple Inc.

A major player in the smartphone industry is iPhone by Apple Inc. The company had a core competence in product design, software development, application development, and hardware. Apple Inc. not only targeted corporations and governments as potential customers but also targeted general consumer, academic institutions, SMEs. Most of the Apple products were sold through Apple's own retail and online stores; however, the company also utilized indirect distribution channels such as telecom carriers, wholesalers, retailers, and value-added resellers. Another core competence for Apple was a continuous focus on R&D, in order to keep up with and lead technological advancements. Apple Inc.'s R&D expenditure was about $10 billion by 2017[25] which is more than most smartphone companies were worth. A significant source of Apple's competitive strength was its ecosystem.[26] Apple's iCloud service enabled users to sync a particular file or data on all Apple devices, so if one edits a photo on iPhone, the changes would be made automatically on all other devices.[26] These features gave Apple users an incentive to purchase other Apple products, because benefits and convenience of use brought value to the consumer. Following are the four most popular iPhone models that are in market. (See Exhibit 5 for information on iPhone models.)

Exhibit 5 - Selected information Apple iPhones (without carrier contract)

Model	iPhone 7 Plus	iPhone 7	iPhone 6s Plus	iPhone 6s	iPhone SE
Price	$749	$649	$649	$549	$399
Capacity	32, 128 or 256 GB	32, 128 or 256 GB	32 or 128 GB	32 or 128 GB	16 or 64 GB
Display	5.5" Retina HD	4.7" Retina HD	5.5" Retina HD	4.7" Retina HD	4" Retina
Talk time	Up to 21 hours	Up to 14 hours	Up to 24 hours	Up to 14 hours	Up to 14 hours
Intelligent Assistant	Siri	Siri	Siri	Siri	Siri

Source: Company websites

Samsung Electronics Co.

The other major player in the smartphone industry was the South Korean tech giant Samsung Electronics Co. Samsung maintained its leadership status across multiple sectors by investing heavily in R&D. In recent years, Samsung invested $13 billion in R&D, which led to 4,676 new patents in the United States alone.[27] Samsung had strategic resources that competitors found hard to replicate such as substantial economies of scale, which drove down per unit cost.

The company had a very favorable cost structure due to its great efforts in vertical integration. Samsung had an aggressive pricing strategy and allocated a large amount of resources towards marketing expenditures.[27] The company was a dominant force in the Android operating system. With Android, consumers could purchase and download multiple applications, which was similar to Apple's app store. Samsung sold products to authorized distributors, mainly through mobile network carriers or large electronic outlets like BestBuy. Samsung offered a wide range of smartphones with low, medium and high price points. Following are the four most popular Samsung smartphones that were competitors of iPhone. (See Exhibit 6 for information on Samsung smartphones)

Exhibit 6 - Information on selected Samsung Smartphones (by Verizon)

Model	Galaxy S8 plus	Galaxy S8	Galaxy S7 Edge	Galaxy S7
Price	$840	$756	$670	$570
Capacity	64 GB	64 GB	32 GB	32 GB
Display	6.2" Quad HD+ & Dual Edged Superv AMOLED	5.8" Quad HD+ & Dual Edged Superv AMOLED	5.5" Quad HD SupervAMOLED	5.1" Quad HD SupervAMOLED
Talk time	Up to 34 hours	Up to 30 hours	Up to 28 hours	Up to 28 hours
Intelligent Assistant	S Voice	S Voice	S Voice	S Voice

Source: Samsung[28]

RESTRUCTURE AND FUTURE OPERATIONS OF BLACKBERRY

In March of 2013, BlackBerry announced the retirement of Lazaridis as Vice Chair.[29] After the board at BlackBerry abandoned the buyout deal from Fairfax Financial Holdings, Mr. Heins was also ousted, and Mr. John S. Chen was brought in as CEO. Mr. Chen was previously the chairman and CEO of Sybase Inc., and his background also included executive positions at Siemens AG, Pyramid Technology Corp. and Burroughs Corp.[1] In 2014, the company announced a joint venture with Foxconn to develop a consumer smartphone tailored for Indonesia and other growth markets.[30] By 2017, the company carried six different versions of BlackBerry smartphones. Three out of the six smartphones were Android operated while remaining half supported BlackBerry's operating system. BlackBerry's recent smartphone models that supported company software had the ability to download apps, through the company's own app store "BlackBerry World", or through the Amazon Android app store[31] (see Exhibit 7 for information regarding BlackBerry smartphones).

Exhibit 7 - Select info on selected BlackBerry models (without carrier contract)

Model	Passport	Leap	DTEK 60	KEYone
Price	$549	$218	$440	$225
Capacity	32 GB	16 GB	32 GB	32 GB
Display	4.5” Square touch display	5” Touch Display	5.2” or 5.5” Fully Touch Display	4.5” Partially Touch Display with Key Hard Board
Talk time	Up to 14 hours	Up to 12 hours	Up to 26 hours	N/A
Operating System	BlackBerry 10 OS	BlackBerry 10 OS	Fully Android	Fully Android

Source: BlackBerry

According to Chen, the company was in a far better position than industry experts’ claimed. Under his leadership, BlackBerry intended to return to its core strengths that catered to enterprises with security and efficiencies. Chen’s first task as CEO was to restructure the operating units. By 2017, the company had four distinct operating units: Enterprise Software, Secure Communications, Technology Solutions and Secure Smartphones.[32] Chen believed this structure would lead BlackBerry to an increased focus on software services and would make the smartphones unit more efficient. The company was still the leader when it came to enterprises, with a customer base exceeding 80,000. BlackBerry also continued to remain popular with governments; seven out of the seven G7 countries’ governments were BlackBerry customers. Furthermore, the company’s BBM messaging service was released for Android and iOS users through their respective app stores. BBM had generated more than 40 million users on Android and iOS devices.[32] Chen saw great potential with BBM, and BlackBerry was expected to continue reinvesting in this technology to update features and channels.

Looking at the revenue trajectory of BlackBerry over past few years, a dramatic drop in the company’s revenues couldn’t be ignored. Company revenues dropped from $19.9 billion in FY 2011 to $935 million in FY 2017 (see Exhibits 8 and 9 for detailed info regarding BlackBerry’s financial situation). Nonetheless, in April 2017, BlackBerry’s shareholders received a momentous news when company was awarded $815 million in an arbitration against Qualcomm, which surged the company’s share price more than 18 percent.[33]

Exhibit 8 – Blackberry Consolidated Statement of Operations, 2017

BlackBerry Limited
(United States dollars, in millions, except per share data)

Consolidated Statements of Operations

	For the Years Ended		
	February 28, 2017	February 29, 2016	February 28, 2015
Revenue			
Software, services and service access fees	$ 935	$ 1,276	$ 1,854
Hardware and other	374	884	1,481
	1,309	2,160	3,335
Cost of sales			
Software, services and service access fees	109	247	287
Hardware and other	433	936	1,349
Inventory write-down	150	36	95
	692	1,219	1,731
Gross margin	617	941	1,604
Operating expenses			
Research and development	306	469	711
Selling, marketing and administration	553	653	769
Amortization	186	277	298
Impairment of goodwill	57	—	—
Impairment of long-lived assets	501	—	—
Loss on sale, disposal and abandonment of long-lived assets	171	195	169
Debentures fair value adjustment	24	(430)	80
	1,798	1,164	2,027
Operating loss	(1,181)	(223)	(423)
Investment income (loss), net	(27)	(59)	38
Loss before income taxes	(1,208)	(282)	(385)
Recovery of income taxes	(2)	(74)	(81)
Net loss	$ (1,206)	$ (208)	$ (304)
Loss per share			
Basic	$ (2.30)	$ (0.40)	$ (0.58)
Diluted	$ (2.30)	$ (0.86)	$ (0.58)

Source: Blackberry Financial Documents, Blackberry Inc. 2017

Exhibit 9 – Blackberry Balance Sheet, 2017

BlackBerry Limited
Incorporated under the Laws of Ontario
(United States dollars, in millions)

Consolidated Balance Sheets

	As at	
	February 28, 2017	February 29, 2016
Assets		
Current		
Cash and cash equivalents	$ 734	$ 957
Short-term investments	644	1,420
Accounts receivable, net	181	338
Other receivables	34	51
Inventories	26	143
Income taxes receivable	17	—
Other current assets	55	102
	1,691	3,011
Long-term investments	269	197
Restricted cash and cash equivalents	51	50
Property, plant and equipment, net	91	412
Goodwill	559	618
Intangible assets, net	602	1,213
Deferred income tax asset	—	33
	$ 3,263	$ 5,534
Liabilities		
Current		
Accounts payable	$ 103	$ 270
Accrued liabilities	258	368
Income taxes payable	—	9
Deferred revenue	245	392
	606	1,039
Long-term debt	591	1,277
Deferred income tax liability	9	10
	1,206	2,326
Shareholders' equity		
Capital stock and additional paid-in capital		
Preferred shares: authorized unlimited number of non-voting, cumulative, redeemable and retractable	—	—
Common shares: authorized unlimited number of non-voting, redeemable, retractable Class A common shares and unlimited number of voting common shares		
Issued - 530,497,193 voting common shares (February 29, 2016 - 521,172,271)	2,512	2,448
Retained earnings (deficit)	(438)	768
Accumulated other comprehensive loss	(17)	(8)
	2,057	3,208
	$ 3,263	$ 5,534

Source: Blackberry Financial Documents, Blackberry Inc. 2017

SOFTWARE SECURITY COMPETITOR ANALYSIS

Blackberry's software security division had a limited competition in software security industry as compare to the competition that the company faced in smartphone (hardware) industry. There was a long list of companies providing a wide range of different types of enterprise securities. However, Blackberry Limited specialized in Mobile and Data Security for Enterprises. A few of Blackberry Limited's close competitors in mobile & data security industry were Symantec, Verizon Enterprises and Imperva.

Symantec (Mobile Security)

Symantec was a California based public limited company founded in April 1982 that offered a variety of mobile security solutions, and its security software was most popularly known as Norton.[34] Symantec was particularly specialized in mobile (software) security, and its information security revenue was about $3.77 billion by 2017. Symantec was a large size company and employed about 11,000 people around the world.[35] Symantec was a tougher competitor for Blackberry. Nevertheless, by maximizing the allocation of resources to its software business, Blackberry might be able to do better than it was doing by the second quarter of 2017.

Verizon Enterprises (Data Security)

Verizon Enterprise security was a unit of New Jersey based company known as Version Communications that offered mobility and data security solutions. It was founded as Verizon business in 2006 but was renamed as Verizon Enterprise Solutions in 2012.[36] Although Verizon Communications was a big player in its competitive market of wireless networks, but in order to compete Blackberry in enterprise security business, Verizon Enterprise Solutions was relatively a new company in software security industry. There was no doubt that competing with a company backed by such a giant market player was a challenge for Blackberry Limited, yet a well thought strategy might turn out to be a success in long run.

Imperva (Data Security)

Imperva was a California based public limited company that provided a variety of data security solutions and was founded in 2002.[37] It employed almost 1000 people and operated in approximately 100 countries. Imperva's revenue for fiscal year 2017 was about $264 million. Imperva was also experiencing financial difficulties as its stock performance had been volatile over the past years.[38] Hence, as a competitor, this could be a competitive advantage for Blackberry to cater to the market share that Imperva was not able to access.

FUTURE OF BLACKBERRY

Industry experts believed BlackBerry's sales were yet to bottom out, putting a strain on the company's cost structure. In a very crowded and highly competitive industry, the road to profitability would not come easy for Blackberry and will certainly test the company's managerial skills as well as strategic thinking at higher levels. With rumors and speculations surrounding the Canadian tech giant's future reaching an all-time high, Chen released an open letter to BlackBerry

users: highlighting the company's strengths, commitment to innovation and dedication to "earning your business – or earning it back".[39] The letter reduced speculations regarding a potential sale of the company, but a profitable future is still uncertain where Mr. Chen has difficult strategic choices to make. Nonetheless, on December 20, 2016, Blackberry reported GAAP gross margin of 67% driven by tremendous growth in software and service revenue[40]. Looking at the changing momentum of BlackBerry's leadership and financial inflow, perhaps it was possible for BlackBerry to keep improving the gross margins and optimizing the company's cost structure.

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ASSESSING PERCEIVED DIGITAL LITERACY BETWEEN COMPUTER SCIENCE MAJORS AND INFORMATION SYSTEMS MAJORS: A PILOT STUDY

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ABSTRACT

Digital literacy is critical to the success of both Computer Science and Information Systems majors in the 21st century. This generation of computing majors must be prepared to thrive in today's online environment, regardless of their computing major. The research took place in a large urban university. This study looks at the perceptions of these majors about their digital literacy abilities. We used a 10 item survey based on Renee Hobbs' digital framework to measure differences in perceived digital literacy between Computer Science students and Information Systems students, and between different demographics among all computing students. Our research results indicate that Computer Science students consider themselves significantly more positive in their ability to use the Internet to connect with others than do Information Systems students. In addition, Native English speaking students are significantly better able to examine the quality and credibility of content of messages and to understand the meaning of copyright compared to their non-native English speaking counterparts. Finally, female students are better able to develop multimedia creations and to reflect on their online conduct and online social responsibilities than are male students. We suggest appropriate curriculum enhancements to address these issues.

Key words: digital literacy; Computer Science; Information Systems; Internet citizens, curriculum; curriculum enhancement

INTRODUCTION

Computing is a growing field and is expected to grow 12% between 2014 and 2024, faster than any other occupation (Bureau of Labor Statistics). Judging from enrollment statistics undergraduates are returning in great numbers to computing as a course of study. At the same time, there is significant concern about developing and maintaining up-to-date curriculum for these students.

More broadly, the use of computing has become an essential skill in all professions, from accounting to medicine to marketing. Furthermore, in order to function as a fully engaged citizen requires a degree of expertise with respect to computing. Basic government tasks such as getting a copy of a birth certificate or renewing a driver's license require computing skills and access to the Internet.

Current literature emphasizes the growing importance of digital literacy in the online world of the Internet. Academic and professional success depends on building digital literacy competencies. Friedman (2015) provides a useful definition of Digital Literacy: the ability to find, evaluate, utilize, share and create content using information technologies and the Internet. Digital literacy includes but is not limited to computer literacy and Internet know-how. "It's about understanding how information can be found and communicated through computer hardware and software, the Internet, smartphones, tablets, and other digital devices, and knowing how to use these digital outlets to interact with society in a morally responsible way" (Friedman 2015).

As early as 2007, Lauden & Lauden noted that most Fortune 500 companies had a visible on-line presence in the form of corporate twitter accounts and other forms of technical communication (Lauden & Lauden, 2007). Comparing the Fortune 500 companies in 2007 with the 2015 list reveals that 240 companies remain, while 260 have fallen off the list. Disruptions in the market place with new digital models has contributed to this turnover. Failure of corporations to adapt to a changing digital age is due in part to a major shift to a shared economy, based on individual transparent transactions that directly interact with service providers. Uber, TaskRabbit, Amazon, and eBay are four typical examples. Transactions within the shared economy depend on a digitally literate on-line clientele.

The academic environment is the incubator for those students who will create future digital opportunities. This research discovers and addresses important similarities and differences in perceived digital literacy among Information Systems (IS) majors and Computer Science (CS) majors.

BACKGROUND

The global economy is driven by the Internet and its vast storage of knowledge. It is practically impossible to function professionally today without digital literacy and fluency in all aspects of Internet use. Students today are native speakers of the digital language of computers, video games and the Internet (Meyerson, 2016).

A 2016 Pew Research Center survey found approximately 9 out of 10 U.S. adults and 98 percent of adults with some college use the Internet. Among younger adults 18-29, 50% go online multiple times per day. The higher the educational level and the higher the income, the more online usage. By 2015, 29% of college educated adults were online "almost constantly" (Perrin & Duggan, 2015). This online engagement in global networks has created a need for students to become responsible economic global citizens. In addition to basic digital literacies, social and ethical responsibilities are also necessary.

Components of digital literacy

According to the 2003 UNESCO definition, "Literacy is the ability to identify, understand, interpret, create, communicate, compute and use printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society".

Literacy can be applied to specific domains by identifying a baseline cognitive fluency, and demonstrating how this fluency supports a more engaged citizenry. Examples include

information technology literacy (Snyder et al. 1999), information and communications technology e-readiness (Gomez & Turoff, 2007), and quantitative literacy (Meyer & Dwyer, 2006).

DIGITAL LITERACY MODELS

Digital Literacy models encompass competencies necessary to function effectively in a digitally enabled society. Gilster introduced the term 'digital literacy' in 1997. He defined the term as "the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers" (Gilster 1997, p. 1). Chan, Churchill & Chu (2017) identify several current definitions of digital literacy, including Martin's comprehensive 2008 description of a digital literate person as someone with the ability to identify, access, manage, integrate, evaluate, analyze and synthesize digital resources.

Digital literacy models usually include lower technical layers, such as the basic skills required to use computer technology, and the Internet layers composed of skills needed to consume digital information, such as a facility with browsers. Gilster's original model, for example, implied two layers: a layer represented by computers and a second layer where the information is formatted from a wide range of sources. Typically, the next layers involve abilities to interact with internet content, and the top layers address requirements to digest and use online information. As information technologies and systems mature, the digital literacy models included more competencies; for example, Snapchat presupposes the ability to be visually literate and includes creating and consuming memes. The newer models of digital literacy also focus on the abilities related to social and societal requirements for internet and digital competency. An example is Eshet-Alkalai (2004) comprehensive five- skill conceptual model for digital literacy. This model consists of five layers: (a) photo-visual literacy-- learning to read from visuals, (b) reproduction literacy-- the art of creative duplication or recycling of existing materials, (c) branching literacy-- hypermedia and non-linear or multi-domain thinking-- (d) information literacy-- the art of skepticism, and (e) socioemotional literacy.

Rheingold introduced mindfulness as a key determinant of digital literacy in 2012. His focus is the intelligent, humane and mindful use of the Internet. He outlines five fundamental digital literacies. *Attention* that leads to the ability to focus on the tiny relevant portion of the incoming tsunami of information*, participation*, *collaboration*, understanding *networks and network building*, and *"crap detection"* defined as the critical consumption of information (Rheingold, 2012).

The descriptions and components of digital literature continue to expand to accommodate new populations and technologies. For example, Apple released the first iPhone in 2007 changing the nature of personal communications and digital literacy. In March of 2010 Sprint launched the first 4G enabled mobile phone. With the new 4th Generation 100 Megabit per second speed came the ability to transmit visual information as easily as text. Visual literacy thus became an essential part of the linguistics of digital literacy. As of September 2016, FactTank: News in the numbers reported 87% of persons in the United States and 40% of the world population use the Internet (3.7 billion people out of 7.5 billion) (Pew Research Center, 2016).

RENEE HOBBS DIGITAL LITERACY MODEL

Hobbs authored one of the most comprehensive contemporary conceptual descriptions of digital literacy competencies in the white paper *Digital and Media Literacy: A Plan of Action*

(Hobbs, 2010). This white paper explicates the plan developed by a premier group of scholars at the Aspen Institute and the Knight Commission on the Information Needs of Communities in a Democracy.

Renee Hobbs subsequently enumerated a list of ten generic competencies, abilities that are required of a digitally literate citizen today: They include:

1. The ability to analyze messages in a variety of forms, including identification of the author, purpose and point of view of the message.
2. The ability to evaluate the quality and credibility of content in a message (e.g., distinguishing between "a marketing ploy for nutritional supplements and solid information based on scientific evidence" or quality content and junk journalism).
3. Knowledge of and the ability to use powerful search strategies.
4. The ability to develop multimedia creations.
5. The ability to use the Internet to connect with others with shared interests.
6. The ability to reflect on online conduct and online social responsibilities.
7. The ability to use the power of communication as a tool for advocacy.
8. Understanding of "copyright".
9. The ability to apply social responsibility and ethical principles to communication behavior.
10. The ability to work collaboratively to solve problems in the civic sphere, which will require many of the other capabilities listed above.

ASPECTS OF HOBBS' DIGITAL LITERACY MODEL

Hobbs' Model outlines the framework of digital literacy skills needed to build successful professional careers. Computer Science and Information Systems professionals require an especially high level of digital literacy. This includes the ability to analyze messages from internal and external sources; to discern the purpose and point of view of the authors messages; and to creates better understanding of professional goals and communications. Competency in analyzing these online interactions leads to a clearer understanding of design and implementation requirements. Computing professionals constantly need to research and evaluate new technologies and computing methods, and must have the ability to evaluate the quality and credibility of web information. These professionals need to be able to use powerful search strategies to obtain state of the art materials to inform their problem analyses and solution strategies.

It is rare to encounter a strictly text-based message on the Interactive Web. White papers, social media, resumes, online interviews and research papers all depend on multimedia to communicate their messages. Competency in authoring multimedia messages assists computing professionals in disseminating their work, communicating with in-house and external clients, and in furthering their careers. Better Internet literacy in research, multimedia, message creation and message evaluation all lead to better communication and the ability to connect to others with shared interests. It is imperative that computing professionals and others have an awareness of their online conduct and have the ability to reflect on their online social responsibilities. The ability to use internet media as a tool for advocacy is essential not only professionally, but also to fulfill one's responsibilities as a citizen in this digital age. Nowhere is it more critical than in the computing disciplines to act in a socially responsible and ethical manner in online activities. Finally, the entire fabric of the information age depends on the ability to collaborate to solve civic and professional problems ethically.

Description of Computing School Majors

The subjects of this pilot study attend a university that has a separate school of computing (hereafter referred to as The Computing School). The Computing School offers programs in Computer Science and Information Systems for undergraduates and graduates. Undergraduate degrees include a BA and BS in Computer Science, and both a BS and BBA in Information Systems, plus a BS major in Information Technology (grouped under Information Systems for the purpose of this study). The school also offers Masters Degrees and Doctoral degrees.

The Computing School is dedicated to developing abilities that enhance individual and community effectiveness, extend knowledge, and enhance critical understanding of the culture. The educational process is concerned with the development of personal, professional, and social responsibility.

Computer Science majors generally focus on the computer and communications' technologies rather than their contexts of use. The curriculum in Computer Science is based upon algorithms and data structures, the principles of programming languages, computer architecture, data communications, and theoretical foundations. It includes advanced work in various areas including software engineering, security, operating systems, compilers, artificial intelligence, telecommunications and graphics.

The Information Systems programs focus on the computer within an organizational context. This discipline emphasizes the interactions with business and functional areas. This liaison role is at the center of much of the Information Systems' curriculum. The context of computing includes emphasis on requirements gathering, data design and analytics, systems analysis and design, and the acquisition, deployment, and management of information technology resources and services. The curriculum includes advanced work in database programming, data mining, networks and internet security, and multimedia.

THE RESEARCH STUDY

It is extremely important for Computer Science and Information Systems students to be highly functional as they enter the global economy. We believe that the digital literacies described above in the Hobbs Model are important to facilitate that functioning. This study explores the perceptions of these majors of their own digital abilities.

Research Question

Our research hypothesis, stated in the null, is: "There is no significant differences between Computer Science majors and Information Systems majors with regard to ten questions that measure digital literacy defined by the Hobbs' Digital Literacy Model."

Subjects

The sample for this pilot study is taken from the population of undergraduate and graduate students majoring in Computer Science and Information Systems at a large northeastern private university. The subjects include 36 Computer Science students and 41 Information Systems students. 72% of these subjects are under 25 years of age, while 28% are 25 years of age or older.

International students make up 34% of the subjects, while 66% are native English speakers. Sixty-nine percent are male and 31% are female.

Research Instrument

The survey instrument uses items from the Hobbs Digital Literacy Model (Hobbs, 2010). This model represents ten generic abilities that represent digital literacy. The model was originally published in 2010 and is still relevant as a model of digital literacy today. The survey relies on self-perceptions and is measured by: a) very low ability (-2); b) low ability (-1); c) neither low nor high ability (0); high ability (1); and very high ability (2). [See Appendix A for the Survey Instrument.][See Appendix B for the Demographics Instrument].

Self-Perception and Actual Ability

Our survey instrument requests respondents to rank their perceived ability and understanding of the ten aspects of digital literacy from Appendix A. The underlying assumption is that these self-perceptions and assessments are correlated with objective measures of actual ability and understanding. There are convincing precedents for making this assumption. For example, Hargittal's (2009) research on survey measures of web-oriented digital literacy compared perceived behaviors and objective measures of skill levels. He found that people's self-rated level of understanding of various computer and internet-related terms on a 5 point scale was a relatively good predictor of how well they were able to navigate online content. In 2014 Zelt and Krizan published a Metasynthesis of 22 meta-analyses of research investigating the correspondence between self-evaluation of ability and objective performance measures. The 22 meta-analyses covered a variety of fields including academic ability, intelligence, language competence, medical skills, sports ability, and vocational skills. Although the overall correlation reported by Zelt and Krizen is moderate, the small standard deviation over the wide breadth of 22 studies supports our assumption that the results we report in this research reflect not only the self-perceptions of the respondents, but also their corresponding objective abilities and understandings.

Hypotheses

We hypothesize, that there is no significant difference between Computer Science students and Information Systems students in their ten digital literacy skills. What follows are our hypotheses stated in the null.

$H1_0$: There is no significant difference between Computer Science and Information Systems students in their ability to analyze messages in a variety of forms, including identification of the author, purpose and point of view of the message.

$H2_0$: There is no significant difference between Computer Science and Information Systems students in their ability to evaluate the quality and credibility of content in a message (e.g., distinguishing between "a marketing ploy for nutritional supplements and solid information based on scientific evidence" or quality content and junk journalism).

$H3_0$: There is no significant difference between Computer Science and Information Systems students in their knowledge of and ability to use powerful search strategies.

$H4_0$: There is no significant difference between Computer Science and Information Systems students in their ability to develop multimedia creations.

$H5_0$: There is no significant difference between Computer Science and Information Systems students in their ability to use the Internet to connect with others with shared interests.

$H6_0$: There is no significant difference between Computer Science and Information Systems students in their ability to reflect on online conduct and online social responsibilities.

$H7_0$: There is no significance difference between Computer Science and Information Systems students in their ability to use the power of communication as a tool for advocacy.

$H8_0$: There is no significant difference between Computer Science and Information Systems students in their understanding of "Copyright".

$H9_0$: There is no significant difference between Computer Science and Information Systems students in their ability to apply social responsibility and ethical principles to communication behavior.

$H10_0$: There is no significant difference between Computer Science and Information Systems students in their ability to work collaboratively to solve problems in the civic sphere, which will require many of the other capabilities listed above.

RESULTS

We hypothesized that there were no significant differences between Computer Science students and Information Systems students in the ten digital literacy skills contained in the Hobbs Digital Literacy Model.

A T-test for Equality of Means was performed using SPSS. The following results show the digital literacy abilities with a p value of less than .20 at the 80% confidence level, rejecting the null hypothesis for Hypothesis 5.

$H5_0$ reveals a significant difference between the perceptions of Computer Science majors and Information Systems majors for Question 5, as Computer Science majors rate themselves significantly higher than Information Systems students in the category of using the Internet to connect with others with shared interests. (Table 1)

TABLE 1
Identification of Significant Differences in Digital Literacy between Computer Science and Information Systems Students on the Hobbs Digital Literacy Model
[Mean from -2 to +2]

	Null Hypotheses	Computer Science students' mean n = 36	Information Systems students' mean n = 41	p value .20
$H1_0$:	*There is no significant difference between Computer Science and Information Systems students in their ability to analyze messages in a variety of forms, including identification of the author, purpose and point of view of the message.*	.84	1.02	.244
$H2_0$:	*There is no significant difference between Computer Science and Information Systems students in their ability to evaluate the quality and credibility of content in a message (e.g., distinguishing between "a marketing ploy for nutritional supplements and solid information based on scientific evidence" or quality content and junk journalism).*	.86	1.000	.472
$H3_0$:	*There is no significant difference between Computer Science and Information Systems students in their knowledge of and ability to use powerful search strategies.*	1.14	1.07	.658
$H4_0$:	*There is no significant difference between Computer Science and Information Systems students in their ability to develop multimedia creations.*	.57	.71	.519
$H5_0$:	**There is no significant difference between Computer Science and Information Systems students in their ability to use the Internet to connect with others with shared interests.**	**1.73**	**1.51**	**.124**
$H6_0$:	*There is no significant difference between Computer Science and Information Systems students in their ability to reflect on online conduct and online social responsibilities.*	1.14	1.32	.380
$H7_0$:	*There is no significance difference between Computer Science and Information Systems students in their ability to use the power of communication as a tool for advocacy.*	1.03	.93	.586
$H8_0$:	*There is no significant difference between Computer Science and Information Systems students in their understanding of "Copyright".*	1.03	1.00	.895
$H9_0$:	*There is no significant difference between Computer Science and Information Systems students in their ability to apply social responsibility and ethical principles to communication behavior.*	1.24	1.32	.622
$H10_0$:	*There is no significant difference between Computer Science and Information Systems students in their ability to work collaboratively to solve problems in the civic sphere, which will require many of the other capabilities listed above.*	.95	.98	.872

When we examined the demographics of our population of Computer Science and Information Systems students, we found significant differences between native English speaking students and non-native English speaking students among Computer Science and Information Systems majors. Native English speaking students perceived themselves as being significantly better able to evaluate the quality and credibility of content of internet messages than non-native English speaking students, based on Question 2 of the Hobbs Model.

Also these same Native English speaking students perceived themselves as being better able to understand the meaning of "Copyright" than non-native English speaking students, based on Question 8 of the Hobbs Model. (See Table 2 below.)

Table 2
Identification of Significant Differences in Digital Literacy between Native English and Non-native English Speaking Computer Science and Information Systems students
[Mean from -2 to +2]

		Native English speaking students' means n = 52	Non-Native English speaking Students' means n = 25	p value .20
Question 2	Ability to evaluate the quality and credibility of content in a message	1.06	.64	**.051**
Question 8	Ability to understand "copyright"	1.12	.76	**.16**

Again when we looked at the demographics of our population of Computer Science and Information Systems students, we found significant differences between female students and male students. Female students perceived themselves as better able than male students to develop multimedia creations, based on Question 4 of the Hobbs Model. (See Table 3 below.)

Based on Question 6 of the Hobbs Model, female students also perceived themselves as better able than male students in their ability to reflect on online conduct and online social responsibilities. (See Table 3 below.)

TABLE 3
Identification of Significant Differences in Digital Literacy between Female Students and Male Students.
[Mean from -2 to +2]

		Female Students n=24	**Male Students n= 53**	**p value .20**
Question 4	Ability to develop multimedia creations	.83	.56	**.20**
Question 6	Ability to reflect on online conduct and online social responsibilities	1.46	1.13	**.099**

We found no differences in any of the 10 hypotheses for students in two age groups: those younger than 25 years old and students who are 25 years old and older.

ANALYSIS OF THE RESULTS

The rejection of Hypothesis 5, "the ability to use the Internet to connect with others with shared interests," suggests that Computer Science students believe they are better able to use the Internet to collaborate with others more so than Information Systems students. College age students today spend the majority of their day connected. Today's average college graduates have spent less than 5,000 hours of their lives reading and over 10,000 hours playing video games. Computer games, email, the Internet, cell phones and instant messaging are integral parts of their lives. As early as 2010 Nielson's research results showed "virtually all students keep one or more tabs permanently opened to social networking services like Facebook" (p 1). What was surprising was that Computer Science majors rated themselves significantly higher than did Information Systems majors on the use of Internet collaboration. One explanation may be in the different levels of technical education the two groups receive.

Our second important finding indicates a significant perceived difference on the part of native English speakers in their ability to evaluate the quality and credibility of content in a message. English literacy is especially critical to understanding the more abstract, language dependent aspects of digital literacy as defined in the Hobbs Model. These abilities require a higher level of English language competency. As there is more and more emersion of non-English native speaking students in our English-speaking classrooms, this result becomes more challenging. Many of these students are not here long enough for them to heighten their ability to evaluate English written messages. Additional instruction in English proficiency, and a longer acculturation time-period over which this happens, would likely narrow these digital literacy differences.

Our third important finding indicates a significant perceived ability on the part of native English speakers in their ability to understanding the meaning of "copyright." Since copyright is a legal right granted by a specific country, it makes since that non-native English speakers would be less aware of the need for, requirements of, and application of copyright in our country. Yet the use of copyright is very important to protecting our creative works, especially related to Internet use.

Our fourth important finding indicates a significant perceived difference between female and male students in their ability to develop multimedia creations, with females having better ability. Research by the New Media Consortium (Becker, 2017) suggests that college students who can create original work using digital tools, can adapt to a wider range of work environments and have better career advancement opportunities. They found that college students who received better digital literacy training in school, had higher promotion rates after college. Note that although female students were significantly better at developing multimedia creations, the mean average for both women and men was the lowest of any of the Hobbs' Model questions. This could be a valuable addition to college curriculum.

Our fifth finding indicates a significant perceived difference between female and male students in their ability to reflect on online conduct and online social responsibilities, with females having better ability. Research by the Pew Research Center (Fallows, 2005) found that both men and women recognized the risks and dangers from online activities. But they found that "women have expressed more fears than men have about the internet being a vehicle for national and worldwide problems. These include general criminal use of the internet, child pornography,

organized terrorism, and hacking into government information. For online chats and discussion groups, women's dramatic decline in participation rates coincided with increased public awareness about worrisome behavior in chat rooms." Also health-care research suggests the need for "careful reflection of roles and responsibilities" and the need to consider the abuse of data found on the internet (Denecke et al, 2015). This paper also warns of the need for "confidentiality and privacy, consent, autonomy and choice, justice/fairness, inclusion, security, and dignity, with project guidelines not necessarily pointing to clear answers and possibly including conflicts between different ethical pointers." With the pervasiveness of the internet, both for personal and professional use, our students must be able to reflect on their online conduct and responsibilities of that conduct.

SUGGESTIONS FOR CURRICULUM ENHANCEMENTS

Based on the findings in our pilot study, we have five suggestions for curriculum enhancements for these subject groups.

First, Information Systems majors are not as adept at connecting with others with shared interests as are Computer Science majors. We need to examine current curriculum content for Information Systems majors to create assignments that will help them connect with others with a shared interest. For example, one could create a database case project with another university where Information Systems students must pair up by university to solve the particular case issues.

Second, the university from which subjects were selected has a large percentage of foreign, non-native English speakers who practice their digital literacy skills in the English language. These students are at a disadvantage when trying to understand the quality and credibility of the content of messages. We need to examine curriculum areas where we can embed projects that enhance these students' understanding of quality and credibility of messages. For example, one could create a categorization game that takes credible and non-credible information sources from the Internet and have students categorize or create a "credibility" score.

Third, these same foreign, non-native English speakers are not as adept at understanding the meaning of "copyright" as native English speakers. We could enhance the curriculum by including discussions of the different types of copyright, what they mean, and how long they last. A guest speaker could easily accomplish this.

Fourth, there is a difference in the consideration of on-line conduct and responsibility between men and women and ethical case studies could be enhanced to create a higher awareness of the need for this consideration by all of our students.

Fifth, the lowest mean average on the ten Hobbs' questions relate to the lack of ability to develop multimedia creations (see Table 1 above.) Our students are woefully lacking in their ability to create and use multimedia. Future project assignments could be enhanced by requiring outcomes that are communicated through multimedia creations. Not only will our students' outcomes be more interesting and creative, but post-graduation opportunities will be enhanced as students incorporate multimedia into their professional lives.

FUTURE RESEARCH

Digital literacy and use of the Internet are global issues. This pilot study indicates great potential for continued research in this area. In general, future research can study the digital literacy abilities between cultures, ages, gender and life/work experiences around the world. In addition,

the issue of language, globally, should be studied. Directly related to this study, we looked only at Computer Science and Information Systems students, yet digital literacy is a necessary component in all areas of life and further study should examine the abilities in all areas of study. We also note that there are a large number of military veterans attending colleges today. Although we did not study this subject group, we believe this is another area for study of digital literacy research. Additionally, in Table 1 above, if we rank order the 10 identified digital literacy skills in the Hobbs Model, results show that, although there is not a significant difference between Computer Science and Information Systems subjects in their use of multimedia, both groups are woefully lacking in their ability to create and use multimedia. This is another area for future research and curriculum enhancement. Lastly, in this small pilot study, there were only 7 graduate students. But our results indicate that undergraduate students significantly perceived themselves as being better able to reflect on online conduct and social responsibility than do our small sample of graduate students.

CONCLUSIONS

The Internet today is inextricably woven into the fabric of our social, economic and societal lives. College students have the advantage of using the Internet to enhance their own well-being. While digital literacy is important to all college students, Computer Science and Information Systems students especially need excellent digital literacy skills to promote their professional grown. The 2013 AACSB Accreditation Standard 9 for accounting programs, which also applies to AACSB accredited Information Systems programs, suggests that students be proficient in analytical thinking; ethical understanding and reasoning; as well as information technology (AACSB 2013). Based on the results of our pilot study, we suggest that curriculum be enhanced to address these issues. At a minimum we should consider increasing instruction in areas where there were significant differences between Information Systems and Computer Science subjects. These skills would include: an ability to use the internet to connect with others; an ability to evaluate the quality and credibility of message content; a better understanding of copyright implications; and the ability to reflect on online conduct and online social responsibilities. In addition, as we prepare students for work in the 21st century, their ability to use multimedia more effectively would enhance their skills.

LIMITATIONS OF THE STUDY

This is a pilot study conducted at one academic institution. In addition the sample size was small. While the study does offer some insight into the self-perceptions of individuals in the Computer Science and Information Systems disciples and their digital literacy skills, generalization to the external population cannot be made.

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Appendix A

Demographics: (Digital Literacy) Please Circle your Responses

1. **Are You a :** **Female** **Male**

2. **How Old Are You:** **Under 25 years old** **Between 25 and 35**

   Between 36 and 50 **Over 50 years old**

3. **What is Your Primary Native Language? _____**

4. **What is your cultural background by continent?**
   a. **North America**
   b. **South America**
   c. **Europe**
   d. **Asia**
   e. **Africa**
   f. **Australia**
   g. **Antarctica**

5. **What is your highest level of education to date**
   (For example, 3rd year of college completed)
   _____
   Year of completion (For example, 2010)
   _____

6. **What was (or is) your major area of study? _____**

7. **How many years have you lived in the United States?**
   _____

8. **What part of the United States have you spent the MOST time of your life in? Circle only one.**
   a. **Northeast**
   b. **Southeast**
   c. **Middle States - North**
   d. **Middle States – South**
   e. **Northwest**
   f. **Southwest**

9. **What is your occupation:**
   1. **Business Management and Administration**
   2. **Communications and Information Systems**
   3. **Engineering and Technology**
   4. **Health Science**
   5. **Agriculture**
   6. **Human Services**
   7. **Other _____**

10. **Comments: e.g., favorite digital equipment, websites, daily digital routine, etc.**
    _____
    _____
    _____

Appendix B

Research Instrument: Digital Literacy

The internet is quickly becoming the critical gateway for addressing jobs, education, health care, government services, and civic participation.

This research studies the life skills needed for digital literacy.

Requirement One: Please **CIRCLE** a response to the following 10 questions.

Requirement Two: Please fill in the demographic survey.

Question 1: Rate your ability to analyze messages in a variety of forms, including identification of the author, purpose and point of view of the message.

Very Low Ability	Low Ability	Neither Low/ High Ability	High Ability	Very High Ability

Question 2: Rate your ability to evaluate the quality and credibility of content in a message (e.g., distinguishing between "a marketing ploy for nutritional supplements and solid information based on scientific evidence" or quality content and junk journalism).

Very Low Ability	Low Ability	Neither Low/ High Ability	High Ability	Very High Ability

Question 3: Rate your knowledge of and ability to use powerful search strategies.

Very Low Ability	Low Ability	Neither Low/ High Ability	High Ability	Very High Ability

Question 4: Rate your ability to develop multimedia creations.

Very Low Ability	Low Ability	Neither Low/ High Ability	High Ability	Very High Ability

Question 5: Rate your ability to use the Internet to connect with others with shared interests.

Very Low Ability	Low Ability	Neither Low Nor High Ability	High Ability	Very High Ability

Question 6: Rate your ability to reflect on your online conduct and your online social responsibilities.

Very Low Ability	Low Ability	Neither Low/ High Ability	High Ability	Very High Ability

Question 7: Rate your ability to use the power of communication as a tool for advocacy.

Very Low Ability	Low Ability	Neither Low/ High Ability	High Ability	Very High Ability

Question 8: Rate your understanding of "copyright".

Very Low Ability	Low Ability	Neither Low/ High Ability	High Ability	Very High Ability

Question 9: Rate your ability to apply social responsibility and ethical principles to communication behavior.

Very Low Ability	Low Ability	Neither Low/ High Ability	High Ability	Very High Ability

Question 10: Rate your ability to work collaboratively to solve problems in the civic sphere, which will require many of the other capabilities listed above.

Very Low Ability	Low Ability	Neither Low/ High Ability	High Ability	Very High Ability

ASSESSING THE IMPACT OF STUDENT EFFORT AND CONTENT INTERACTION ON LEARNING FOR ON-CAMPUS AND ONLINE STUDENTS

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ABSTRACT

This research seeks to identify the student behaviors and course design features that foster student learning in a quantitative business course, and seeks to determine if successful teaching and learning practices differ for on-campus and online learning environments. Hypotheses connecting measures of student effort, course structure, student engagement, student background characteristics and student learning are developed and tested. Course components intended to promote learner-content interaction were developed and incorporated. Individual assignments and interactive study modules were required in both the campus-based and online sections while student discussions were required for the online sections. The results suggest learner-content interaction has a positive impact on student learning while student effort, measured as amount of time spent studying, is either negatively related or not related to this outcome. Further analysis reveals that students' perceptions of their performance ability mediate the relation between student effort and student learning.

INTRODUCTION

Much research has examined the question of how college affects students, including the student outcomes of learning, engagement, persistence, and satisfaction (Carini, Kuh, & Klein, 2006; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006; Tinto, 1993). The motivation to improve student outcomes has increased in recent years with concerns over the rising cost and perceived decreased value of a higher education degree (Abel & Deitz, 2014; Price, 2014; Jones, 2016). At the same time that stakeholders are examining the impact and outcomes of a college degree, options for attaining a post-secondary degree are expanding, particularly in the area of online learning. In 2012, 33.5 percent of all higher education students, or 7.1 million, were taking at least one online course, representing a 300 percent increase since 2003 (Allen & Seaman, 2014). An online quality assurance movement has grown alongside this expansion in online learning. Quality assurance efforts focus on, among other things, the course features that foster positive student outcomes. Still, failure rates for college students, particularly in quantitative courses including those online, continue at unacceptably high rates (Saxe & Braddy, 2015; Ganter & Haver, 2011).

Even without an external push to justify the public and personal investments in higher education, many college instructors strive to understand better the ways in which their students learn. Instructors wish to design their courses to include the experiences which best facilitate that student learning. To address these challenges faced by instructors, this study seeks answers to the following research questions: Which course design features foster student learning in a quantitative business course? Do successful teaching and learning practices differ for on-campus and online learning environments? And, what student behaviors foster learning? Informed by a review of the literature, the author develops hypotheses connecting measures of student effort, course structure,

student engagement, and student background characteristics with measures of student learning. The hypotheses are tested on data obtained from four on-campus and two online sections of a business finance course.

The results suggest learner-content interaction is important for learning; yet, not all course design components are created equal. Further, the impacts of course design are not the same across on-campus and online learners. The results also suggest that for one measure of effort, specifically time spent studying, students' perceptions of their performance ability mediate the association between effort and learning.

REVIEW OF PRIOR RESEARCH

Many researchers have studied the question of how college affects students (Astin, 1993b; Pascarella & Terenzini, 2005). Some of the earliest work on predictors of student success observed characteristics of the student combined with environment of the higher education institution to affect student success. In other words, it is the interaction between the experiences students have at college with the characteristics the student brings to college that impacts the student outcomes. Tinto (1993) described it as an *interactional* model while Astin (1993a) referred to it as an I-E-O (*input-environment-outcome*) model. *Input* refers to students' background talents and other qualities while *environment* refers to student educational experiences and *outcome* to the talents students are intended to acquire (Astin, 1993a).

To the extent college represents the environment of the I-E-O model, much value stems from identifying the key college experiences that facilitate higher student outcomes. Whether referred to as integration (Tinto, 1993), interaction (Chickering & Gamson, 1987), or engagement (Kuh, 2001), the environmental factor can be thought of as "the amount of physical and psychological energy that the student devotes to the academic experience" (Astin, 1993b, p. 518). More recent studies of student interaction have focused on the online learning environment (Chen, Gonyea, & Kuh, 2008; Dixson, 2010; Miller, 2012; Tello, 2007). Measuring the college experiences that foster desired student outcomes has become a marker of institutional quality (NSSE, 2017).

The I-E-O model provides a framework for assessment, whether studying outcomes at the institutional level, the programmatic level or, as in this study, the course level. At the course level, given the variation in student *input* backgrounds and abilities, the instructor works to establish the learning *environment* including course components that create the best opportunity for high-level student *outcomes*. The outcome of particular interest in this study is student learning.

Grade Point Average

At the course level, input variables include student background and abilities largely not influenced by the instructor. One input variable is the grade point average (GPA) a student brings to a course. Research has linked GPA to future academic success (Gupta & Maksy, 2014; Kuh et al., 2006; Maksy & Wagaman, 2015; Pascarella & Terenzini, 2005; Seiver, Haddad, & Do, 2014), to student behaviors of preparing for class and asking questions in class (Kuh et al., 2006), as well as to online student engagement (Miller, 2012; Robinson & Hullinger, 2008).

H1: *Student GPA is correlated with student learning.*

Student Effort

Several studies have linked student effort to student learning. Student effort in this study refers to the extent or degree to which students exert time and effort in educationally purposeful activities, and can include time on task (Kuh et al., 2006), number of hours spent studying (Astin, 1993b; Gupta & Maksy, 2014; Pascarella & Terenzini, 2005), and amount of personal effort invested in learning (Pascarella & Terenzini, 2005). Student effort has been linked to various measures of student learning, including student-reported increases in cognitive abilities (Astin, 1993b), positive effects on standardized critical thinking assessment tests (Pascarella & Terenzini, 2005), performance on test scores and course grades (Gupta & Maksy, 2014) and overall academic development (Kuh et al., 2006).

H_2: *Student effort is correlated with student learning.*

Learner-Content Interaction

Beyond student effort, course design features also foster student learning and other positive outcomes. Both the on-campus and online course sections in this study employed student assignments and interactive study modules, which represent active learning methods. In their review of previous findings, Pascarella and Terenzini (2005) estimated active learning pedagogies to have a positive impact on subject matter learning.

Within higher education, online quality assurance research has focused on determining the types of student interactions that foster positive student outcomes. Three types of interaction impact student outcomes, including learner-instructor, learner-learner, and learner-content (Anderson, 2003; Miyazoe & Anderson, 2010; Moore, 1989). Miyazoe and Anderson (2010) found on-campus students placed a higher value on learner-instructor interaction while online students placed a higher priority on learner-content interaction. Of the three types, learner-content interaction has been most consistently associated with student learning (Miyazoe & Anderson, 2011). Informed by past research on links between course activities and measures of student performance (Englander, Wang, & Betz, 2015; Fatemi, Marquis, & Wasan, 2014; Gupta & Maksy, 2014), this research labels student progress in structured course activities as "learner-content interaction."

H_3: *Learner-content interaction is correlated with student learning.*

Student Engagement

A number of studies have linked student engagement with student learning. Student engagement has come to mean many things, but in this study refers to student involvement and participation in effective educational practices recognized to promote learning and other positive outcomes (McCormick, Kinzie, & Gonyea, 2013). Measures of student learning associated with student engagement include improved reasoning and problem solving (Pascarella, Seifert, & Blaich, 2009) and self-reports of cognitive gains and learning (Pike, Kuh, McCormick, & Ethington, 2007). In an evaluation of college student engagement on student learning, Carini et al. (2006) found positive links between measures of student engagement and measures of student learning, including standardized exams on critical thinking, college GPA, and student self-measures of learning. Further research showed student engagement benefitted student grades and

persistence, even more so for lower ability students (McCormick et al., 2013; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008).

H4: *Student engagement is correlated with student learning.*

Differences in Models for On-Campus and Online Students

New research measuring the effectiveness of online learning has accompanied the increase in online learning opportunities. While much research has concluded that distance students achieve learning outcomes similar to those of campus students (Bernard et al., 2004; Palloff & Pratt, 2001), Chen et al. (2008) found online students generally scored higher than campus students in measures of general education and measures of reflective thinking, one component of deep learning seeking underlying meanings. Means, Toyama, Murphy, Bakia, and Jones (2010) concluded online students perform modestly better than face-to-face students in terms of learning outcomes but also noted online students spent more time on task, thus complicating the interpretation of results.

More recent studies of student engagement have focused on the online learning environment. Some research into comparisons of online student engagement with on-campus student engagement found that online students demonstrated more engaging behaviors across a number of educational practices (Robinson & Hullinger, 2008) while others found online students demonstrated lower collaborative behaviors (Dumford & Miller, 2016).

H5: *Measures of student effort, learner-content interaction, engagement, GPA, and learning differ between on-campus and online students.*

Overall Model

The overall model will be tested with the following hypothesis.

H6: *Student learning can be predicted with measures of student effort, learner-content interaction, student engagement, and GPA.*

METHODOLOGY

Data Collection

The subjects for this study were students enrolled in six sections of a junior-level, business finance course during fall semesters in 2014 and 2015 at a state university in the upper-Midwest region of the U.S. The six sections included two entirely online and four on-campus, face-to-face. Beyond the difference in course delivery mode and additional "discussion" items required in the online sections, the curriculum, instructor, assignments, and remaining course requirements were the same between the on-campus and online sections. The instructor administered the online section through the Brightspace DesireToLearn (D2L) course management system.

Thirty-nine students completed an online section of the course while 130 students completed an on-campus section. Twenty-nine online students and 115 on-campus students completed the survey. A test of differences in means suggested no difference in the direct measure of learning between students who participated in this study and those who did not, for either on-campus students ($t=1.026$, $df=128$, $p=.307$) or online students ($t=1.248$, $df=35$, $p=.220$).

Measures

Measures for this study included graded points awarded for different class activities, student responses to a survey administered through D2L, and instructor notation of student course enrollment either online or on campus. Descriptions of measures follow.

Student Effort

The extent or degree to which students exerted time and effort in educationally purposeful activities served as the measure of student effort. Two indirect measures included students' self-reported hours spent preparing and their effort at working hard to meet the instructor's expectations.

Hours Preparing. Students responded to the open-ended question regarding the amount of time they spent preparing for this class. "About how many hours did you spend in a typical week preparing for this class (studying, reading, writing, doing homework, and other academic activities)?"

Work Hard. Students responded to a second survey question regarding how hard they worked in class. "As a student in this Financial Management class, how often have you engaged in the following behavior: I worked hard to meet the instructor's expectations." Response categories included: 1 = "never"; 2 = "rarely"; 3 = "occasionally"; 4 = "often"; and 5 = "very often".

Learner-Content Interaction

Student success with learner-content activities served as the measure of learner-content interaction. The three direct measures of learner-content interaction included points achieved on homework, points achieved on interactive study modules, and, for online students, points achieved on discussions.

Homework Points. Students could earn up to 100 homework points over the term through assignment completions. Each chapter assignment contained a due date. Students submitted homework assignments through the publisher's online homework program (McGraw Hill's CONNECT program) which automatically graded their work. Students had immediate access to homework scores.

LSSM Points. Students could earn a total of 45 points over the term through completion of interactive study modules, called Learn Smart Study Modules. The Learn Smart Study Modules provided interactive assessments and delivered customized learning content based on students' performance levels.

Discussion Points. Online students could earn a total of 20 points over the term through participation in four substantive discussions. Each discussion required responses to a number of questions as well as a reply to at least one classmate's post. The instructor applied a grading rubric to score each discussion and provided detailed comments to each student through the course management system.

Student Engagement

A number of different instruments exist to measure student engagement. For online learning, Dixson (2010) reviewed several measures of interaction within online courses, and developed an engagement survey for use in an online environment. Dixson's Online Student Engagement Scale (OSE) served as the foundational measure for engagement for this study. Slight changes to some questions, highlighted below, improved the survey's applicability to on-campus students. The OSE subscales of engagement include skill engagement, emotional engagement, and participation engagement.

Skill Engagement Index. Skill engagement includes measures of good organizational and study skills, and how students interact with the course content (Miller, 2012; Miller, Rycek, & Fritson, 2011). Students' mean responses to five items from Dixson's instrument comprised their Skill Engagement Index. Each student indicated the degree the following behaviors described his or her experience in this class: "1) Making sure to study on a regular basis; 2) Staying up on the readings; 3) Looking over class notes between getting online to make sure I understand the material; 4) Taking good notes over readings, PowerPoints, or video lectures; 5) Listening/reading carefully." The response categories include "1 = not at all characteristic of me; 2 = not really characteristic of me; 3 = moderately characteristic of me; 4 = characteristic of me; 5 = very characteristic of me." This five-item scale yielded a Cronbach's alpha score of .796.

Emotional Engagement Index. Emotional engagement refers to efforts by students to make the course materials interesting and relevant to their own lives (Miller et al., 2011). Students' mean responses to four items from Dixson's instrument comprise their Emotional Engagement Index. Each student indicated the degree the following behaviors described his or her experience in this class: "1) Finding ways to make the course material relevant to my life; 2) Applying course material to my real life; 3) Finding ways to make the course interesting to me; 4) Really desiring to learn the material." This four-item scale yielded a Cronbach alpha score of .889.

Participation Engagement Index. Similar in meaning to student-to-student interaction, participation engagement measures how a student works with and gets to know other students (Miller, 2012). Slight adjustments to the wording of a couple questions improved the survey's applicability to on-campus students. Students' mean responses to five items from Dixson's instrument comprise their Participation Engagement Index. Each student indicated the degree the following behaviors described his or her experience in this class: "1) Having fun in online chats, discussions or via email with the instructor or other students/Having fun in class with the instructor or other students (campus version); 2) Participating actively in small-group discussion forums/Participating actively in class activities and discussions (campus version); 3) Helping fellow students; 4) Engaging in conversations online (chat, discussions, email)/Engaging in class activities and discussions (campus version); 5) Getting to know other students in class." The Cronbach alpha score for this five-item scale was .843.

Student Learning

This study included one direct and four indirect measures of student learning.

Test Average. Each student's average test score, computed from the semester's three, 100-point tests, served as the direct measure of student learning.

Each student's response to four survey questions served as the indirect measures of student learning. Response categories employed the six-level responses of Strongly Disagree (1) to Strongly Agree (6).

Critical Thinking Skills. "This course helped me improve my analytical and critical thinking skills."

Work Skills. "This course helped me to acquire work-related skills and knowledge."

Team Skills. "This course contributed to my ability to work effectively with others."

Problem Solving Skills. "This course helped me develop my skills in solving real-world problems."

Student Perception of Performance Ability

Students' responses to the following survey question indicated their perception of test performance ability.

Do Well. Students responded to the question: "While considering your experiences in this class, please indicate the degree the following behavior describes you: Doing well on the tests/quizzes." Response categories included: "1 = not at all characteristic of me; 2 = not really characteristic of me; 3 = moderately characteristic of me; 4 = characteristic of me; 5 = very characteristic of me."

Based on a frequency distribution of student responses for on-campus students, approximately one-third of the respondents (n=39) reported "3" or less, and were coded as "low" while the remaining respondents (n=74) reported "4" or higher and were coded as "high." Applying the same coding scheme to online students, approximately one-quarter of the respondents (n=8) were coded as "low" while the remaining respondents (n=21) were coded as "high".

Learning Location

Creating a separate variable, the instructor noted whether the student completed the course on campus or online.

Location. The instructor coded "location" as "1" for students who completed the course on campus and "0" for students who completed the course online.

Background Characteristic

An indirect measure of students' prior academic success served as a background characteristic for this study.

GPA. Students responded to the following survey question: "While you are taking this online class, what would you estimate is your GPA? (0=less than 2.0; 1=2.0-2.4; 2=2.5-2.9; 3=3.0-3.4; 4=3.5-3.9; 5=4.0.)"

Analyses

Correlations measure the relationship between variables and were used to test the univariate hypotheses (**H_1, H_2, H_3, and H_4**). Pearson correlation is appropriate for the continuous-level direct measure of student learning, while spearman correlation is appropriate for ordinal-

level indirect measures of student learning variables (Field, 2009). Welch's t-test measures the statistical significance of differences in means and was used to test the differences between students completing the course on campus versus online (**H_5**). Welch's t-test is particularly useful for measuring statistical significance of differences for samples of unequal size (Delacre, Lakens, & Leys, 2017; Ruxton, 2006).

Multiple regression provides a description of a model's overall fit as well as the relative contribution of each of the independent variables in explaining the model's total explained variance (Tabachnick & Fidell, 2013). Multiple regression was used to determine the degree the entire variable set accounted for the variance in direct student learning (**H_6**). With all variables entered into the model, the results identified those variables that contributed to the model's overall fit. Ordinary Least Squares (OLS) regression analysis was appropriate based on the continuous nature of the dependent variable. Multicollinearity did not emerge as a concern in the resulting regression models as the Variance Inflation Factor (VIF) values of the independent variables were below the level of five (Field, 2009).

Stepwise multiple regression provided a second analysis of the overall model (**H_6**). Stepwise multiple regression simplifies an overall model by identifying and including only the most efficient set of independent variables as predictors. At each step in an iterative process, variables are added to the model based on the variable's predictive capacity, and are subject to removal from the model if the variable no longer make a statistically significant contribution to the model's prediction (Tabachnick & Fidell, 2013). The result is an efficient model that uses the fewest independent variables to describe the most variation in the dependent variable. Again, multicollinearity did not emerge as a concern in the resulting regression models based on VIF values (Field, 2009).

An examination of the variable distributions revealed four of the independent variables were skewed: LSSM Points, Homework Points, Hours Preparing, and Discussion Points. Consequently, logarithmic adjustments were made to each of these variables, and the tests of significance used throughout this study were based on their logarithmic values.

RESULTS

The test results on the hypothesis regarding student background and learning (**H_1**) indicate a positive correlation between GPA and the direct measure student learning, Test Average, for both on-campus students ($r=.640$, $p<.001$) and online students ($r=.477$, $p<.01$). (Table 1 presents all correlations with measures of learning.) The correlations between GPA and the indirect measures of student learning (Critical Thinking Skills, Work Skills, Team Skills, and Problem Solving Skills) were not statistically significant for either on-campus or online students.

The test results on the hypothesis regarding student effort and student learning (**H_2**) demonstrate a number of significant correlations. For on-campus students, the correlations for Hours Preparing was negative with Test Average ($r= -.209$, $p<.05$) and positive with Critical Thinking Skills ($r=.225$, $p<.05$). (Note negative correlation with Test Average). The correlations for Work Hard was positive with all five measures of student learning: Test Average ($r=.310$, $p<.01$), Critical Thinking Skills ($r=.385$, $p<.01$), Work Skills ($r=.281$, $p<.01$), Team Skills ($r=.227$, $p<.05$), and Problem Solving Skills ($r=.352$, $p<.01$). For online students, Hours Preparing was correlated with only one measure of student learning: Critical Thinking Skills ($r=.462$, $p<.05$); and, Work Hard was correlated with two measures of student learning: Critical Thinking Skills ($r=.554$, $p<.01$), and Problem Solving Skills ($r=.453$, $p<.05$).

Table 1
CORRELATIONS WITH MEASURES OF STUDENT LEARNING

	On-Campus Student (n=115)				
	Student Learning				
Variable	Test Average[a]	Critical Thinking Skills[b]	Work Skills[b]	Team Skills[b]	Problem Solving Skills[b]
Background:					
GPA	.640***	.030	.082	-.011	.132
Effort:					
Hours Preparing	-.209*	.225*	.096	.184	.017
Work Hard	.310**	.385**	.281**	.227*	.352**
Learner-Content:					
Homework Points	.430***	.170	.077	-.042	.043
LSSM Points	.286**	.245**	.038	.159	.142
Engagement:					
Skill Engagement	.146	.529**	.427**	.293**	.416**
Emotional Engagement	.263**	.446**	.360**	.361**	.472**
Participation Engagement	.001	.380**	.208*	.501**	.335**
	Online Students (n=29)				
	Student Learning				
	Test Average[a]	Critical Thinking Skills[b]	Work Skills[b]	Team Skills[b]	Problem Solving Skills[b]
Background:					
GPA	.477**	-.031	.184	.304	-.040
Effort:					
Hours Preparing	-.086	.462*	.163	.074	.207
Work Hard	-.271	.554**	.354	-.143	.453*
Learner-Content:					
Homework Points	.580**	.036	.130	.307	-.027
LSSM Points	.176	.150	.163	.113	.018
Discussion Points	.346	.021	.241	.324	.172
Engagement:					
Skill Engagement	-.242	.494**	.315	.041	.403*
Emotional Engagement	.142	.236	.387*	.437*	.366*
Participation Engagement	-.154	.314	.148	.256	.260

Notes: *p=<.05, **p=<.01, ***p=<.001, [a]=Pearson's correlation; [b]=Spearman's correlation

Given the negative association between Hours Preparing and Test Average for on-campus students and no association for online students, correlations were run separately for students with high perceptions of performance ability and students with low perceptions of performance ability. (See Table 2). For on-campus students, the correlation coefficient between Hours Preparing and Test Average for students with high perception of performance ability was negative and significant (r= -.319, p=.006, n=74) while the correlation coefficient for students with low perception of performance ability was positive and nonsignificant (r=.065, p=.694, n=39). The difference in correlation coefficients between on-campus students with high perceptions and low perceptions of performance ability was significant at p<.10 (Z= -1.93, p=.0536). For online students, the correlation coefficient between Hours Preparing and Test Average for students with high perception of performance ability was negative but nonsignificant (r= -.298, p=.189, n=21) while the correlation coefficient for students with low perception of performance ability was positive and significant (r=.758, p=.029, n=8). The difference in correlation coefficients between online students with high and low perception of performance ability was significant at p<.05 (Z= -2.57, p=.0102). Consideration of these results will be included in the discussion section.

Table 2
PEARSON'S CORRELATIONS WITH TEST AVERAGE

	On-Campus			
Variable	Overall n=115	High Ability n=74	Low Ability n=39	Z-score difference
Hours Preparing	-.209	-.319**	.065	-1.93[s]
Homework Points	.430***	.372**	.209	.87
	Online			
	Overall n=29	High Ability n=21	Low Ability n=8	Z-score difference
Hours Preparing	-.086	-.298	.758*	-2.57*
Homework Points	.580**	.603**	.266	.84

Notes: [S]=<.10*=<.05; **=<.01; ***=<.001.

The test results on the hypothesis regarding learner-content interaction and student learning (**H_3**) revealed the following. Homework Points was positively correlated with Test Average for both on-campus students (r=.430, p<.001) and online students (r=.580, p<.01). LSSM Points was correlated with two measures of student learning for on-campus students, Test Average (r=.286, p<.01) and Critical Thinking Skills (r=.245, p<.01), but had no correlation with any measure of learning for online students. Finally, Discussion Points was not correlated with any measure of learning for online students.

The test results on the hypothesis regarding student engagement and student learning (**H_4**) revealed differences for on-campus and online students. For on-campus students, only Emotional Engagement was correlated with the direct measure of learning (p=.263, r<.01) while each of the three engagement indices was related to indirect measures of learning: Skill Engagement Index was positively correlated with Critical Thinking Skills (p=.529, r<.01), Work Skills (p=.427, r<.01), Team Skills (r=.293, p<.01), and Problem Solving Skills (r=.416, p<.01). Emotional Engagement Index was positively correlated with Critical Thinking Skills (r=.446, p<.01), Work Skills (r=.360, p<.01), Team Skills (r=.361, p<.01), and Problem Solving Skills (r=.472, p<.01). Finally, Participation Engagement Index was positively correlated with Critical Thinking Skills

(r=.380, p<.01), Work Skills (r=.208, p<.05), Team Skills (r=.501, p<.01), and Problem Solving Skills (r=.335, p<.01). For online students, no measure of engagement was significantly correlated with the direct measure of student learning, Test Average. However, two of the three engagement measures demonstrated multiple links to indirect measures of learning. Skill Engagement Index was positively correlated with Critical Thinking Skills (r=.494, p<.01) and Problem Solving Skills (r=.403, p<.05). Emotional Engagement Index was positively correlated with three measures of student learning: Work Skills (r=.387, p<.05), Team Skills (r=.437, p<.05), and Critical Thinking Skills (p=.366, r<.05). Participation Engagement Index demonstrated no significant correlation with any indirect measure of learning.

A test for equality of means compared levels of student GPA, effort, learner-content interaction, engagement and learning between the students in the online sections and students in the on-campus sections (**H_5**). The results (Table 3) indicate only three significant differences: online students had higher GPA (t=3.579, df=50, p=.001), spent more Hours Preparing (t=2.198, df=47, p=.033), and had higher Test Average (t=2.388, df=50, p=.021).

Table 3
TEST OF DIFFERENCES BETWEEN ONLINE AND ON-CAMPUS STUDENTS

	Online Students (n=29)	**On-Campus Students (n=115)**		
Variable	*Mean (S.D.)*	*Mean (S.D.)*	*t* (df)[a]	*p*-value*
Background:				
GPA	3.55(.827)	2.91(.974)	3.579 (50)	.001
Effort:				
Hours Preparing	5.07 (2.542)	4.15 (3.333)	2.198(47)	.033
Work Hard	4.34 (.936)	4.06 (.881)	1.476 (41)	.147
Learner-Content Interaction:				
Homework Points	83.80 (16.269)	86.79 (15.310)	-.917 (43)	.364
LSSM Points	37.28 (7.862)	32.21 (12.590)	1.420(54)	.161
Engagement:				
Skill Engagement Index	3.552 (.839)	3.455 (.747)	.565 (40)	.576
Emotional Engagement Index	3.664 (.780)	3.387 (.976)	1.613(53)	.113
Participation Engagement Index	3.10 (.999)	3.40 (.846)	-1.452 (39)	.155
Learning Outcomes:				
Test Average	74.10 (12.202)	67.79 (14.613)	2.388 (50)	.021
Critical Thinking Skills	4.72 (.996)	4.65 (1.068)	.342 (46)	.734
Work Skills	4.83 (1.037)	4.61 (1.240)	-.974 (50)	.335
Team Skills	3.34 (1.045)	3.58 (1.370)	-.1.024 (55)	.310
Problem Solving Skills	4.62 (1.015)	4.31 (1.320)	1.367 (55)	.177

*Notes: [a]Welch's t-test; *=two-tailed test of significance.*

Multiple regression analysis revealed the degree the variable set accounted for the variance in student learning (**H_6**). The independent variables included GPA, student effort, learner-content interaction, and student engagement. The direct measure of student learning, Test Average, served as the dependent variable. The regression results (Table 4) for the on-campus students showed a good fit (R^2 = 53.8%) of the variance in student learning and a model that was highly significant ($F(8,103) = 14.973$, $p<.001$). The variables that emerged as positive predictors of student learning included GPA (b=.457, p<.001) and Emotional Engagement Index (b=.248, p=.009) while Participation Engagement Index (b= -.250, p=.003) and Hours Preparing (b= -.190, p=.009) were negative predictors of student learning. The regression results for the online students showed a good fit (R^2 = 56.8%) of the variance in student learning and a model that was significant ($F(9,19) = 2.779$, $p<.029$). The only variable that emerged as a statistically significant predictors of online student learning was Homework Points ($b=.708$, $p=.018$).

Stepwise regression identified the most efficient set of predictors of student learning. Table 5 provides the stepwise regression results for the on-campus students (R^2 = 52.0%, F(5,106) = 22.990, p<.001) and for the online students (R^2 = 37.4%, $F(2,26) = 7.757$, p<=.002). For on-campus students, the variables that emerged as positive predictors of student learning included GPA (b=.466, p=.000), Homework Points (b=.212, p=.007), and Emotional Engagement Index (b=.310, p=.000). Negative predictors of student learning included: Participation Engagement Index (b= -.193, p=.015) and Hours Preparing (b= -.164, p=.021). For online students, the only statistically significant predictor of student learning was, again, Homework Points (b=.456, p=.021).

DISCUSSION

This study examined on-campus and online student learning across six sections of a junior-level business finance course in a state university in the upper-Midwest region of the U.S. A key research question was to identify the course design features that foster student learning and to determine if successful teaching and learning practices differ for on-campus and online learning environments. Another key research question was to identify the student behaviors that foster learning. Astin's (1993a) I-E-O framework for assessment served as a conceptual model for this study.

Course design features included homework assignments, interactive study modules and, for the online section, online discussions. With regard to the direct measure of test scores, the results suggest homework points were significantly correlated to student learning for both on-campus and online students, interactive study module points were significantly correlated to student learning for on-campus students, and discussion points were not significantly correlated to student learning for online students.

Student behaviors included effort (hours spent preparing and student perceptions of working hard) and engagement (skill, emotional, and participation). For on-campus students, hours spent preparing was negatively correlated to test scores while student perception of having worked hard was positively correlated to test scores. For online students, neither measure of effort was correlated to the direct measure of test scores. The only engagement measure significantly correlated with test scores, for either group of students, was emotional engagement for on-campus students. For both on-campus and online students, numerous correlations were significant between the student effort, student engagement, and indirect measures of learning.

Table 4
MULTIPLE REGRESSION PREDICTING STUDENT LEARNING

On-Campus Students (n=115)			
Variable	*Standardized Coefficients*	*t -Statistic*	*P-value*
Constant	-	6.277	.000
GPA	.457	5.721	.000
Hours Preparing	-.190	-2.647	.009
Work Hard	.136	1.612	.110
Homework Points	.139	1.581	.117
LSSM Points	.054	.673	.502
Skill Engagement	.051	.533	.595
Emotional Engagement	.248	2.645	.009
Participation Engagement	-.250	-2.996	.003
Dependent variable: Test Average; Total model R^2 = .538; Total model F value = 14.973; Total model p>F= .000.			
Online Students (n=29)			
Variable	*Standardized Coefficients*	*t -Statistic*	*P-value*
Constant	-	5.144	.000
GPA	.015	.069	.946
Hours Preparing	.177	.975	.342
Work Hard	-.102	-.366	.718
Homework Points	.708	2.602	.018
LSSM Points	-.391	-1.760	.095
Discussion Points	.219	1.062	.302
Skill Engagement	-.275	-.854	.404
Emotional Engagement	.206	.796	.436
Participation Engagement	-.227	-1.083	.293
Dependent variable: Test Average; Total model R^2 = .568; Total model F value = 2.779; Total model p>F=.029.			

Regression analyses run on average test scores revealed homework points to be the only significant factor in predicting student learning for online students. Results were much different for the on-campus learners, who had lower GPAs, spent less time studying, and had lower test scores than the online students. For the on-campus learners, the significant variables that increased predicted student learning included GPA, homework points and emotional engagement while the variables that decreased predicted learning included hours spent preparing and participation engagement. The further analysis discussed below on the moderating effect of students' perceptions of their performance ability (as high or low) may help explain the negative sign on the hours spent preparing variable. As for the negative sign on participation engagement, it may be that student effort toward getting to know other students does not contribute to direct measures of student learning.

Table 5
STEPWISE REGRESSION PREDICTING STUDENT LEARNING

On-Campus Students (n=115)			
Variable	*Standardized Coefficients*	*t -Statistic*	*P-value*
Constant	-	8.540	.000
GPA	.466	5.883	.000
Homework Points	.212	2.772	.007
Emotional Engagement	.310	3.825	.000
Participation Engagement	-.193	-2.480	.015
Hours Preparing	-.164	-2.352	.021
Dependent variable: Test Average; Total model R^2 = .520; Total model F value = 22.990; Total model p>F= .000.			
Online Students (n=29)			
Variable	*Standardized Coefficients*	*t -Statistic*	*P-value*
Constant	-	5.789	.000
GPA	.229	1.236	.228
Homework Points	.456	2.464	.021
Dependent variable: Test Average; Total model R^2 = .374; Total model F value = 7.757; Total model p>F= .002.			

This study builds upon previous research regarding the importance of homework completion in explaining and predicting levels of learning. These results substantially agree with those of Englander et al. (2015) who concluded features of homework points significantly predicted learning, and with those of Gupta and Maksy (2014) who found homework points to be significantly correlated with student test scores. This current study expands upon these earlier works by incorporating measures of student effort not included in Englander et al. (2015), and in finding homework points to be significant for learning of online students, a student group not studied in either Englander et al. (2015) or Gupta and Maksy (2014).

This study expands upon previous research regarding the importance of student effort in explaining levels of student learning. While Gupta and Maksy (2014) identified student hours spent preparing for class as a significant predictor for test scores for on-campus students, this study found hours spent preparing to be a negative predictor of test scores (on-campus students) or not predictive of test scores (online students). The mediating influence of students' perceptions of test performance ability on the relationship between effort and performance is an important contribution to our understanding in this area. Once students' perceptions of test performance ability was introduced, the connection between time spent preparing and the direct measure of student learning became clear. Those with high perceptions of their test performance ability had a negative correlation between hours studied and test scores, but a positive correlation between homework points and test scores. Students who reported low perception of performance ability had a positive correlation between hours studied and test scores, as well as a positive correlation between homework points and test scores. These findings held for both online and on-campus students. In essence, these results suggest the effect of time spent studying is conditional on ability. For those students who report lower perception of performance ability, spending more hours

working on course-related materials improves their test scores. On the other hand, for those students who report higher perceptions of performance ability, spending less time preparing still results in good test scores, as long as the learner-course interaction materials are accomplished.

Finally, this study builds on previous research that suggests successful teaching and learning practices differ for on-campus and online learning environments. In substantial agreement with the conclusions of Means et al. (2010), this study found online students demonstrated higher test performance and higher hours spent preparing than on-campus students. Although this study did not reveal significant differences between on-campus and online student measures of engagement, an additional analysis of the items that comprise each engagement index (available in Table 6) does reveal important differences between on-campus and online student behaviors. On-campus students demonstrated higher levels of getting to know other students and helping fellow students, while online students demonstrated higher levels of staying up on readings, applying course materials to their lives, and finding ways to make the course materials personally relevant. Such findings support the conclusions of Chen et al. (2008) that, contrary to Robinson and Hullinger's (2008) conclusion that online students had higher levels of active and collaborative learning than on-campus students, online students have higher active learning but lower collaborative learning than on-campus students. Similarly, the results of the current study are in line with those of Dumford and Miller (2016) who found higher proportions of classes taken online related to lower levels of collaborative learning engagement.

CONCLUSIONS

While students are responsible for the time and effort they dedicate to their learning, instructors can design learning environments, both on campus and online, that foster student learning. The results of this study suggest student success in structured learner-content activities, particularly structured homework assignments, is probably the most important learner-content course feature to impact learning for both on-campus and online students.

The results of this study also suggest time spent studying is more important for some students than others**.** For both online and on-campus students, hours spent preparing for class was positively related to student learning for those students who had low perceptions of test performance ability, but was negatively related to student learning for those students who had high perceptions of performance ability. At the same time, success in homework assignments was a strong predictor of student learning. Combined, these findings seem intuitive: students with lower abilities might take longer, but accomplishing the learner-content interaction is important to all students.

When predicting student learning, online learners differ from on-campus learners in a number of ways. For on-campus students, positive predictors of student learning include background grades and student efforts to make the course materials interesting and relevant to their own lives, while negative predictors of learning include getting to know other students and the number of hours spent preparing for class. The common predictor of student learning, for both online and on-campus learners, is achieving success in homework assignments.

Table 6
TEST OF DIFFERENCES BETWEEN ONLINE AND ON-CAMPUS STUDENTS ENGAGEMENT INDICES COMPONENTS

	ONLINE (n=29)	ON-CAMPUS (n=115)		
	Mean (S.D.)	*Mean (S.D.)*	*t* (df)[a]	*p*-value*
SKILL ENGAGEMENT				
SE1: Regular study	3.55 (.985)	3.38 (.972)	.854 (43)	.398
SE2: Staying up on Readings	3.66 (.936)	2.80 (1.032)	4.307 (47)	.000
SE3: Looking over notes	3.48 (1.153)	3.22 (1.092)	1.101 (42)	.277
SE4: Taking good notes	3.28 (1.066)	3.98 (1.009)	-3.219 (42)	.002
SE5:Listening/reading carefully	3.79 (.940)	3.90 (.866)	-.569 (41)	.573
EMOTIONAL ENGAGEMENT				
EE1:Making materials relevant	3.83 (.928)	3.42 (1.144)	2.005 (52)	.050
EE2: Applying materials to life	3.76 (.988)	3.29 (1.134)	2.226 (49)	.031
EE3: Making course interesting	3.55 (.985)	3.37 (1.062)	.864 (46)	.392
EE4: Desiring to learn	3.52 (1.056)	3.47 (1.119)	.217 (45)	.829
PARTICIPATION ENGAGEMENT				
PE1: Having fun in discussions	3.21 (1.264)	3.42 (1.084)	-.851 (39)	.400
PE2: Active in discussions/forums	3.52 (1.214)	3.35 (1.157)	.652 (42)	.518
PE3: Helping fellow students	3.21 (1.236)	3.64 (.983)	-1.739 (38)	.090
PE4:Engaging in conversations	3.21 (1.236)	3.48 (1.086)	-1.079 (40)	.287
PE5: Getting to know others	2.38 (.862)	3.14 (1.166)	-3.926 (57)	.000

*Notes: [a]Welch's t-test; *=two-tailed test of significance.*

LIMITATIONS AND FUTURE STUDIES

The small sample size for the online students prevented comparison of regressions between student groups with high and low perceptions of performance ability, as well as other multivariate analyses. Repeating the study with a larger group of students might allow for the identification of additional predictors of learning. This study focused on student performance in a course with a quantitative content, and the results reflect a quantitative course design. Repeating the study using a different group of students may allow for cross validation of the model. Finally, since the results of this study suggest student perception of performance ability moderates the relationship between student effort and student learning, identifying the student background variables and experiences associated with perception of performance ability, as well as any biases in self-evaluation, could provide significant additional explanation. One such background variable could be student performance in prerequisite courses. Another might be student choice of major. Insights into the interaction between student inputs and the course environment that results in the highest learning can help both college instructors and institutions of higher education answer the question of what helps students learn.

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CURRICULUM REVISION TO ADDRESS A CHANGING HEALTH CARE ENVIRONMENT

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ABSTRACT

The U.S. health care system has been an evolving industry in the past few decades and the instability of the environment continues. According to a report published by the PwC's Health Research Institute, the US health industry is undergoing seismic change generated by a collision of several forces in the health care market. Some of these forces, such as the shift to paying for value and not volume, are moving quickly and are familiar. Others, such as consumerism, are just beginning to reshape the health landscape. The current political climate indicates that more changes are likely. The unpredictable nature of the health care system in the United States necessitates continual monitoring by health care management programs in colleges and universities in the United States to assure the curriculum offered is adequate to prepare graduates for work in this shifting terrain.

At Lander University, the process of reviewing and revising curriculum in the Health Care Management (HCMT) program in the College of Business revealed gaps and the need for both the addition of new courses and modifying the scope and content of existing courses in the health care management curricula. The process for these changes are described in this article.

For some time deficiencies in the quality of patient care, as well as patient safety issues, have led to calls for change in health professions education by healthcare organizations and policy makers such as the Institute of Medicine (IOM) (Berwick, 2002). The foundation for any proposed curricular revision or changes in teaching practices must be firmly grounded in a comprehensive review of the literature and input from students, alumni, and the professional health care community. The process for curriculum change in the Lander University health care emphasis is described in this article.

Key Words: Healthcare Reform, Affordable Care Act, Curriculum, Healthcare AdministrationPrograms.

INTRODUCTION

Lander University in upstate South Carolina has an enrollment of approximately 2500 students. The health care management program (HCMT) enrollment represents approximately 25% of the total enrollment for the College of Business. The Bachelor of Science in Business Administration with an emphasis in Health Care Management prepares students for careers working in healthcare systems. Students enrolled in the Healthcare Management program are challenged to identify and provide solutions for the unique problems and issues facing healthcare organizations today. The mission of the four-year curriculum is to provide students with a broad base of business knowledge and skills. The HCMT program was designed to help students gain

the necessary general business, analytical, communication, and management competencies needed for professional jobs in the field of healthcare management.

The curriculum for this program has not undergone a review process since 2003. Curriculum revision is either being considered or is in process in many health care management programs across the country in response to the seismic changes occurring in the health care industry. Any curriculum revision process is well served to examine the trends in health administration programs. The decision for a curriculum review process is also necessary because the program coordinator, faculty, and Dean of the College of Business at Lander have made the decision to pursue the Association of University Programs of Health Administration accreditation, which is the gold standard for health care administration programs.

The process used for this curriculum review included researching the AUPHA requirements for accreditation, a curriculum mapping process to determine how much of these requirements are already being met, a comparison of the Lander course offerings in health care management (HCMT) to other programs in the state and region, and a survey of alumni and the healthcare professionals and preceptors in the internship program. A literature review of trends at the national level in undergraduate education in healthcare administration provided insight into the current developments, and all these inquiries provided data for developing a plan for curriculum transition.

According to Dr. Don Berwick, former Director of Medicare and Medicaid, the *Crossing the Quality Chasm* report of 2001 posits that the US healthcare system needs improvement in six dimensions of health care performance: safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity. Berwick and colleagues assert that those improvements cannot be achieved within the constraints of the existing system of care. The report provides a rationale and a framework for the redesign of the U.S. health care system at four levels: patients' experiences; the "microsystems" that actually give care; the organizations that house and support microsystems; and the environment of laws, rules, payment, accreditation, and professional training that shape organizational action. Many of these redesign initiatives have been implemented since Berwick's article in 2002 (Amalberti, R., Auroy ,Y., Berwick, D., Barach , P. , 2005) However, the professional training component has not seen the dramatic change Berwick envisioned.

Reform of health education is not new. There have been three generations of educational reforms during the twentieth century. The first reforms were introduced at the beginning of the 20th century and resulted in a science-based curriculum. The second group of reforms introduced problem-based instructional innovations. During the last decade or so, a movement toward the third reform has occurred with a focus on systems based education to improve the performance of health systems by adapting core professional competencies to specific contexts according to then Global Independent Commission on Education of Health Professionals for the Twenty-first Century (Frenk, et al, 2010). The literature review for this process indicates that competency based curriculum has been widely adopted for graduate programs, but a knowledge-based approach is still the most commonly used in undergraduate health care management programs. The foundational competencies that any curriculum change should include have received a great deal of research in healthcare administration graduate programs. Competency-based program assessment has become a fundamental part of the accreditation process for graduate health

administration programs, as well as a method for program assessment by deans and department directors, but undergraduate competency based curriculum has not been widely investigated or implemented. However, curriculum changes that focus on preparing students for work in the 21st century healthcare system should be mindful of providing opportunities to develop the competencies necessary to meet market demands. The focus on measurable outcomes and competencies did not happen quickly. The general acceptance of evidence-based medicine was a natural antecedent to an evidence-based approach to healthcare management (Kovner, A., Fine, D., D' Aquila, R., 2009). Competency-based assessments can be employed to pinpoint specific program strengths and weaknesses in order to make program changes to ensure students are adequately prepared to enter the field. (Stifl and Bontempo, 2012). The insight provided by this study and others provide information to consider in developing appropriate curriculum changes in the HCMT program at Lander. It is the consensus of many of the stakeholders involved in this process that the development of competencies such as leadership, communication, and the ability to work in teams among others need to be integrated into the HCMT curriculum.

The healthcare managers of today must have management ability superior enough to parallel the increased complexity of the healthcare environment. Academic health care management programs must produce graduates able to match these demands. The Healthcare Leadership Alliance (HLA), a consortium of six major professional membership organizations, used the research from and experience with their individual credentialing processes to posit five competency domains common among all practicing healthcare managers: (1) communication and relationship management, (2) professionalism, (3) leadership, (4) knowledge of the healthcare system, and (5) business skills and knowledge (Stefl and Bontempo, 2008). Curriculum for the 21st century managers should consider the development of these competencies when changing curriculum.

In 2012, a Harvard professor named Regina Herzlinger conducted interviews with 58 leading global health care sector CEOs about their future needs. The CEOs wanted people who could solve problems, work as part of a diverse team, understand and learn from failure, manage change, and innovate through processes, systems, and organizations. The words they used most were leadership, change, and innovation. Both undergraduate and graduate programs in healthcare management have the daunting task of providing curriculum that adjusts to the dynamic healthcare environment and provides students with the skills that prepared them for the challenges of the twenty-first century healthcare environment. Herzlinger stated that " comparing the feedback from academics and CEOs who attended several conferences revealed that one of the areas of strongest agreement between our academic conferees and the CEOs interviewed was that modern health care needs innovation in processes and systems more than it needs new inventions." Herzlinger commented that a chair/CEO of a health care cost-effectiveness company stated that, "Innovation, in our world, is not going to be necessarily about the thing, it is going to be about the way you do it. Although we make some products, it is largely a service business and that means innovating around services is just as powerful." Professor Herzlinger also stated that a related point of agreement in her study was the importance of the ability to solve problems and improve performance across a range of business processes. Though traditional classroom teaching continues to offer a great deal of value according to the study results, the responses of both CEOs

and academics reflect the strong belief that other modes of learning and teaching are required. Healthcare management programs should continue to pursue and improve classroom- based pedagogical strategies, but project-centered education, field study, and mentorships offer invaluable real-world experience and respond directly to the CEOs' request for more practical education (Herzlinger, R., Vasant. K., Kevin Schulman, K., Staman,K., 2015) .

Health care reform under the Obama administration has brought many changes in the delivery of healthcare. Additional changes are probable under the Trump administration. These changes in the way health care is delivered in the United States necessitate a review of the knowledge base needed for students to be adequately prepared for these dramatic shifts in the healthcare system. Healthcare Administration textbook authors cannot be counted on to produce texts that provided a didactic contribution that will publish changes quickly enough to provide a comprehensive understanding of the ever-changing industry. Successful programs must diligently monitor the industry to remain current. New skills and competencies are needed by health care administrators to function successfully in vertically integrated delivery systems and systems in which the focus has changed from fee-based reimbursement to performance-based reimbursement. The new focus on prevention, a higher level of coordination of care, and the emphasis on population health requires an ever expanding knowledge base and skill set. These competencies include management skills across hospitals, ancillary providers, physician practices, ambulatory settings, risk management skills, and skills in quality improvement. The healthcare industry is also moving away from procedure based fee-for-service medicine toward prevention and wellness and population management (Love and Ayadi, 2015).

Many health care administration programs across the county are struggling to adapt curriculum to prepare students to succeed in this dynamic environment. The only thing that appears certain is the need for change, however, academia may be even more resistant to change than other segments of society, as academics often feel protective of their courses and consider the content and delivery as a part of their academic freedom. Changing the focus from curriculum revision to a process of transitioning to new conditions, rather than change, may help faculty become more willing to consider all activities needed to develop a new curriculum for the 21st century.

The accrediting body for Health Care Administration Programs, the Association of University Programs of Healthcare Administration (AUPHA), has authored a Body of Knowledge whose purpose is to delineate the content that students in health management programs should learn during the course of their study. This is a living document that is still in the development process and is an invaluable tool for programs seeking AUPHA accreditation. The AUPHA's Body of Knowledge assumes that competency in application requires a basic knowledge of facts, theories and analytical approaches. The Body of Knowledge is distinct from accreditation requirements of CAHME or CEPH in that it encompasses detailed subject matter in addition to broad topics. This Body of Knowledge was used as a guide in the Lander University curriculum revision process in order to assure that the curriculum in Lander's Health Care Administration program is sufficient to AUPHA recommendations.

The completion of the review of literature and the AUPHA guidelines brought the next phase of the review process which consisted of a curriculum mapping process, summarizing data gathered from program comparisons, surveys of alumni and health care professional and

preceptors, and the development of a plan for the revisions if needed. The curriculum mapping process was completed in fall of 2016, surveys were completed in spring of 2016 and the program comparison study was completed in fall of 2016.

The curriculum mapping included reviewing each of the four courses in the previous curriculum (Introduction to Healthcare Management, Legal and Ethical Aspects of Healthcare, Healthcare Systems, and Healthcare Finance) to determine if the AUPHA recommended content was included and where it is being taught. Additionally, much of the AUPHA recommended content was found in the core business courses that all college of business students are required to take including accounting, finance, human resources, management, marketing and strategic planning. Recommendations based on the above process were given to the curriculum committee in fall of 2016. New courses were developed and introduced in spring of 2017.

The program comparison survey looked at course offerings of 17 health care administration programs that have earned AUPHA accreditation located mostly in the southeastern United States. The data gathered included courses offered and credit hours per course. Please see appendices for the complete list. The comparison provided information on which courses were commonly offered in both the larger and smaller comparable programs which would be considered leaders and competitors. Eight schools offered health care operations, quality management, healthcare research methods, and introduction to long-term care. Ten schools offered public health courses and health information management. Nine schools taught courses in healthcare ethics and diversity.

In April of 2016, the Lander Business Administration Curriculum surveys were conducted online using survey monkey. Three nearly identical surveys were conducted with different target sample groups:

1. *Graduates since 2006 with a BS in Business Administration; using email addresses provide by alumni affairs.*

2. *Seniors in Business Administration who are HCMT majors taking BA 499 – Business Seminar and who graduated in May or August 2016.*

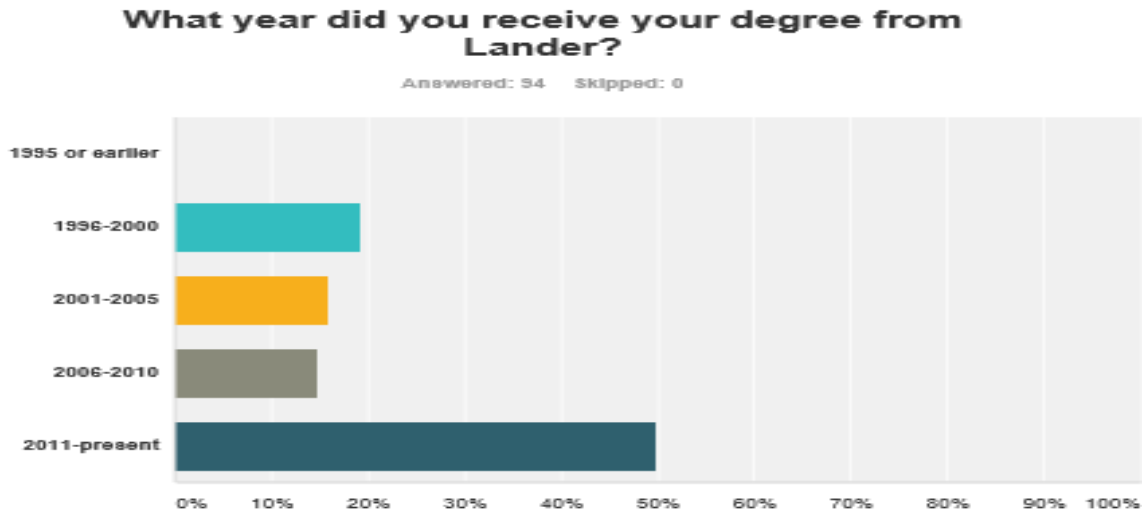
3. *Health Care Administration professionals in the Greenwood area; using an email list provided by the Greenwood Chamber of Commerce and other listings of health care professionals used previously by Lander College of Business including preceptors in the internship program .*

There were over 281 invitations sent to Alumni to participate in the survey, and there were 98 completed surveys from this group, or a response rate of 26 %. HCMT Professional Survey 36 responses of 66 invitations (54%). The professional invitations were to recent HCMT preceptors and other health care professionals in SC.

The survey results from the alumni participants revealed consistent information concerning courses they would consider important additions from the perspective of former graduates of the program. Around 65 percent of the responses came from individuals who had graduated from the program since 2006 and that group had the benefit of the most recent curriculum changes of 2005.

Approximately 61% of respondents currently work in health care and 81% are non-clinical professionals.

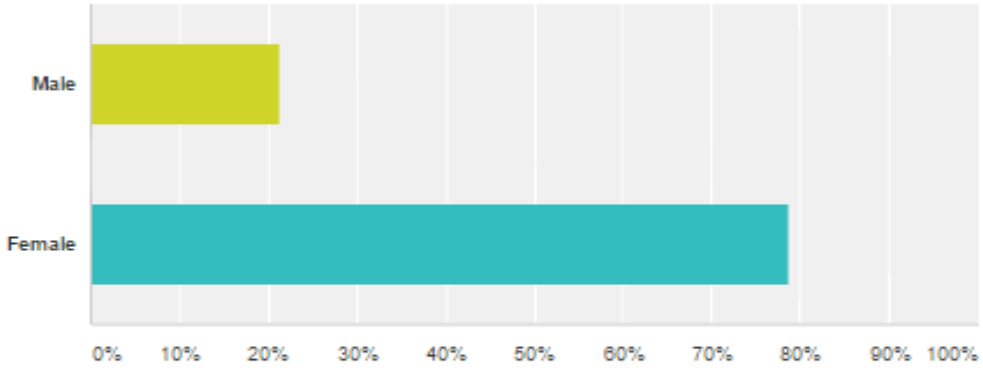
Results of Alumni Survey:



Answer Choices	Responses	
1995 or earlier	0.00%	0
1996-2000	19.15%	18
2001-2005	15.96%	15
2006-2010	14.89%	14
2011-present	50.00%	47
Total		94

Are you male or female?

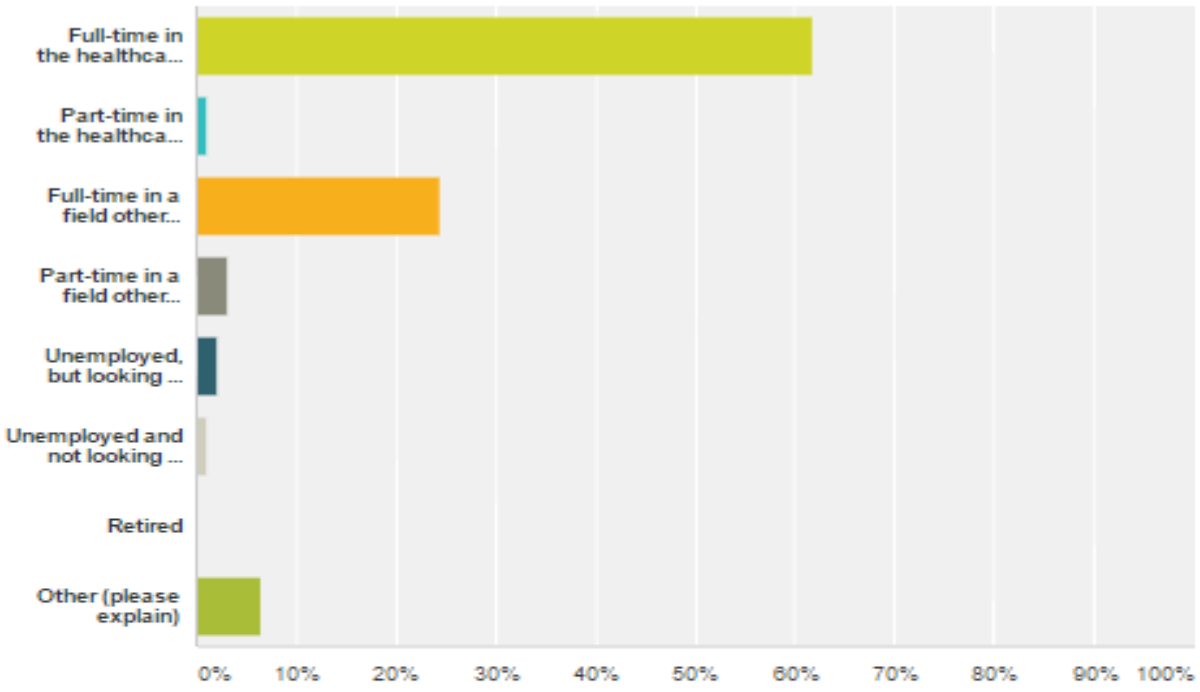
Answered: 94 Skipped: 0



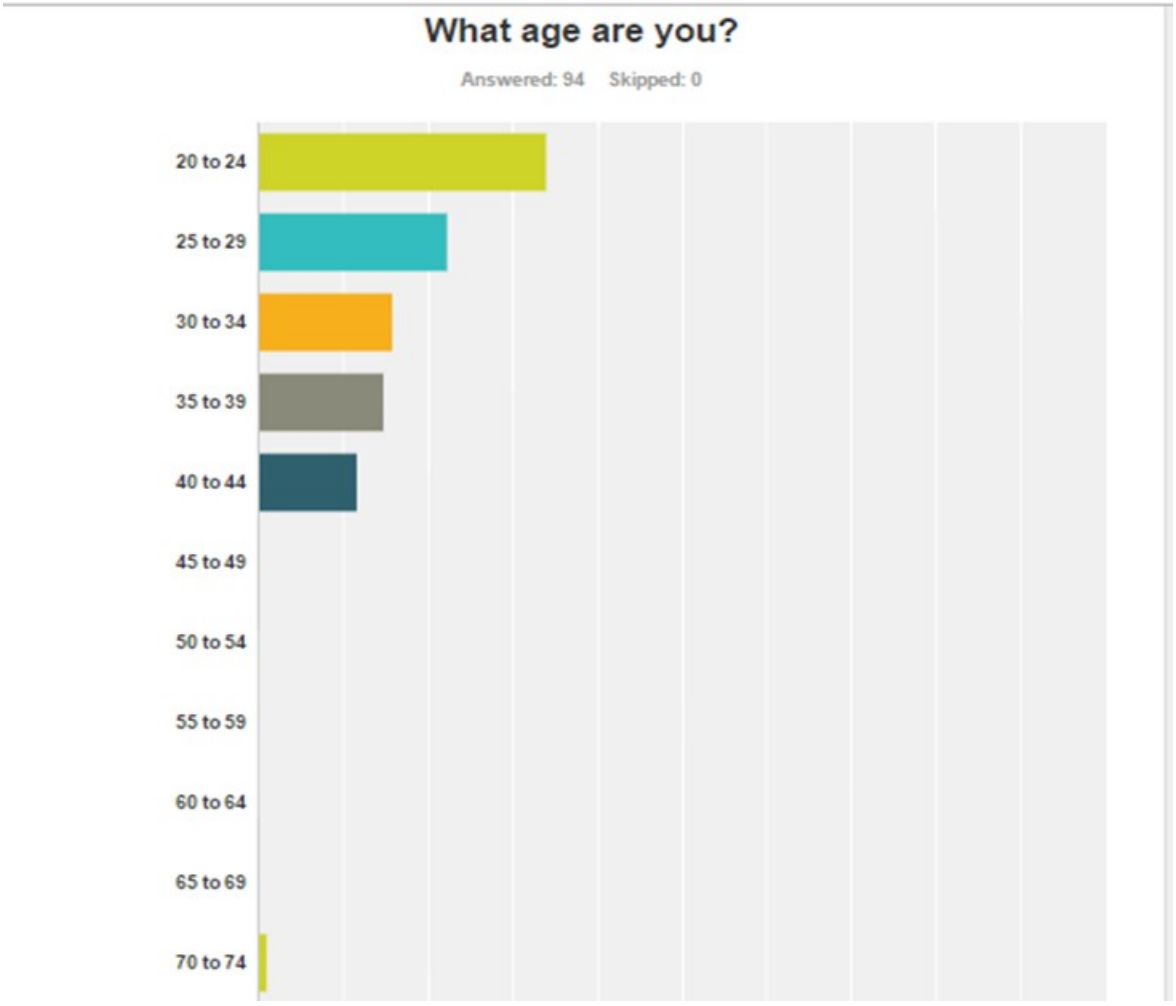
Answer Choices	Responses	
Male	21.28%	20
Female	78.72%	74
Total		94

What is your employment status?

Answered: 94 Skipped: 0

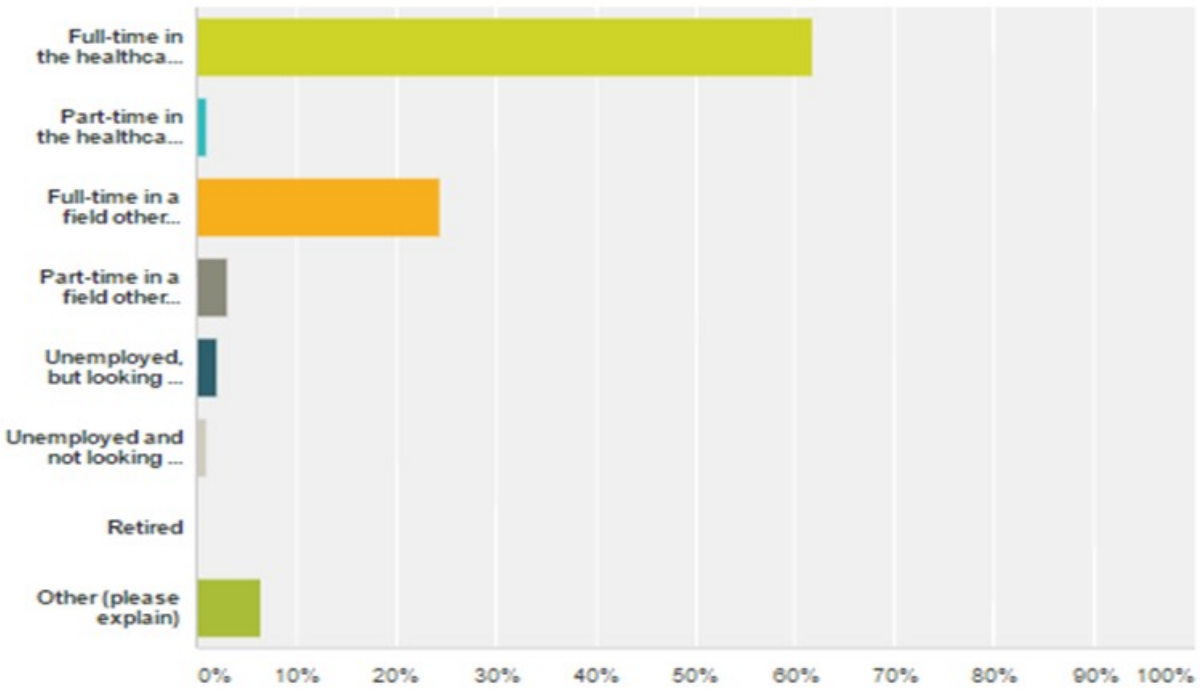


Answer Choices		Responses	
Full-time in the healthcare field		61.70%	58
Part-time in the healthcare field		1.06%	1
Full-time in a field other than healthcare		24.47%	23
Part-time in a field other than healthcare		3.19%	3
Unemployed, but looking for professional position.		2.13%	2
Unemployed and not looking for a position.		1.06%	1
Retired		0.00%	0
Other (please explain)	Responses	6.38%	6


What age are you?
Answered: 94 Skipped: 0
20 to 24
25 to 29
30 to 34
35 to 39
40 to 44
45 to 49
50 to 54
55 to 59
60 to 64
65 to 69
70 to 74

What is your employment status?

Answered: 94 Skipped: 0



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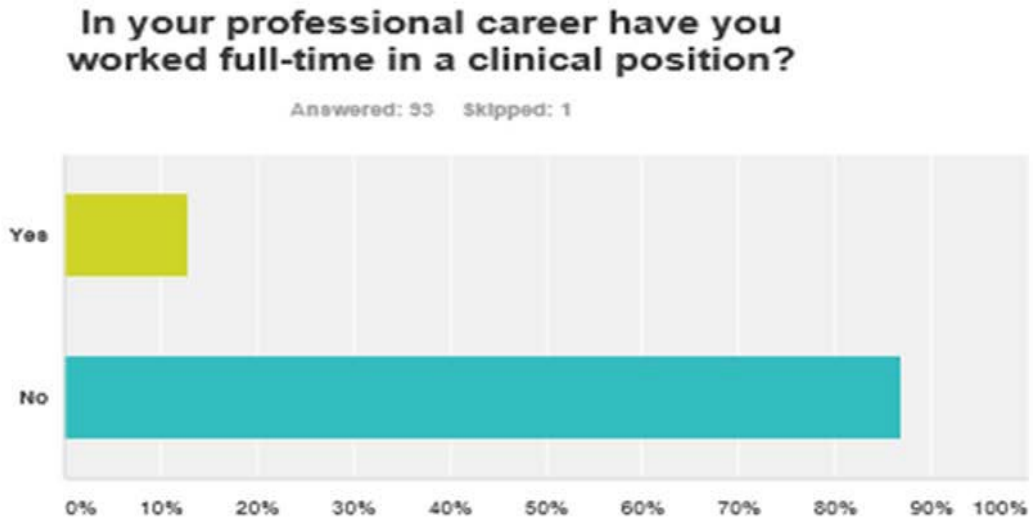
Unemployed and not looking for a position.		1.06%	1
Retired		0.00%	0
Other (please explain)	Responses	6.38%	6

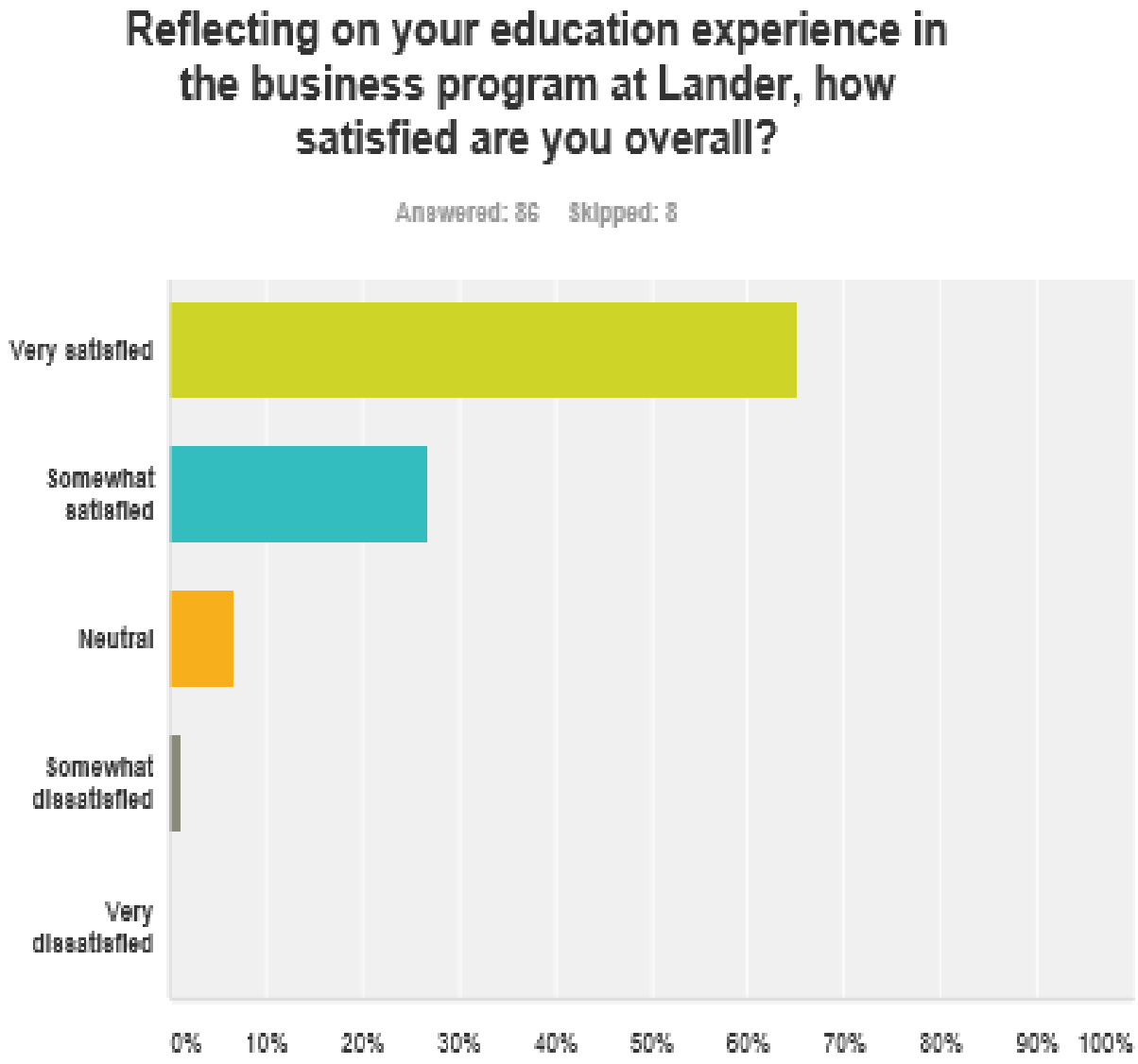
WHAT IS YOUR CURRENT JOB?

Executive Director	Self-employed	Financial Sales Rep	Public Relations Coordinator	Admin Assistant	High School Teacher
Student Services and Program Coordinator	GI Endoscopy Nurse	Server	Dental Assistant	Patient Coordinator	Operations Supervisor
Administrative Assistant	HR Coordinator	Business Office Associate	Human Resource Manager	Denial Mgmt Insurance	Program Coordinator II
Business Office Manager/HR Coordinator	Systems Director for Emergency Management	Materials Resource Specialists	Executive Director	Pt Access Specialist	Recovery Auditor
Eligibility Specialists Medicaid	Coding Technician OP certified	Administrative Assistant of Insurance Services	Human Resource Specialist	Disease Intervention Specialist	Marketing and Communications Officer
Customer Service Representative	Field Adjuster	Refund Coordinator	Admissions Coordinator	Regional Director Marketing	Emergency Services Registration
Human Resources Recruiter	Customer Service Supervisor	Training Specialists UNC healthcare	Business Analyst	Assisted M Administrator	Office Manager
Coordinator of Veterans Affairs	Business Office Supervisor	EMT support specialist	Senior Payroll Administrator	Residential Counselor	Executive Director
Sales Specialist	Guest Service Specialist	HR Business Partner Manager	Team Lead for HIM	Agent Principal	
Business Manager	Elementary Principal	Health Promotion Program Assistant	Optometric Technician	Customer service Advocate II	
Production Operator	Data Base Associate	Insurance Specialists	Transfer Counselor/Recruiter	Business Services Representative	
Homemaker	Director Health Care Marketing	Human Resource Generalists	Certified Coding Specialist	Sales Associate	
Reimbursement Counselor	Human Resource Compliance Coordinator	Managed Care Systems Analyst	Practice Manager	Nursing Home Administrator	
HR Manager	Graduate Student	Physician Liaison	Department Physician Billing	Marketing Rep Life Insurance Co	
EHR analyst	Billing/Insurance Specialist	Medical Clerk	Accounts Payable/Bookkeep	IT Analyst	
Patient Service Coordinator	Patient Account Manager	Graduate Assistant/Revenue Cycle	Customer Service Support	Front Office Staff	



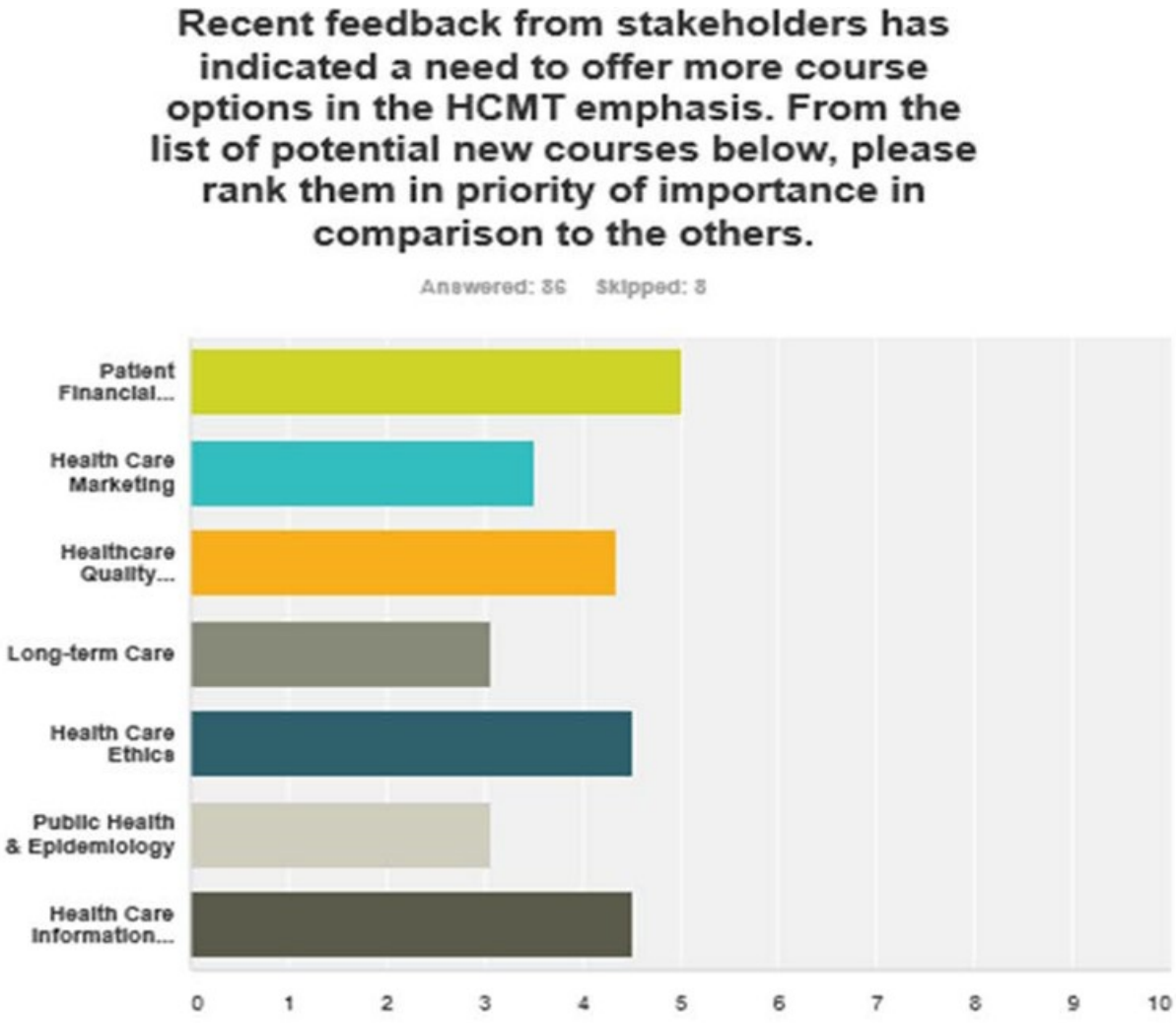
Answer Choices	Responses	
Yes	12.90%	12
No	87.10%	81
Total		93

Concerning questions about their satisfaction with their program at Lander and the expansion of the current curriculum, the responses from alumni were interesting as seen below.


Reflecting on your education experience in the business program at Lander, how satisfied are you overall?
Answered: 86 Skipped: 8
Very satisfied
Somewhat satisfied
Neutral
Somewhat dissatisfied
Very dissatisfied
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

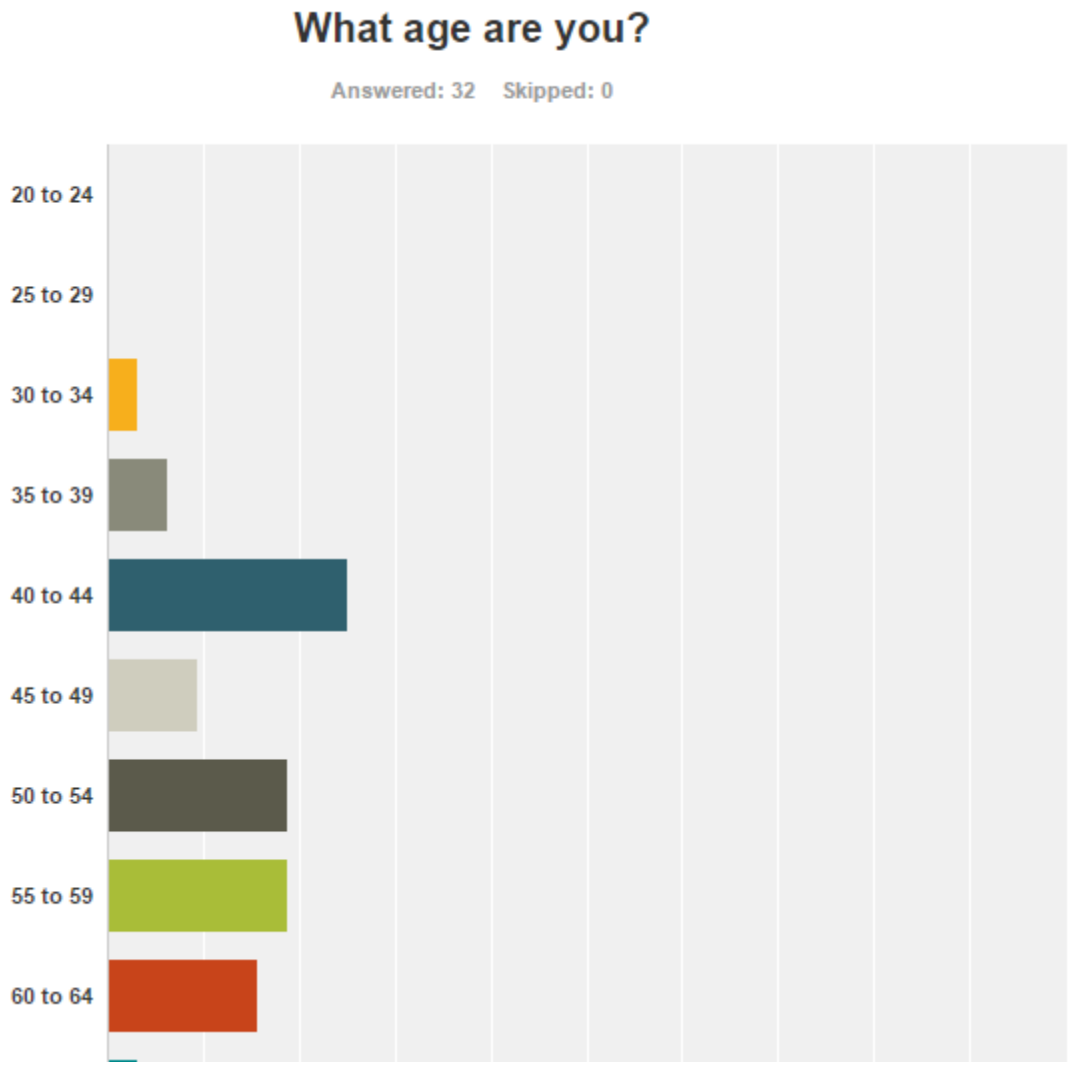
All business majors in our current curriculum must take the core courses below. For business professionals working in the healthcare field please indicate the level of importance of each course in preparation for the field.

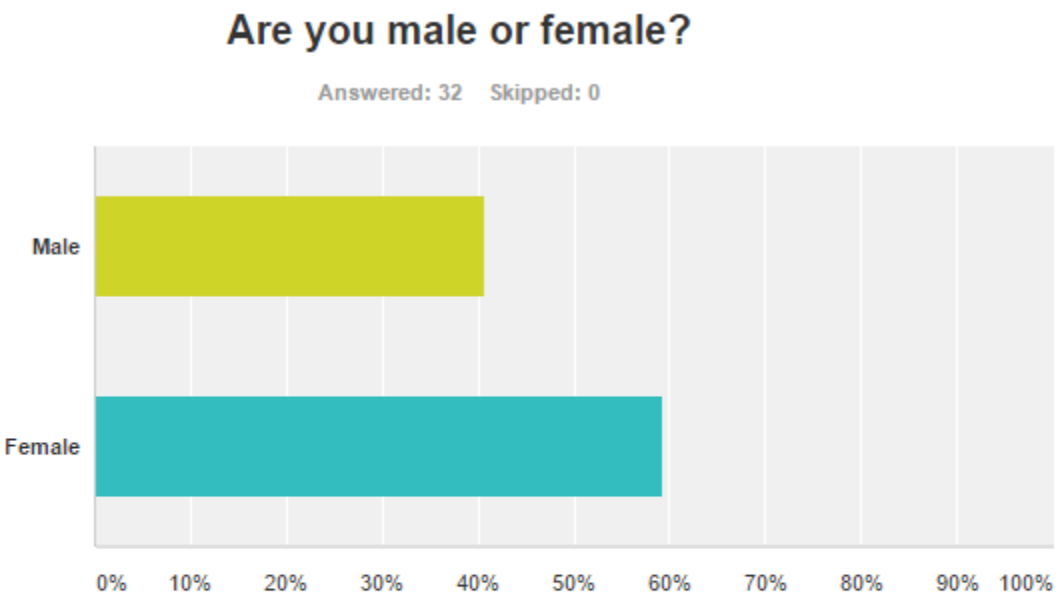
	Unimportant	Somewhat Important	Important	Critical	Uncertain / Do not Know	Total
MATH 121 - Math for Business, Life Science, and Soc Science	9.41% 8	28.24% 24	43.53% 37	15.29% 13	3.53% 3	85
BA 101 - Intro to Business	3.53% 3	11.76% 10	58.82% 50	24.71% 21	1.18% 1	85
ACCT 201 - Accounting-Financial	3.49% 3	19.60% 16	33.72% 29	43.02% 37	1.16% 1	86
ACCT 202 - Accounting-Managerial	7.06% 6	16.47% 14	36.47% 31	38.82% 33	1.18% 1	85
ECON 101 (201 & 202) - Economics	10.47% 9	30.23% 26	39.53% 34	17.44% 15	2.33% 2	86
ENGL 275 - Business Writing	3.57% 3	2.38% 2	40.48% 34	52.38% 44	1.19% 1	84
BA 251 - Business Law	0.00% 0	12.79% 11	40.70% 35	44.19% 38	2.33% 2	86
MGMT 301 - Intro to Management	0.00% 0	5.81% 5	44.19% 38	47.67% 41	2.33% 2	86
MKT 301 - Intro to Marketing	4.65% 4	22.09% 19	48.84% 42	23.26% 20	1.16% 1	86
FIN 301 - Intro to Finance	7.14% 6	16.67% 14	35.71% 30	39.29% 33	1.19% 1	84
BA 304 - Mgt Information Systems	2.33% 2	15.12% 13	38.37% 33	43.02% 37	1.16% 1	86
BA 325 - Advanced Analytical Methods	5.81% 5	22.09% 19	33.72% 29	31.40% 27	6.98% 6	86
MGMT 333 - Operations Management	0.00% 0	10.47% 9	37.21% 32	50.00% 43	2.33% 2	86
BA 414 - Business Strategy	0.00% 0	6.98% 6	34.88% 30	54.65% 47	3.49% 3	86
BA 490 - Business Seminar	0.00% 0	7.06% 6	32.94% 28	55.29% 47	4.71% 4	85


Recent feedback from stakeholders has indicated a need to offer more course options in the HCMT emphasis. From the list of potential new courses below, please rank them in priority of importance in comparison to the others.
Answered: 36 Skipped: 8
Patient Financial...
Health Care Marketing
Healthcare Quality...
Long-term Care
Health Care Ethics
Public Health & Epidemiology
Health Care Information...
0
1
2
3
4
5
6
7
8
9
10

Members of the professional community who responded to the survey consisted of health care professionals many of whom are preceptors for HCMT students. The majority of respondents to the professional survey are over 40 years of age and representative of many different health care settings and positions.

Results of the Health Professions survey:

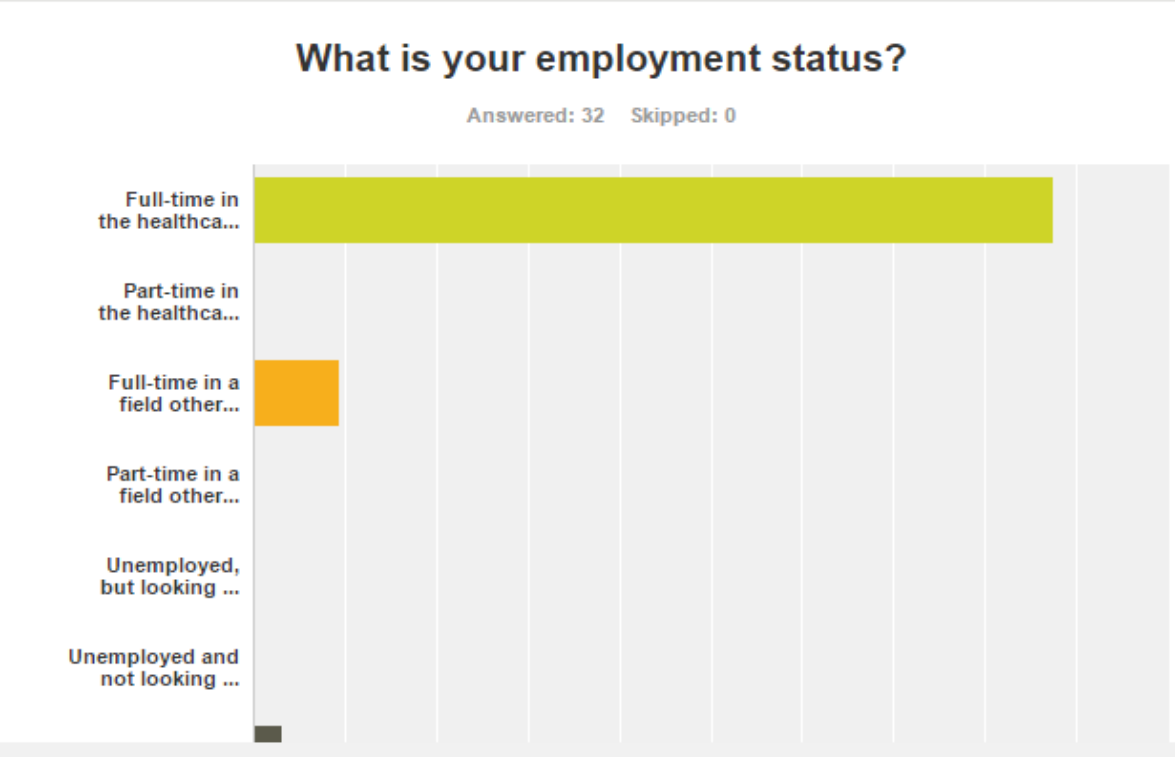




Answer Choices	Responses	
Male	40.63%	13
Female	59.38%	19
Total		32

Some of the jobs held by the Health Care Professionals Surveyed included:

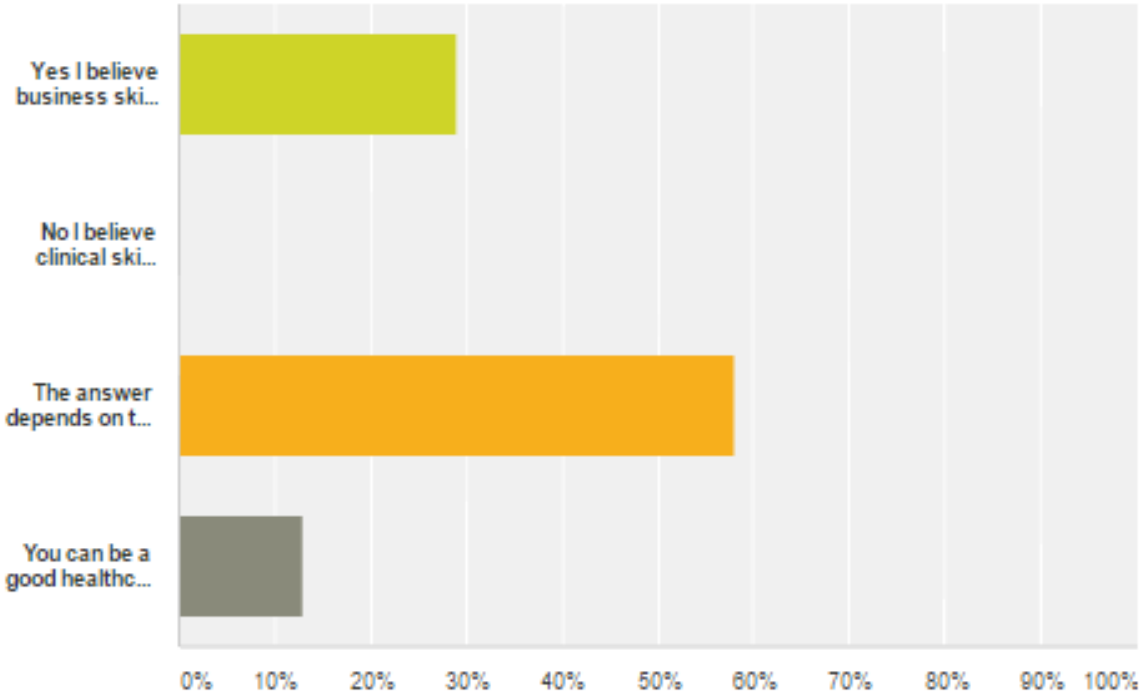
Practice Administrator
VP of Operations
Organizational Development Director
Emergency Management Coordinator
Director of Strategic Planning
VP Professional Services/ Chief Quality Officer
Practice Administrator
VP of Operations
Organizational Development Director


What is your employment status?
Answered: 32 Skipped: 0
Full-time in the healthca...
Part-time in the healthca...
Full-time in a field other...
Part-time in a field other...
Unemployed, but looking ...
Unemployed and not looking ...


Recent feedback from stakeholders has indicated a need to offer more course options in the HCMT emphasis. From the list of potential new courses below, please rank them in priority of importance in comparison to the others.
Answered: 30 Skipped: 2
Patient Financial...
Health Care Marketing
Healthcare Quality...
Long-term Care
Health Care Ethics
Public Health & Epidemiology
Health Care Information...
0
1
2
3
4
5
6
7
8
9
10

In the healthcare field in general, do you feel that business skills are as important as clinical skills for a manager?

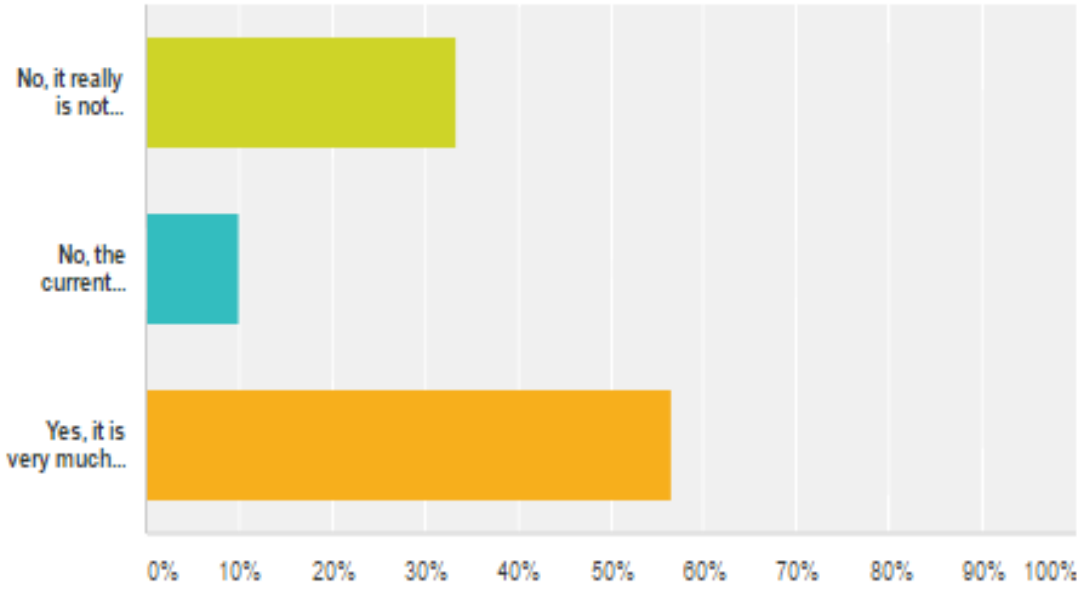
Answered: 31 Skipped: 1



Answer Choices	Responses	
Yes I believe business skills are as important	29.03%	9
No I believe clinical skills are more important	0.00%	0
The answer depends on the position, clinical managers need both	58.06%	18
You can be a good healthcare manager without clinical skills	12.90%	4
Total		31

Should business students in the HCMT emphasis be given more exposure to the clinical side of healthcare?

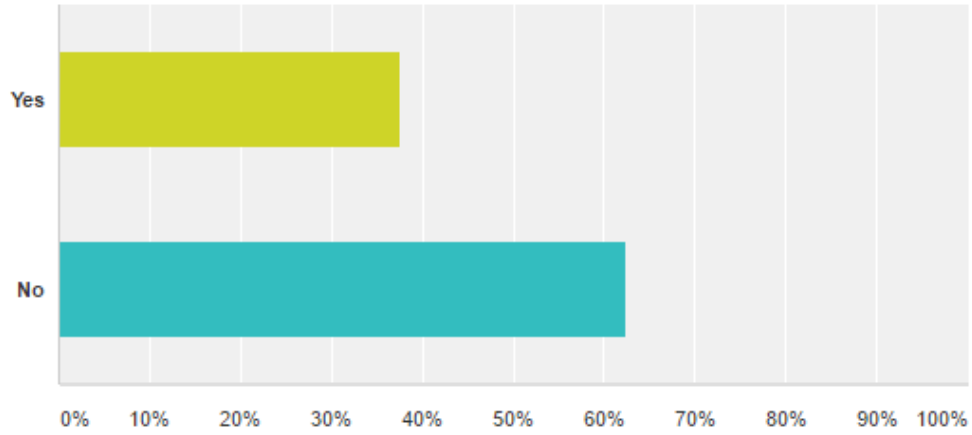
Answered: 30 Skipped: 2



Answer Choices	Responses	
No, it really is not necessary	33.33%	10
No, the current curriculum is fine	10.00%	3
Yes, it is very much needed	56.67%	17
Total		30

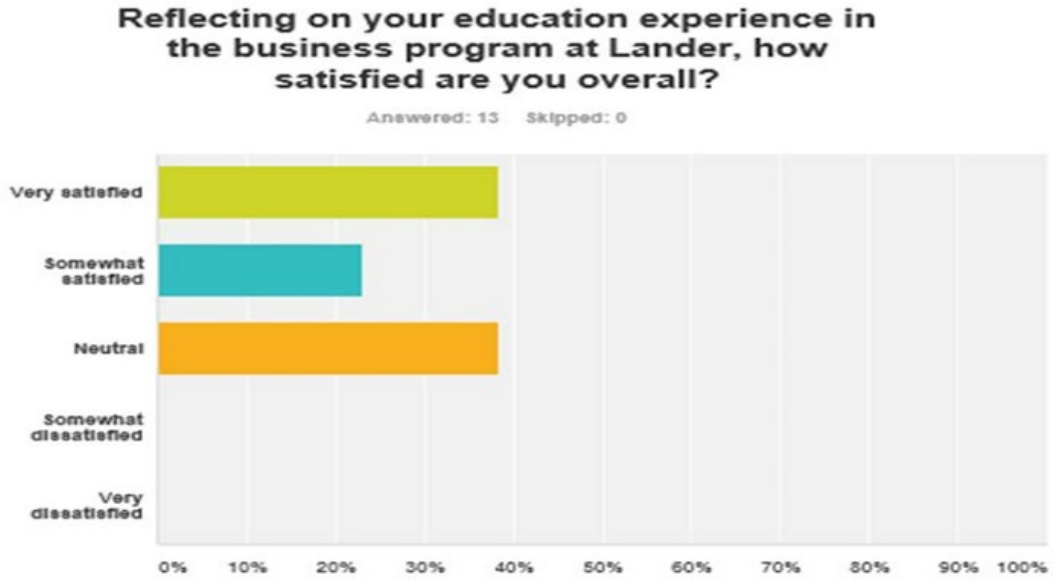
In your professional career have you worked full-time in a clinical position?

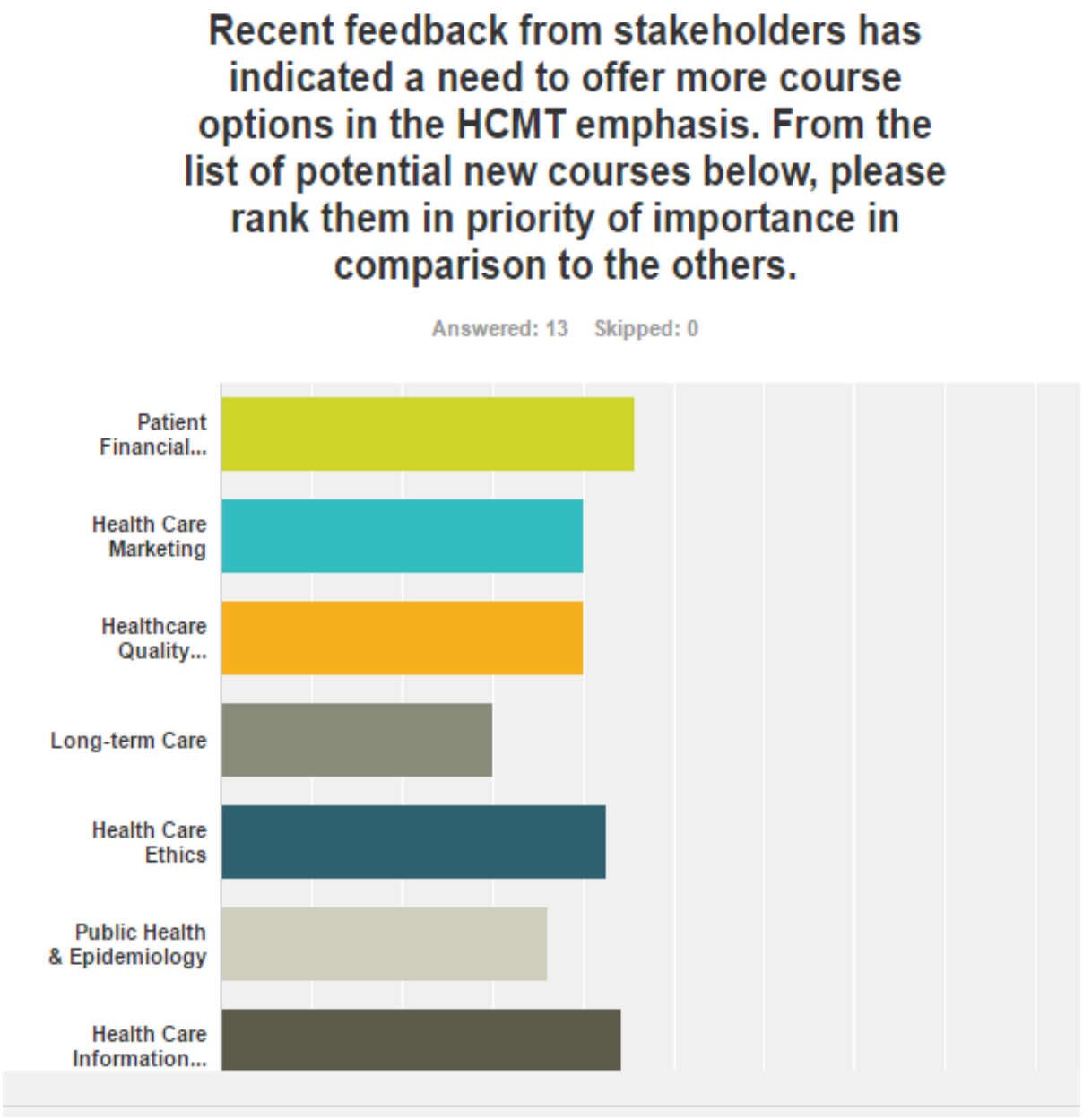
Answered: 32 Skipped: 0

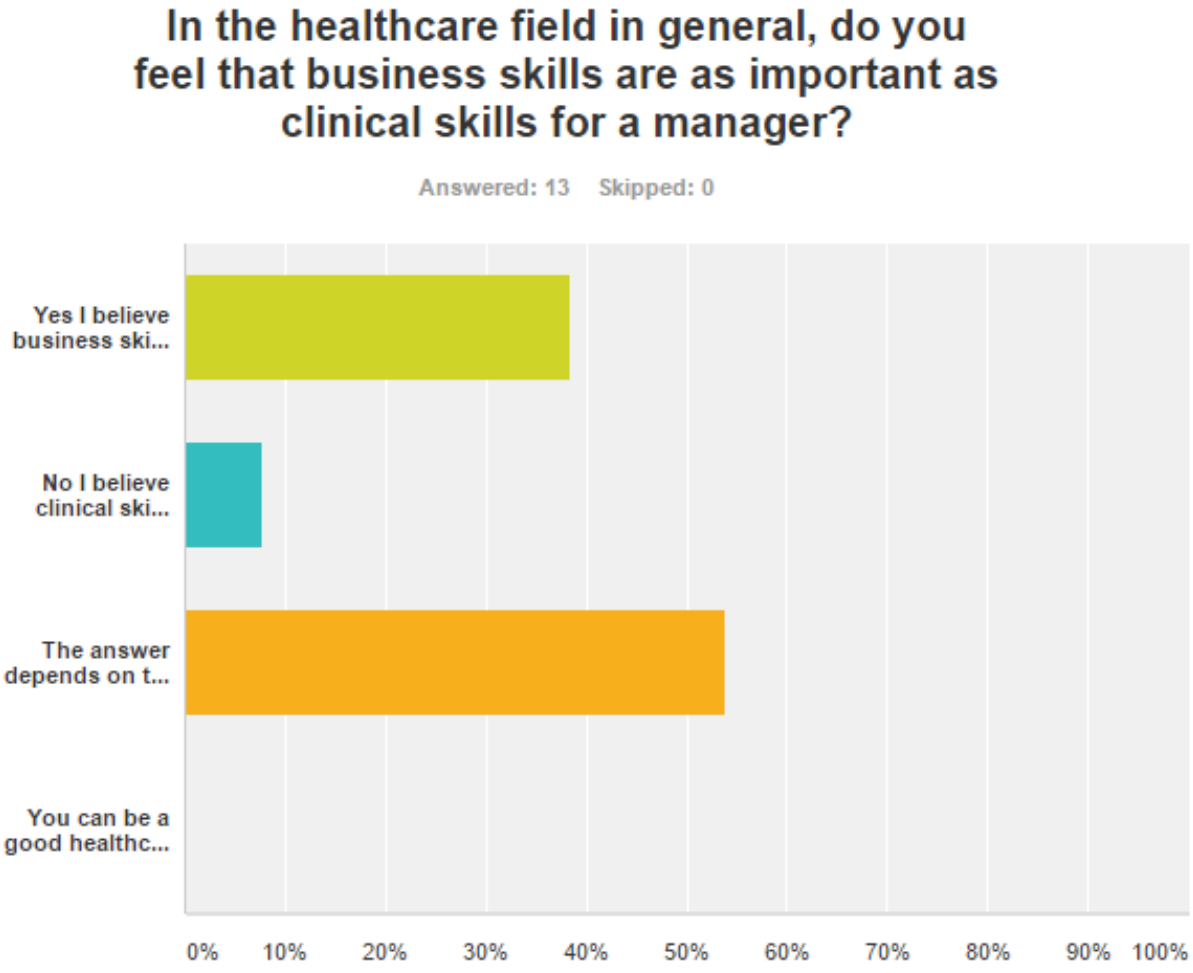


Answer Choices	Responses	
Yes	37.50%	12
No	62.50%	20
Total		32

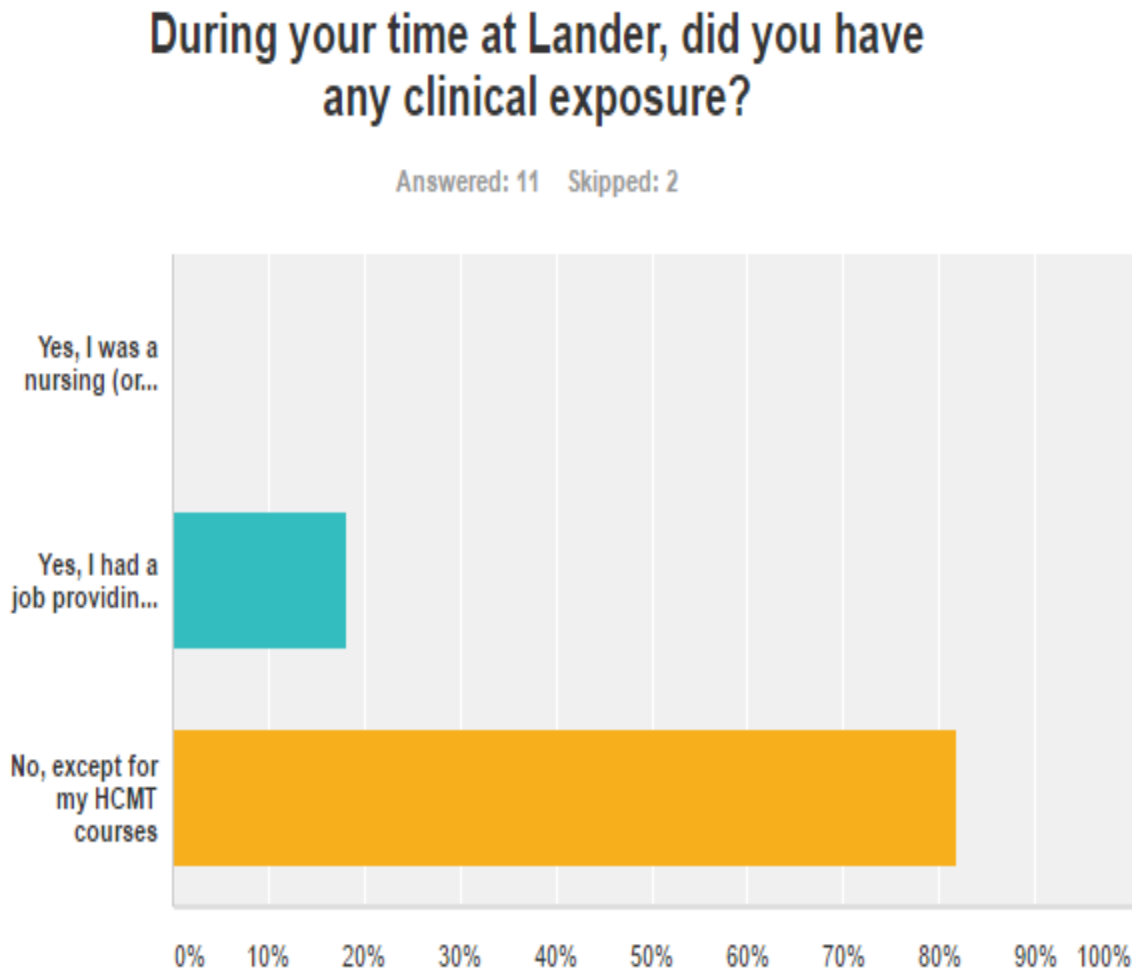
Twenty-nine Lander HCMT students who are seniors and in the 499 capstone course were invited to participate in the survey. There were 13 responses that provided:



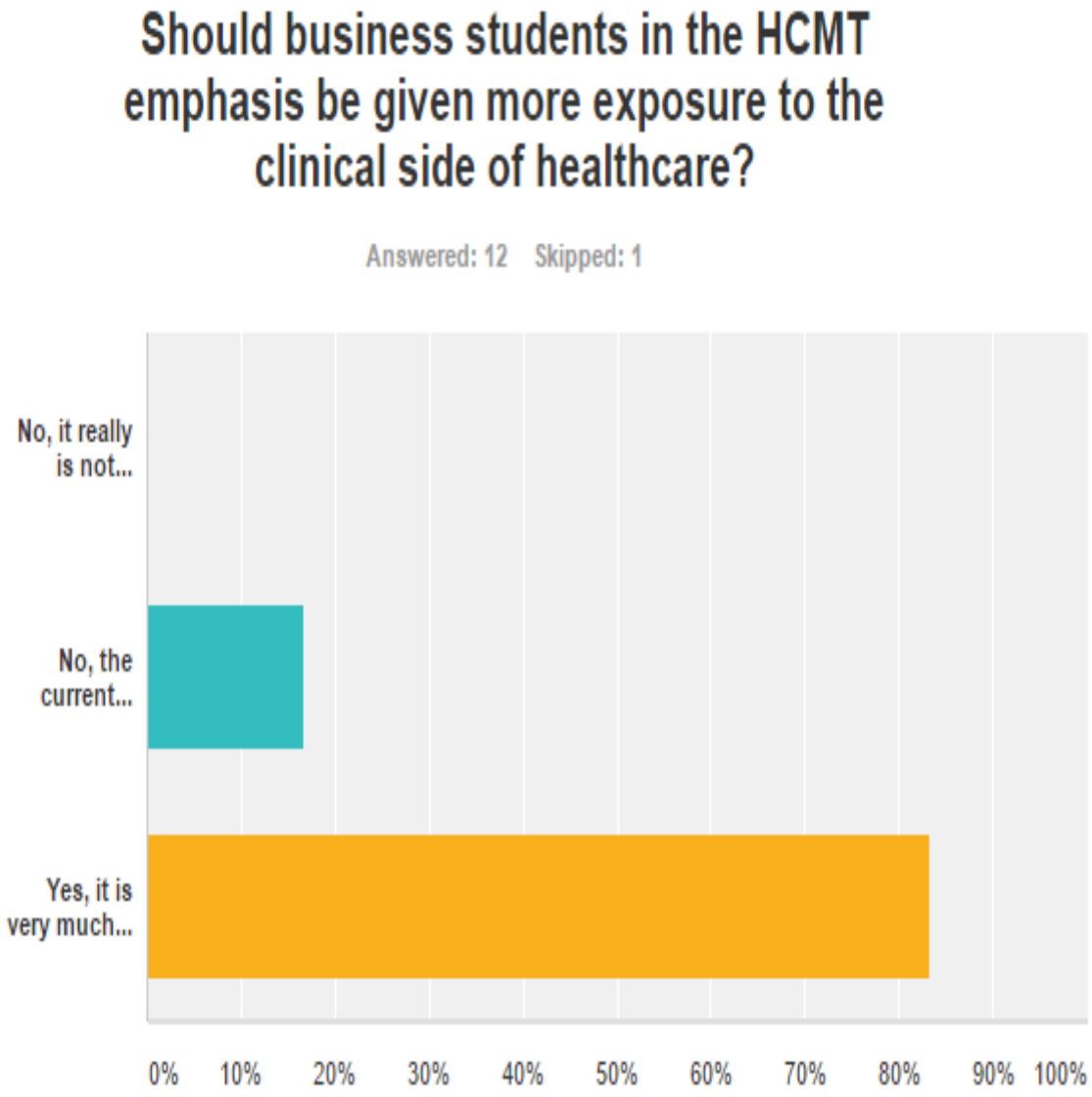

Recent feedback from stakeholders has indicated a need to offer more course options in the HCMT emphasis. From the list of potential new courses below, please rank them in priority of importance in comparison to the others.
Answered: 13 Skipped: 0
Patient Financial...
Health Care Marketing
Healthcare Quality...
Long-term Care
Health Care Ethics
Public Health & Epidemiology
Health Care Information...



Answer Choices	Responses
Yes I believe business skills are as important	38.46%
No I believe clinical skills are more important	7.69%
The answer depends on the position, clinical managers need both	53.85%
You can be a good healthcare manager without clinical skills	0.00%



Answer Choices	Responses	
Yes, I was a nursing (or pre-nursing) student and took clinical courses	0.00%	0
Yes, I had a job providing care to patients	18.18%	2
No, except for my HCMT courses	81.82%	9



Answer Choices	Responses	
No, it really is not necessary	0.00%	0
No, the current curriculum is fine	16.67%	2
Yes, it is very much needed	83.33%	10
Total		12

DISCUSSION

The courses identified by all stakeholders as needed additions to the curriculum included courses pertaining to reimbursement, changing financial structures, and health care marketing. The other courses that were mentioned most often as needed additions included health care quality management, healthcare information management, public health, health care ethics and long-term care.

Finally, curriculum mapping provided information on the courses containing overlap and the courses that are currently taught that can be expanded to provide adequate coverage of the identified gaps. The results revealed that the HCMT 301 (Healthcare Ethics and Regulations) course can be revised to cover health care regulations and policy as well as expanding the coverage of ethics including a module on healthcare ethics case studies. The HCMT 410 course will become the capstone course and will be revised to include a module on health care marketing. The health care finance course has been updated and revised with a new textbook starting in Spring of 2017 and will continue to focus on changing financial structures, reimbursement and will include an added course project that will require students to bring updated financial changes to the system into the coursework using reliable internet sources.

Both the professional respondents and the alumni surveyed indicated they believe that HCMT students would benefit from greater exposure to clinical settings in their internships. One health care professional used an interesting analogy, “Possibly this will make sense: It would be like a business owner selling lawn mowers and has never cut grass before; or at least sat on a lawn and appreciated it's beauty after a fresh cut. So the HC manager who has done a clinical rotation (walked side by side with a nurse/Doctor) will understand work flows (check-in, patient visit, EMR documentation, ordering tests, ordering e-Rx, check-out). Without this experience they lack the skills to tie both together.” The faculty responsible for managing the internships is developing a clinical shadowing component to the internship curricula. Additionally, the HCMT faculty are working with the regional medical center to provide an opportunity for first year students within the major to spend a day at the facility to tour many of the departments including the administrative offices. An agenda of guest speakers for each semester will include both administrative and clinical professionals from the health care community. Meetings with preceptors will provide opportunities for their input as to how to expand the internship experience to include more clinical exposure for HCMT students. The revamping of the internships began in Spring of 2017 with the expansion of preceptors and the inclusion of specific opportunities for exposure to increased clinical experiences.

Developing effective assessment strategies for the new additions to the curriculum and the historical courses in the emphasis is an ongoing process and will continue to be revised as needed. Specific outcome measures for the previous curriculum are not available making it very difficult to assess and compare student learning outcomes in each phase of curriculum development. However, several mechanisms are being implemented to assess the curriculum going forward including the following model from the American College of Health Care Executives (Appendix A) .

In conclusion, the summary of all the data revealed opportunities to expand the HCMT curriculum in addition to course revisions that eliminated overlap and provided opportunities to add missing and relevant course content. The expanded curriculum will include four new courses beginning spring 2017, including Public Health, Quality Management, Long-term care, and Health Care Information Management. The addition on one faulty member is planned for the 2017/2018 academic year and will provide expanded course coverage and enable the HCMT emphasis to meet the criteria for moving forward with the accreditation process. As the health care delivery system evolves, colleges and universities will continue to have new opportunities to provide students with the knowledge, skills, and competencies to be well- prepared managers in health care organizations.

The assessment, evaluation, and revision of the health care administration curriculum at Lander University will be ongoing process to assure that Lander graduates can successfully manage the challenges that are coming in the health care system of the 21st Century.

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Appendix A
Health Care Executives Competency Model.

BUSINESS SKILLS AND KNOWLEDGE
Know, apply and integrate the content of the major[1].

KNOWLEDGE OF HEALTH CARE ENVIRONMENT
Ability to discuss and apply knowledge of the healthcare system and the environment in which healthcare managers and providers function;
Demonstrate and understanding of the interrelationships among cost, quality, access, resource allocation, accountability and community;
Ability to incorporate a patient perspective and knowledge of patients' rights and responsibilities in evaluating a management/service provision issue;
Ability to apply basic problem solving skills along with knowledge of healthcare funding and payment mechanisms;
Demonstrate an understanding of the complexity associated with interacting and integrating among health care sectors to improve service efficiency and quality.

COMMUNICATION AND RELATIONSHIP MANAGEMENT
Ability to communicate clearly and concisely, establish and maintain relationships, and facilitate constructive interactions with individuals and groups;
Demonstrate effective written, oral and presentation skills;
Prepare and deliver business communications including meeting agendas, presentations and business reports;
Provide and receive constructive feedback;
Demonstrate effective interpersonal relations.

PROFESSIONALISM
Ability to align personal conduct with ethical and professional standards that include a service orientation and a commitment to lifelong learning;
Be attentive, proactive and ready to learn;
Meet commitments and complete tasks according to assigned requirements;
Treat others with respect; show sensitivity to their views, values and customs;
Demonstrate ethical behavior consistent with professional codes of ethics;
Assume responsibility for one's own career management and goal-setting;
Demonstrate effective resume and interview skills;
Prepare for lifelong learning and career planning.

LEADERSHIP AND TEAMWORK
Ability to inspire individual and group excellence;
Participate in and lead teams;
Focus on goal achievement;
Guide team toward achievement of common goals;
Maintain group cohesion, follower satisfaction and productivity;
Incorporate and apply management techniques and theories.

[1] Adapted directly from American College of Healthcare Executives http://www.ache.org/pdf/nonsecure/careers/competencies_booklet.pdf unless otherwise noted.

RESPONSIBLE MANAGEMENT EDUCATION: A CONTENT ANALYSIS OF STRATEGIC MANAGEMENT TEXTBOOKS

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Dave Grimmett, Austin Peay State University
Amye Melton, Austin Peay State University
Vikkie McCarthy, Austin Peay State University

ABSTRACT

This paper studies the evolution of teaching corporate social responsibility (CSR) in management education since the United Nation's Global Compact's Principles of Responsible Management Education (PRME) in 2007. Undertaking the study involved reviewing the history of teaching CSR, the main approaches to addressing CSR in management education as well as the importance of the strategic management course as a capstone course in business schools. The research method used to address the study hypothesis was a content analysis of strategic management textbooks. A sample of forty-one (n=41) strategic management textbooks was analyzed. The trend in the percent of the textbooks' content related to CSR was analyzed using descriptive and inferential statistics. This study found that content related to CSR in strategic management textbooks has significantly risen since 2007.

Keywords: Corporate Social Responsibility (CSR), Business Education, Strategy, Philanthropy, Social Responsibility (SR), Triple Bottom Line

INTRODUCTION

The concept of Corporate Social Responsibility (CSR) has evolved over the past century from philanthropic efforts by businesses to a concern for people, planet, and profit (Carroll, 2008). The concern for businesses' social and environmental impacts within and outside the organizations has become just as important as bottom-line profits. As v become more socially responsible, so does the need for business schools to educate future business leaders. In 2007, a United Nations task force that included members from academic institutions such as AACSB, the Aspen Institute, and the European Academy of Business met to draft the Principles of Responsible Management Education (PRME). These Principles include:

> ***Principle 1 | Purpose****: We will develop the capabilities of students to be future generators of sustainable value for business and society at large and to work for an inclusive and sustainable global economy.*
>
> ***Principle 2 | Values****: We will incorporate into our academic activities and curricula the values of global social responsibility as portrayed in international initiatives such as the United Nations Global Compact.*

> ***Principle 3 | Method**: We will create educational frameworks, materials, processes and environments that enable effective learning experiences for responsible leadership.*
>
> (Source: http://www.unprme.org/about-prme/the-six-principles.php)

The creation of these principles demonstrated the importance of CSR within business education on a global scale. The purpose of this study is to determine if CSR has become more prevalent in business education since the inception of PRME. This study is important because business schools struggle to become more relevant by bridging theory with practice. As more organizations develop CSR strategies to strengthen their bottom lines, it is important to see if future business leaders are learning about CSR in school.

Corporate social responsibility has been a subject of business research since the 1970s (Carroll, 1979, Tuzzolino and Armandi, 1981, Wartick and Cochran, 1985, and Wood, 1991). As we move into the 21st century, CSR will continue to move corporations toward becoming fully integrated with strategic management and corporate governance (Carroll, 2008). Being CSR friendly contributes to an organization's brand and helps create a reliable and honest reputation among consumers (Helle, Sophie, & Thomsen, 2011; Lai, & Hsu, 2015).

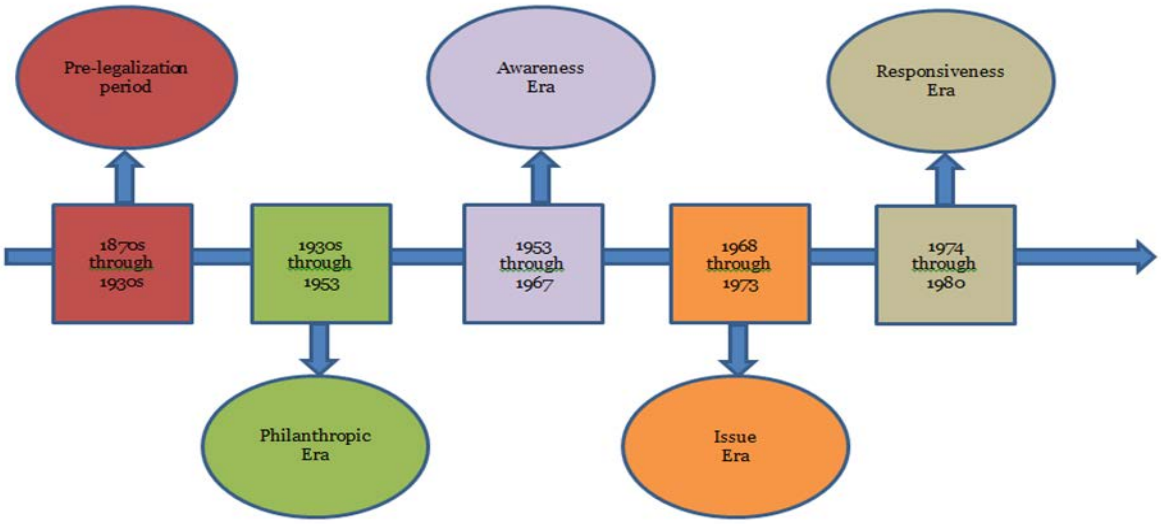
This research document begins with three groups of literature reviews, the first of which will contain key historical information on the topic of CSR. The next will address issues on the importance of CSR in a business education classroom. Then, an explanation of the research methodology used to determine the amount of CSR material found in business strategy textbooks used by a specific set of colleges will follow. The research will show the lack of or inconsistent amount of CSR content in Strategy textbooks used in Capstone courses over the last thirteen years. The study will hopefully result in more CSR content being added to Capstone courses.

CORPORATE SOCIAL RESPONSIBILITY

Archie B Carroll (2008) argued that, "despite the fact that it is conceivable to see proof of CSR all through the world, generally in created nations, early compositions have been most evident in the United States where a large assortment of writing has been gathered. CSR has many terminologies, references and definitions" (as quoted in Shiu & Yang, 2016, p. 456). In 1979, author Melvin J. Standford referred to CSR as being a broadly used term and could be applied to everyone in the corporation. While this paper does not cover all five dimensions or definitions associated with the topic, it does attempt to discuss the evolution of CSR as a whole to determine if there is a need for further development in academic course material.

Since the 1800s, CSR and other social initiatives have developed and can be categorized by era. Patrick Murphy, business leaders, and others in the community who were socially respected were able to depict multiple eras of time: 1870s–1930s 'pre-legalization period', 1950s 'philanthropic era', 1953 – 1967 'awareness' era', 1968 – 1973 'issue' era', and 1974 – 1980 'responsiveness' era' (Carroll, 2008, p. 25). Figure 1, below provides a timeline of Carroll's (2008) eras.

Figure 1: Historical CSR Era Timeline



It was around the 'philanthropic era' that one of the first definitions of social responsibility was brought forward by Bowen (1953) as he states, "It refers to the obligations of businessmen to pursue those policies, to make those decisions, or follow those lines of action which are desirable in terms of the objectives and values of our society" (p. 6). During the same time era, prominent writer Keith Davis' (1960) definition referred to, business people's choices and moves made for reasons in any event mostly past the company's immediate monetary or specialized interest. Bowen and Davis' contributions to CSR definitions made them known as "The Father of CSR" and the "Runner-Up Father of CSR" (Carroll, 2008, p. 27).

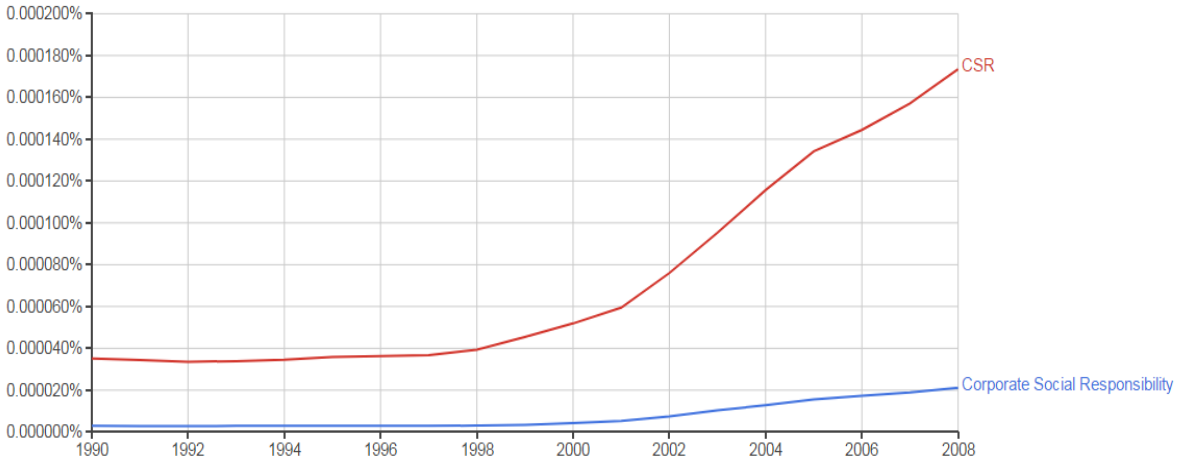
In the 'issue' era' Harold Johnson (1971) is well-known for his CSR definition of a socially mindful firm is one whose administrative staff adjusts a variety of intrigue. Rather than making progress toward bigger benefits for its investors, a responsible corporation, additionally considers representatives, providers, merchants, neighborhood groups, and the country. Somewhere between the 'issue' era' and the 'responsiveness'' era' the definition of social responsibility slightly varies to include the public eye. Businessmen began feeling responsible and obligated to fill certain social and economic voids to fill stockholder demands (Bowen, Bowen, and Gown, 2013). During these different time eras, social responsibility and corporate social responsibility definitions were used interchangeably and as time moved forward more businesses demanded that employees be aware of (CSR).

The more recent authors Kotler and Lee (2005) define corporate social responsibility as a promise to enhance group prosperity through optional business practices and commitment of corporate assets. Visser (2011) defines corporate social responsibility as a coordinated, fundamental approach by a business that constructs, as opposed to crumbling or devaluing "economic, social and human and natural capital" (p.7).

Smith (2011) referenced CSR definitions with a source, google frequency count and dimensions of thirty-seven variations of the topic. This work included definitions from the 1980s through 2003. Definition sources included the World Business Council for Sustainable Development, Business for Social Responsibility, Global Corporate Social Responsibility Policies Project and more. The google frequency count had the most hits at over 286 and the fewest at 1. The dimension variations included words such as social, environmental, voluntariness, and more. As demonstrated already, business leaders, researchers and experts ought to devote time moving away from definitions and additional time towards a union of the wording (Bracker, 1980).

A popular modeling tool for analyzing text data is the n-gram (Sokolova, Shah, & Szpakowicz, 2006). In this study, the nGram counts the frequency of the phrase 'corporate social responsibility' in millions of digitized Google Books as shown by the blue line. The nGram counts the frequency of the phrase 'CSR" within the same digitized books as shown by the red line. The nGram is slightly different from the study being presented here. The nGram has taken millions of book found on Google and searched these two buzz words. Our current study has narrowed the search to include textbooks used in strategy education classrooms, expanded the search words and included more present set of data. Although the usage and popularity of terminology is growing, as depicted in Figure 2 below, there is still some debate as to whether enough information is included in a business education classroom to ensure success in the business world.

Figure 2: Frequency of Corporate Social Responsibility in Vocabulary



CORPORATE SOCIAL RESPONSIBILITY IN BUSINESS EDUCATION CLASSROOMS

Bower (2008) believes business policy originated and transformed into management strategy when courses were first being offered at Harvard Business School in 1912. Dan Schendel and Charles Hofer concur the original usage of business policy, but that its meaning was revamped

from business policy to strategy management in 1979 (Wren and Bedeian, 2009). Strategy simply implies the plan to destroy one's adversary by effectively using open available resources (Bracker, 1980). Continually, adding strategy to corporate social responsibility built a strong foundation to educate future business leaders. When Strategic CSR is actively used in a classroom, then a larger reward is developed for both the company and society (Porter and Kramer, 2006).

Grant (2008) discussed two distinct views of teaching business policy and strategic management in capstone courses. Business policy is a tradition based course designed to capture the role of a general manager and is practicum based. Strategic management is nearly the other end of the spectrum. It is designed as a theory based course and utilizes business strategies (Grant, 2008). Combined, these courses could provide a broader view and expectation of future business leaders. Increasing the CSR content found in textbooks used in these described courses will enhance learning while educating managers that can lead companies into creating a sustainable environment (Lisa, Peirce, Hartman, Hoffman, and Carrier, 2007).

Competing business schools are continually evaluating courses being offered by their university to ensure they are current with the increasing trends. Students who attend schools with certain accreditation standards are looked upon favorably when applying for positions (Bennis and O'Toole, 2005). Strategic Management, historically, is the capstone course for business degrees (Chowdhury, 2016). For accreditation purposes, many universities use the Strategic Management course as a Capstone that leads into an exit exam (Payne, Whitfield, & Flynn, 2002). Studies have explored the integration of specific business topics such as marketing and economics within Strategic Management Courses (David, F. R., David, M. E., & David, 2017; Mong, 2011). However, there is a dearth of empirical studies related to CSR integration into the Strategic Management capstone course. The main research question relates to whether or not CSR has an increasing trend in business education as reflected in strategic management content since the development of the PRME in 2007. In exploring this research question, we offer the following hypothesis:

H0: $\mu = 0.15$ *(There has been no significant change in the amount of CSR in textbooks since 2007.)*

H1: $\mu \neq 0.15$ *(There has been a significant change in the amount of CSR in textbooks since 2007.)*

RESEARCH METHODOLOGY

To address this hypothesis related to CSR content in Strategic Management courses, a pragmatic approach with a mixed method of quantitative and qualitative works was examined. The quantitative content analysis design was used as a survey research approach while the qualitative design was used as a case study approach. This section discusses the quantitative content analysis conducted using Strategic Management textbooks.

The method used in this study can be compared to the study completed by Bracken and Urbancic (1999) who conducted a content analysis of ethics in accounting textbooks. Their particular research was to determine the amount of ethical content found in introductory

accounting and financial textbooks. Green and Lopus (1993) conducted a similar study using economics textbooks to determine the amount of content related to CSR in economics courses. The framework of our study is similar to the above mentioned studies, as its research was to determine the amount of CSR material found in business strategy textbooks used by a specific set of colleges.

Population and Sample Selection- The population for this study consists of textbooks used by AACSB accredited universities, but a convenience sample was selected by a review of schools similar to a medium-sized state regional university. Initially, twelve universities were identified for this study in order to determine what strategic management textbooks were used in strategy classes.

Table 1: Universities

1.	Lander University, College of Business, Greenwood, SC
2.	Queens University of Charlotte, McColl School of Business, Charlotte, NC
3.	Savannah State University, College of Business Administration, Savannah, GA
4.	Southern University at New Orleans, College of Business and Public Administration, New Orleans, LA
5.	Southern Utah University, School of Business, Cedar City, UT
6.	Texas Wesleyan University, School of Business Administration and Professional Programs, Fort Worth, TX
7.	The University of Tampa, John H. Sykes College of Business, Tampa, FL
8.	University of Tennessee at Chattanooga, Chattanooga, TN
9.	Tennessee Technological University, Cookeville, TN
10.	Coastal Carolina University, Conway, SC
11.	James Madison University, Harrisonburg, VA
12.	Appalachian State University, Boone, NC

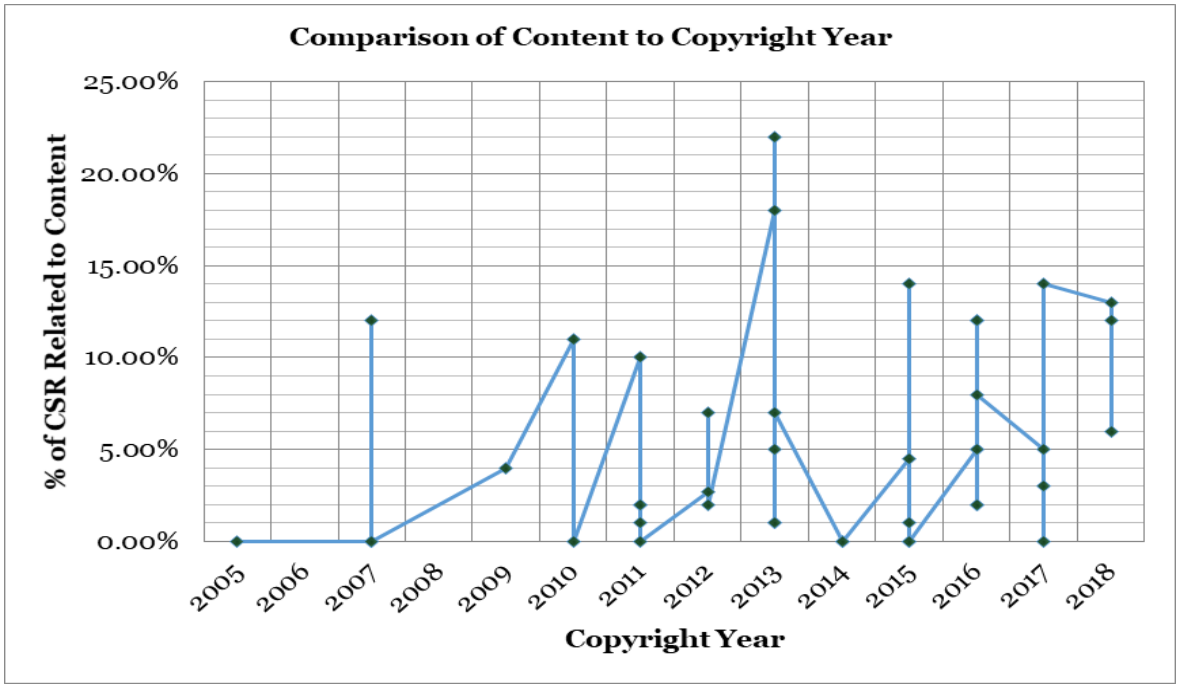
Once the school list was compiled an internet search was conducted to find syllabi of the school's Strategic Management courses. From the twelve schools listed above, classes were selected from their catalog and course content from years 2016 and 2017. All courses containing the word "strategy" were selected for the initial review. This generated a list of over 66 classes; however, some courses were deleted if they did not pertain directly to business, business education, strategy or strategy education. Again, the sample size was narrowed to textbooks using the word "strategy" in the title. This generated a list of 9 textbooks. Additional textbooks were chosen from random syllabi listed on a Google search and the Pearson publication site to give a larger sample size. A total of seventy-nine textbooks were first considered as possibly matching the criteria. Textbooks chosen for the initial review are listed in Appendix A.

Once the textbooks were chosen with the word "strategy" in the title, the total count of pages were counted. The textbook pages were searched for the following keywords and a page was considered if it met the criteria: Corporate social responsibility (CSR), Social Responsibility

(SR), community relations, triple bottom line, corporate responsibility, corporate citizenship, corporate governance, corporate affairs, corporate sustainability, community development, corporate social marketing, and/or philanthropy. It should be noted that the words corporate social responsibility, CSR, social responsibility and SR were searched as four different terms. Simple descriptive statistics were generated in order to analyze the data. The total number of pages in a textbook were compared to the number of pages that addressed CSR or a related topic. A percent of the content was recorded and tracked over the span of 13+ years as shown in Appendix B.

This result generated a list of 48 textbooks; however, it was deemed a biased result because multiple authors had several editions of the same textbook. Authors with multiple editions were calculated as an average of those textbooks and were recorded for the purpose of this study. As shown in Figure 3, below, forty-two textbooks between the year 2005 and 2018 fit the criteria.

Figure 3: Content Analysis



The number of textbooks found in different years varied. The number of textbooks ranged from zero to seven during the thirteen-year span. Year 2005, had one textbook, but had no CSR content found whereas 2006, presented no textbooks at all. Year 2007 had three textbooks with two providing no CSR content and one with 12%. Year 2008 presented no textbooks for the study. Year 2009 had one contribution with 4% of material related to CSR. Year 2010, had two textbooks, one with 0% while the other had 11%. Year 2011, had a total of five textbooks with a range of 0% to 10%. Year 2012 had three textbooks with an upward range of 7%. Year 2013, had six textbooks showing promising results of 22% of content related to CSR content and material. Unfortunately, year 2014 had no textbooks related to the study. Year 2015, had five textbooks found and a range of 0% to 14%. Year 2016, provided the most results for the study with seven textbooks and a CSR

content range between 2% to 12%. Year 2017, contributed four textbooks with a material range between 0% and 14%. Year 2018, provided three textbooks with between 6% and 13% content related to CSR.

While textbooks had the same amount of CSR content over the last thirteen years, the material became more consistently steady during the last eight years with the exception of year 2014.

DISCUSSION OF RESULTS / ANALYSIS

A complete data analysis was run on the percentage of text related to CSR in strategy textbooks. The mean of CSR rates in the study textbook sample is 0.052830233. This implies that only 5% of the pages in strategy books discuss CSR.

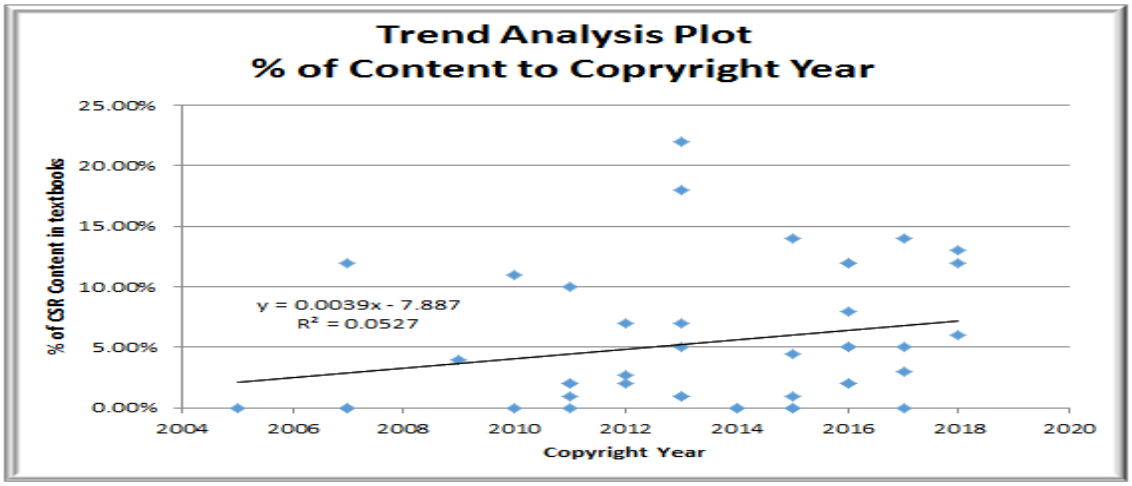
The hypothesis was tested using the t-test to determine if the rate of content increase since the PRME implementation in 2007 was significant.

$$\mathbf{t} = \frac{\bar{x}-\mu 0}{\frac{s}{\sqrt{n}}} = \frac{.052830233-.15}{.056510313/\sqrt{43}} = -.3519872444 \quad (3)$$

Where
$\bar{x}$ = sample mean
$\mu 0$ = population mean
s = sample standard deviation
n = sample size

Therefore, at this time we reject the null hypothesis and claim that CSR content in college textbooks is significantly higher than 15 percent. The statistical significance was determined by looking at the p-value. The p-value was found by comparing t to a t-distribution with (n − 1) degrees of freedom. This was done by looking up the value in a table, such as those found in statistical textbooks or online. The p-value gave us the probability of observing the test results under the null hypothesis. Thus, the low p-value of .035679 indicated decreased support for the null hypothesis. The cutoff value for determining statistical significance was ultimately decided on by the researcher and valued at alpha level of .05. This corresponds to a 5% (or less) chance of obtaining a result like the one that was observed if the null hypothesis was true. This p-value is smaller than $\alpha = .05$, thus we must reject the H_0 while accepting the alternative H_1. The chart below illustrates an increase in CSR content with a spike in 2013 and a leveling off period between 2015 and 2018.

Figure 4: Trend Analysis



The regression equation for y on x is: y = bx + a where b is the slope and a is the intercept (the point where the line crosses the y axis).

$$Y = 0.329x - 7.887$$

Below is a chart of the Regression analysis as well as the result of an Analysis of Variance (ANOVA) to calculate the significance of the regression (0.14379).

Figure 5: Regression Statistics Analysis

Regression Statistics	
Multiple R	0.22947
R Square	0.05266
Adjusted R Square	0.02897
Standard Error	0.05596
Observations	42

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.00696	0.00696	2.22331	0.14379
Residual	40	0.12528	0.00313		
Total	41	0.13225			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-7.88704	5.32561	-1.48096	0.14645	-18.65051	2.87643	-18.65051	2.87643
1979	0.00394	0.00265	1.49108	0.14379	-0.00140	0.00929	-0.00140	0.00929

SUMMARY AND CONCLUSIONS

While this paper was not to discuss all aspects of CSR, it was important to establish the history, a content analysis of CSR material in Strategic Management Textbooks, and the future of CSR business education. At the end of the day, CSR can have multiple definitions as long as individual corporations are striving to build a sustainable environment locally and globally. Research indicates that there are over forty definition variations over five dimensions that have helped mold CSR initiatives into what they are today.

It is imperative that definition variations and initiatives are taught in the classrooms utilizing historical presence, case studies and general practicum. Increasing the amount of CSR content in textbooks will help ensure educators have the valuable resources they need to shape future leaders into corporate citizen business affiliates.

ASSUMPTIONS

An underlying assumption is all material found in the textbooks is being taught at some point or another during a course of the class. Another assumption is the keywords found have a direct association to CSR content. Another main assumption of the study pertains to the title of the textbook relating to CSR versus strategy.

LIMITATIONS OF THE STUDY

To date, this author has been unable to locate any previous studies on CSR content in Strategy textbooks. This study addresses the amount of CSR content in strategy capstone textbooks. This research is not exhaustive because all strategy textbooks were not examined. The use of the syllabi may be a limitation of this study. Cohen and Brewer (2008) found that syllabi are documents to satisfy accreditation teams and the use of syllabi to determine content and comparability may be a problem. Another limitation is that academic freedom may allow an instructor to change the curriculum at any time (Cohen and Brewer, 2008).

The limitation of the nGram Viewer is that the nGram is unable to determine the context in which the phrase is being used; however, in the current research this limitation is not a consideration (Aiden and Michel, 2013). The corporate social responsibility, csr, and CSR words included in the search had to be specific, or it would generate different results. In fact, the limitation of the nGram may provide additional validity to this research if the results were examined further (Seadle, 2016).

The limitation of using a textbook website limited the number of textbooks in which we could gain access. As a requirement to be included in the study, thirty-one textbooks were eliminated due to lack of accessibility to content. Continually, the list of keywords used to measure CSR content in Strategy textbook was not an all-inclusive list used by business professionals. An

entire chapter maybe dedicated to CSR, but because the buzz word was only listed on the first page, then only that page was counted.

A Type I error would occur if the researcher rejected the null hypothesis and concluded that the zero percent content increase is different when, in fact, it is not. Since the textbooks have the same effectiveness, the researcher did not consider this error too severe because the students still benefit from the same level of education regardless of which textbook they use. However, it would be helpful to consolidate all terminology and definitions concerning CSR to develop useful applications in business classrooms (Bracker, 1980).

The validity and reliability are impacted due to the small sample size. The small sample limits the ability to generalize the findings to the larger population. The originally study for aspirant and peer school course and content search with listed textbooks have been well organized. Additionally, the search words and methodology have been well documented, contributing to the reliability of this research (Riege, 2003).

FUTURE RESEARCH

This paper will help readers understand the development of CSR content in Strategy textbooks used in Capstone courses over the last thirteen years. It should provide the framework for future research in multiple areas including but not limited to CSR related content found in other educational textbooks, the percentage amount increase/decrease of CSR content from the same author but different edition textbooks, and/or the addition of a CSR based education course to an undergraduate program. More importantly, it is hope that this research will lead to more studies of the development of educational frameworks for responsible management education. As stated in the introduction of this study, Principle 3, of the PRME states, "(w)e will create educational frameworks, materials, processes and environments that enable effective learning experiences for responsible leadership." Required readings such as textbooks are only one source for management courses. Future studies should review strategic management syllabi to determine if other materials, processes, and educational environments are being created to foster responsible management education.

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Appendix A

		Title	Author or Authors	Copyright	Edition
1	–	Strategic Management: Concepts and Cases	David	-	8th
2	–	Strategic Mangement	David	2015	15th
3	–	Strategic Management: Creating Competitive Advantage	Dess/Lumpkin	-	
4	•	Strategic Management: Text and Cases	Dess/Lumpkin/Eisner/McNamara	-	7th
5	•	Strategic Management	Dess/Eisner/McNamara	2013	8th
6	–	Strategy and the Business Landscape	Ghemawat	2010	3rd
7	•	Contemporary Strategy Analysis	Grant	2013	8th
8	•	Contemporary Strategy Analysis	Grant	2016	9th
9	–	Foundation of Strategy	Grant/Jordan	2012	1st
10	•	Foundations of Strategy	Grant/Jordan	2015	2nd
11	–	Foundations of Strategic Management	Harrison/John	-	1st
12	•	Foundations in Strategic Management	Harrison/John	2010	5th
13	•	Foundations in Strategic Management	Harrison/John	2014	6th
14	–	The Strategy Concept and Process: A Pragmatic Approach	Hax/Majluf	1996	2nd
15	•	Strategic Management:An Intergrated Approach	Hill/Jones	2015	11th
16	•	Strategic Management: An Intergrated Approach Theory and Cases	Hill/Jones	2012	10th
17	•	Strategic Management: An Intergrated Approach Theory and Cases	Hill/Schilling/Jones	2017	12th
18	–	Handbook of Strategic Management	Hitt/Harrison	2001	1st
19	•	Strategic Mangement: Competitiveness and Globalization- Concepts and Cases	Hitt/Ireland/Hoskisson	2012	10th
20	•	Strategic Management: Concepts: Competitiveness and Globalization	Hitt/Ireland/Hoskisson	2015	11th
21	•	Essentials of Strategic Management	Hunger/Wheelen	2011	5th
22	–	Strategy for Business: A Reader by Open University	Mazzucato	2002	1st
23	–	Stategic Management	McNamara	2015	8th
24	–	Strategic Management	Pearce/Robinson	-	14th
25	–	HBR's 10 Must Reads on Strategy	Porter	2011	1st
26	–	Strategic Management Concepts and Cases	Rothaermel	2012	1st
27	•	Strategic Management	Rothaermel	2016	3rd
28	–	Business Strategy: Plan, Execute, Win!	Stroh	2014	1st
29	–	Mangement Strategy & Performance	Van Ness	2012	2nd

30	–	Strategic Mangement: Value Creation, Sustainability, and Performance	Bamford/West	-	1st
31	•	Strategic Management: Value Creation, Sustainability, and Performance	West	2016	4th
32	–	Concepts in Strategic Management and Business Policy	Wheelen/Hunger	2010	12th
33	•	Concepts in Strategic Management and Business Policy	Wheelen/ Hunger/ Bamford	2018	15th
34	–	Concepts in Strategic Management and Business Policy	Wheelen/ Hunger/ Bamford	2015	14th
35	•	Strategic Performance Management	Waal	2013	2nd
36	•	Strategic Management and Competitive Advantage	Barney	2015	5th
37	•	Strategic Management in Action	Coutler	2013	6th
38	–	Strategic Management	David	2017	16th
39	•	Strategic Operations Management	Brown	2013	3rd
40	–	Mastering Strategic Management 1.1	Ketchen/Short	2015	-
41	•	Strategic Analysis and Action	Crossan	2016	9th
42	•	Strategy	Pearce	2012	4th
43	•	Marketing Channel Strategy	Pamatier	2015	8th
44	•	Strategic Planning for Public Relations	Smith	2017	5th
45	•	Advanced Strategic Management	Jenkins	2016	3rd
46	–	Visual Strategy: Strategy Mapping for Public and Nonprofit Organizations	Bryson/Ackermann/Eden	-	1st
47	•	Business Strategy	Edgar	2011	3rd
48	•	Strategy from the Outside In: Profiting from Customer Value	Day	2010	1st
49	–	Stategic Leadership in the Public Sector	Joyce	2017	2nd
50	•	Next Generation Business Strategies for the Base of the Pyramid	London	2011	1st
51	•	Strategic Management	FitzRoy	2011	2nd
52	–	Making Strategy Work	Hrebiniak	2013	2nd
53	•	Strategic Management	Jeffs	2009	1st
54	•	Global Strategy	Jain	2017	1st
55	–	Strategic Alliances and Marketing Partnerships: Gaining Competitive Advantage Through Collaboration	Richard	-	1st
56	•	FT Guide to Strategy	Kock	2011	4th
57	•	Supporting Strategy: Frameworks, Methods and Models	O'Brien/Dyson	2007	1st
58	–	Creative Strategy	Duggan	-	-
59	–	Strategic Aspects of Oligopolistic Vertical Integration	Wu	1993	-

60	•	Sustainable Strategic Management	Stead	2013	2nd
61	•	The Strategic Manager	Sminia	2018	2nd
62	•	Global Operations Strategy	Gong	2013	1st
63	•	Managing Strategic Design	Holland	2014	1st
64	•	Strategic Sustainability	Sroufe	2007	1st
65	—	Short Introduction to Strategic Management	Andersen	-	-
66	—	Theory of the Firm for Strategic Management	Becerra	-	-
67	•	Behavioral Strategic Management	Bromiley	2018	1st
68	—	Strategic Intelligence Management	Akhgar	2013	-
69	•	Strategic Analysis	Gander	2017	-
70	•	Corporate Level Strategy	Furrer	2016	2nd
71	•	Strategic Management and Business Analysis	Jenkins	2016	2nd
72	•	Strategy Implementation	Verweire	2014	1st
73	—	Practical Strategic Management: How to Apply Strategic Thinking In Business	Kasahara	-	-
74	—	Strategic Managent: Thought and Action	Huff	2009	-
75	•	Strategy	Clegg	2017	2nd
76	•	Management Policy	Standford	1979	1st
77	•	Essentials of Strategic Management: The Quest for Competitive Advanatge	Gamble/Peteraf/Thompson	2015	14th
78	•	Strategic Management and Organisational Dynamics: The Challenge of Complexity	Stacey	2007	5th
79	•	Strategy: Create and Implement the Best Strategy for Your Business	Harvard Business School	2005	-

Table 2 Key

● All Information found
— Textbooks not found or unavailable for review

Appendix B

	Title	Author or Authors	Copyright	Edition	Total Pages	# of Pages	% of Text
1	Management Policy	Standford	1979	1st	625	6	1%
2	Strategy: Create and Implement the Best Strategy for Your Business	Harvard Business School	2005	1st	162	0	0%
3	Supporting Strategy: Frameworks, Methods and Models	O'Brien/Dyson	2007	1st	406	0	0%
4	Strategic Sustainability	Sroufe	2007	1st	272	32	12%
5	Strategic Management and Organisational Dynamics: The	Stacey	2007	5th	480	0	0%
6	Strategic Management	Jeffs	2009	1st	226	9	4%
7	Foundations in Strategic Management	Harrison/John	2010	5th	208	23	11%
8	Strategy from the Outside In: Profiting from Customer Value	Day	2010	1st	314	1	0%
9	Essentials of Strategic Management	Hunger/Wheelen	2011	5th	190	19	10%
10	Business Strategy	Edgar	2011	3rd	392	5	2%
11	Next Generation Business Strategies for the Base of the Pyramid	London	2011	1st	240	2	1%
12	Strategic Management	FitzRoy	2011	2nd	704	12	2%
13	FT Guide to Strategy	Kock	2011	4th	392	0	0%
14	Foundation of Strategy	Grant/Jordan	2012	1st	501	18	4%
15	Strategic Management: An Intergrated Approach Theory and	Hill/Jones	2012	10th	960	33	3%
16	Strategic Mangement: Competitiveness and Globalization-	Hitt/Ireland/Hoskisson	2012	10th	906	63	7%
17	Strategy	Pearce	2012	4th	240	4	2%
18	Strategic Management	Dess/Eisner/McNamara	2013	8th	428	75	18%
19	Contemporary Strategy Analysis	Grant	2013	8th	460	28	6%
20	Strategic Performance Management	Waal	2013	2nd	464	3	1%
21	Strategic Management in Action	Coutler	2013	6th	288	15	5%
22	Strategic Operations Management	Brown	2013	3rd	512	4	1%
23	Sustainable Strategic Management	Stead	2013	2nd	286	63	22%
24	Global Operations Strategy	Gong	2013	1st	320	22	7%
25	Foundations in Strategic Management	Harrison/John	2014	6th	198	21	11%
26	Managing Strategic Design	Holland	2014	1st	330	0	0%
27	Strategy Implementation	Verweire	2014	1st	304	0	0%
28	Foundations of Strategy	Grant/Jordan	2015	2nd	379	19	5%
29	Strategic Management:An Intergrated Approach	Hill/Jones	2015	11th	976	24	2%
30	Strategic Management: Concepts: Competitiveness and Globalization	Hitt/Ireland/Hoskisson	2015	11th	480	69	14%
31	Strategic Management and Competitive Advantage	Barney	2015	5th	400	4	1%
32	Marketing Channel Strategy	Pamatier	2015	8th	465	1	0%

33	Essentials of Strategic Management: The Quest for Competitive	Gamble/Peteraf/Thompson	2015	14th	440	0	0%
34	Contemporary Strategy Analysis	Grant	2016	9th	776	30	4%
35	Strategic Management	Rothaermel	2016	3rd	471	57	12%
36	Strategic Management: Value Creation, Sustainability, and	West	2016	4th	407	7	2%
37	Strategic Analysis and Action	Crossan	2016	9th	273	13	5%
38	Advanced Strategic Management	Jenkins	2016	3rd	376	8	2%
39	Corporate Level Strategy	Furrer	2016	2nd	283	33	12%
40	Strategic Management and Business Analysis	Jenkins	2016	2nd	283	20	8%
41	Strategic Management: An Intergrated Approach Theory and	Hill/Schilling/Jones	2017	12th	896	27	3%
42	Strategic Planning for Public Relations	Smith	2017	5th	540	26	5%
43	Global Strategy	Jain	2017	1st	302	8	3%
44	Strategic Analysis	Gander	2017	1st	167	0	0%
45	Stratgy	Clegg	2017	2nd	598	83	14%
46	Concepts in Strategic Management and Business Policy	Wheelen, Hunger, Bamford	2018	15th	426	54	13%
47	The Strategic Manager	Sminia	2018	2nd	195	23	12%
48	Behavioral Strategic Management	Bromiley	2018	1st	254	14	6%

NO ONE TOLD ME ABOUT THE DARK SIDE: PITFALLS FOR FACULTY TEACHING ONLINE

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ABSTRACT

This exploratory paper reports a study investigating the implications of online teaching for faculty at four-year institutions. A survey of faculty at three different Colleges of Business in North Carolina reveals significant professional implications for those teaching online courses. Three primary areas of investigation included: 1) Preparation time required to develop an online course, 2) Quantity of time devoted to actually delivering the course online, 3) Student evaluations of faculty teaching online. The authors find that there may be strong disincentives for teaching online courses. We conclude with a discussion of these findings and how they may be useful in effectively addressing the growing challenges facing faculty and administrators as more and more courses move online.

INTRODUCTION

A recent survey (2015) by the Babson Survey Research Group found that well over 6 million students reported taking one or more online course, a nearly 4 percent increase from the previous year. Thirty-two percent of higher education students now take at least one course online. Nearly three-quarters of academic leaders rating the learning outcomes in online education as the same or superior to those in face-to-face. The proportion of primary academic leaders that suggest that online learning is critical to their long-term strategy is at a new high of 69.1 percent. (onlinelearningconsortium.org/2015Survey). Distance delivery of curriculum is now becoming a standard medium for supplementing or replacing traditional classroom teaching (Allen & Seaman, 2013; Dolezalek, 2003; Drago, Peltier & Sorensen, 2002). For many institutions, the increased demand by students for online courses and improvements in Web-based technology have made this an economical and useful way to increase student enrollment. The increasing availability of distance education reveals the growing importance of this method of instruction.

US News and World Report now annually ranks online programs. What does a top-ranked online program look like? In it's recent rankings, US News ranked the Ohio State University – Columbus as the best online program in the United States. A combination of synchronous and asynchronous delivery methods is used, creating a hybrid environment for student learning. Synchronous online classes occur on set schedules and time frames. Students and instructors are online at the same time in synchronous classes since lectures, discussions, and presentations take place at specific hours. Asynchronous classes let students complete their work on their own time, with some structure and due dates. Hybrid courses mix synchronous and asynchronous and are become more popular. A unique aspect of OSU's online programs is that all of the online classes

are recorded and archived so students can access lecture material at their convenience. US News suggested two important factors for the quality of a program were faculty access and interaction and technology delivery systems and support. Some of the more popular Learning Management Systems are Blackboard, Canvas, Moodle, Schoology and Brightspace.

As Ohio State University and many other schools have found, distance learning has become increasingly popular among non-traditional adult students. The internet and electronic content delivery technologies has allowed online education to proliferate in use. The Sloan Foundation's 2009 report, *Learning on Demand: Online Education in the United States 2009* found that the online course registration at colleges and universities has continued to grow much faster than traditional residential or campus enrollments. Additionally, just shy of 80% of the young adults say that if they chose to go back to school, they would choose to do it online (Allen & Seaman, 2013). Ambient Insight reports that distance education has gradually become a more popular option in the hectic lives of adult learners, with over 1.5 million individuals enrolled across the U.S. The report also predicts that the number of students taking classes online should triple by 2018 (Classes and Careers 2010). Furthermore, when faced with surging enrollment, limited spaces, funding cut, and depressed economies, the higher education industry often try to expand online course and program offerings and attract student to enroll in online courses. As an increasing number of working adults pursue further education by choosing online education, especially online business education (Linardopoulos 2010), it becomes ever more important for researchers and practitioners to study online business education.

Faculty Implications

Given this tremendous interest and growth in online enrollments, faculty are being asked to develop quality online courses, and to teach these courses as well. The switch from traditional instruction to online may have a variety of implications and concerns for faculty. This study is driven by a simple question. Are there negative professional consequences for faculty who teach online? We now look at three important areas of concern: preparation time required to develop an online course, quantity of time devoted to delivering the course online and student evaluations of faculty teaching online.

Thormann and Zimmerman (2012) found that the design of the course and its implementation are two major categories of differences between teaching courses online and face-to-face. Time commitment has been identified as a major concern of faculty considering teaching online courses (Lewis & Abdul-Hamid, 2006), as well as skills necessary to use technology tools and/or learning management systems (De Gagne & Walters, 2009). Determining and applying quality and comfortable teaching strategies for online curricula delivery often requires new skill sets (Brinthaupt, Fisher, Gardner, Raffo, & Woodward, 2011). These skill sets must be developed and this takes time and resources. The intensity of online work was identified as one of the major themes expressed by faculty in a qualitative study by De Gagne and Walters (2009). Faculty believed they spent more time on planning, designing, delivering and evaluating online instruction, and, also, indicated that their workload increased. Boettcher (2006) reported that faculty described

working up to 80-hour weeks while moving a traditional class to an online course. Generally, faculty are not compensated for this time investment.

The time it takes to actually teach an online course has not been well studied. Most of the current research has focused more on course design and time devoted to course development. Some studies have begun to look at instructor presence, communication and availability (Andersen and Avery, 2008; Preisman, 2014). There is certainly a concern among faculty that the time required to teach an online course is greater than the traditional classroom (Christianson, 2002; Van de Vord & Pogue, 2012). In their research, Van de Vord and Pogue (2012) suggest that online courses require more instructor time to administer than face to face courses. Sheridan (2006) proposed that online faculty spend more hours than traditional faculty in preparing and administering online courses.

Lazurus (2003) found that whereas a traditional course requires office hour availability several times a week, online course require daily availability. Moreover, faculty reported up to 4 to 5 times more email communication with students in an online course versus traditional face to face. There is an extensive time commitment required for reading and responding to text-based discussions, emails and the written assignments typical of an online course. Gallien and Oomen-Early (2008) suggest that the time necessary for online classroom administration is clearly greater than the face-to-face.

A last area of concern for faculty is student evaluations of faculty in online courses. Herbert (2006) examined student online course retention and course satisfaction and found that while successful completers are more satisfied with all aspects of the online courses; neither completers nor non-completers rank their overall experience exceptionally high. Some studies on the differences in student perceptions about online and face-to-face education indicate that online learners are as satisfied, or more satisfied. Boghikian-Whitby and Mortagy (2010) found that online students are more satisfied with the course activities than face-to-face students. Cao and Sakchutchawan (2011) found that, in terms of course evaluation numerical satisfaction results, online courses examined appear to receive somewhat lower rating by its students than traditional face-to-face courses.

Similarly, Young and Duncan (2014) looked at 11 pairs of online and traditional face-to-face courses of the same content. They found that on-campus courses were rated significantly higher than online courses in specific categories of evaluation as well as in overall satisfaction. Although many faculty question their validity, substantial research has supported the use of student ratings to measure teaching quality (Marsh, 2007), and student ratings of instruction are widely used in many colleges and universities as a primary means of measuring teaching effectiveness (Dresel & Rindermann, 2011; Galbraith, et. al. 2012). It is certainly particularly likely that online courses will use traditional numerical evaluation of faculty.

Survey of Faculty

In order to determine faculty experiences with online courses, a brief survey of 71 instructors from colleges of business in three universities (all in North Carolina) served as the means of data collection. Each participant was purposely selected based on their experience and

willingness to participate in the study (Creswell, 2013). Also, each participant met the criteria of having developed and taught an online course that they had previously taught in a face-to-face classroom. The email survey asked each instructor to respond to 4 primary questions regarding their experiences and perceptions of developing and teaching online. Each instructor was also asked to provide written additional anecdotal comments regarding their online teaching experience. Each course was fully delivered online (no hybrid or blended course). The survey was kept very brief to maximize faculty responses. Sixty-eight (68) faculty responded with sixty-four (64) useable responses received (94% response rate). Respondents received several reminders soliciting their participation.

Questions used in the survey were developed through interviews and email survey of a sample of faculty at the researcher's home institution. Following Fowler's survey development criteria, faculty were asked a series of open-ended questions and responses were compiled (Fowler, 1993). The questions were driven by the review of the literature as described above. Faculty responses were then reviewed by the researchers looking for consistencies in responses. We sought to determine a set of basic concerns reliably consistent across faculty teaching online courses. We found three primary areas of concern that faculty expressed. We returned to the faculty that were interviewed and asked them to verify and validate our summation of the responses into three categories. We received strong consistent support for our conclusions, adding validity to the three areas chosen. Consistent with Foster (Foster, 1993) and others, we did not include the pilot study faculty in our final survey to avoid possible "sampling with replacement" bias (Banerjee and Chaudhury, 2010).

The three questions below were developed based on the three categories of concern we found in our initial sample survey. We asked each faculty member in the full survey to respond to each of the following questions:

1) *Does it take more time to prepare your online course than your traditional, face to face course?*
    a. *Much more (5)*
    b. *More (4)*
    c. *About the same (3)*
    d. *Less (2)*
    e. *Much less (1)*

2) *Does it take more time to administer/teach your online course than your traditional, face to face course?*
    a. *Much more (5)*
    b. *More (4)*
    c. *About the same (3)*
    d. *Less (2)*
    e. *Much less (1)*

3) *Are you finding your student evaluations to be higher, or lower in the online course when compared to the same course taught face to face?*
    a. *Much lower (5)*
    b. *Lower (4)*
    c. *About the same (3)*
    d. *Higher (2)*
    e. *Much Higher (1)*

We also asked one additional question that we thought would be interesting. During our initial discussions with faculty in our pilot survey, we heard a variety of comments regarding the transition from teaching traditional courses to teaching online. A generally consistent theme was revealed in our pilot study data. Although we did not specifically ask faculty about this, faculty expressed the feeling that their new online course was an "additional prep". By this they meant that teaching an online section of the same course that they were also teaching face-to-face, should be considered as an additional prep by administration. We could not find any studies that had directly addressed this concern. Therefore, we also asked the following question:

4) *Do you consider your online course to be an additional course prep? (Example: If you teach Management Principles traditional, Management Principles online and Strategic Management, is that three (3) preps. Yes/no?*

Findings

We compiled the responses from 64 faculty and found the following. Fifty-five out of sixty-four (86%) of our respondents indicated that it took *much* more time to develop their online course. Moreover, when combining the "much more" and "more" responses to question one, we found that sixty of the responding faculty (93%) said that their online course took more time to prepare than a traditional face-to-face course. The combination of two Likert scale items has support in the literature, particularly if the combined item simply represents total agreement with a question and is not going to be used in further statistical analysis (Andrich, 1978). Fourty-one out of sixty-four (64%) faculty indicated that it took much more time to teach their online courses. Fifty-two of sixty-four faculty (81%) indicated that it took either much more, or more time to teach their online course. Lastly, forty-four out of sixty-four faculty (69%) indicated that their online course had either much lower, or lower student evaluations of them than their face-to-face course produced. See Table 1 below for the means of the item responses for questions one through three.

Table 1
Question Likert Means

	N	Mean*
Question 1 - Course Development Time	64	4.79
Question 2 - Course Teaching Time	64	4.47
Question 3 – Course Evaluations	64	4.31

* "Mean" of the 5-point Likert scale

Question four was a simple yes or no question that we hoped might verify some of the anecdotal evidence we had been receiving from a variety of faculty. Faculty are very mindful of the number of courses they have to prepare for each semester, as more preps means more time devoted to teaching and less time for other faculty responsibilities like advising, committee work and certainly research. Of our sixty-four faculty respondents, fifty-nine (92%) felt that the online course was a separate and unique prep when compared to the same course taught face-to-face (note: we did not ask faculty if they were teaching both courses at the current time or whether they ever had taught both course at the same time).

DISCUSSION

We sense a growing concern among faculty regarding what the growth in online delivery of courses meant for them professionally. The literature certainly supports this conclusion. The findings described above only reemphasized more broadly to us that faculty are finding that teaching online is changing their work environment quite dramatically.

In their survey responses, faculty painted a picture of a new and changing work environment that was affecting their professional lives. Some faculty described an "administration running fast into online course growth" without thinking through the implications for faculty. Several faculty indicated that they were concerned with their ability to offer the same quality course online as they delivered in their face to face course. A few faculty indicated that when it came to making decisions about whether to offer a course online, or discussions regarding the ability to offer the same quality online, they were not involved in the process. They were often simply asked if they could or would develop their course for online delivery.

A somewhat consistent area of concern were faculty perceptions of what students thought an online course should be. Often, they expressed that students "think online means easy." One faculty member said his online students thought online means "I do what I want when I want". One faculty member said that students would complain about requirements in her online section and when she expressed that they were the same requirements found in her face to face course, the students would express that "online courses should be different".

Many respondents said that communication was their biggest problem. Although some faculty said they only correspond with students during office hours ("I only read and respond to emails during my office hours"), many faculty felt the burden of always needing to be available. They revealed that many students believe that faculty should always be available and faculty blamed this, again, on the notion that this course should be available to me whenever I want, and that includes the faculty member's presence. Faculty who expressed that they tried to meet the communication expectations of their online students described being "exhausted" by the communication needs of the course.

It should be noted that it appears from the data that much of what we have just describe becomes evident in student evaluations of faculty. With student perceptions of what an online course should be and faculty requirements often being quite in opposition, student expression for this opposition may be evaluations of faculty. A majority of our faculty found their online evaluations to be lower than their face to face evaluation of the same course. One faculty member

expressed that sometimes "students are simply dissatisfied with the whole online structure at my institution and the only outlet for their frustration is my evaluation."

We were surprised by some of the comments from faculty regarding being asked about their online course being an additional prep. We had several faculty say they were glad someone asked them this question as they had been complaining about this for some time. Many faculty complained that their chairs simply were unwilling to look at their online courses as a separate prep. One faculty member said that when their review time came around they brought up both the additional prep issue and the time devoted to my online course, and its effect on time available for other responsibilities, including research. They were told by their chair that administration only seemed to care about new online growth opportunities for enrollment and retention. Faculty work life and work load were being "overlook".

CONCLUSION

Reviewing the data from the responses we got along with the written comments made us feel a bit like we had stirred up a hornet's nest. Faculty were very passionate about their concerns associated with teaching online. They certainly expressed a lack of being heard regarding these concerns.

It appears to us that teaching online has many implications for faculty work life. It also appears that administration must address the "dark side" of teaching a greater number of online courses. They ignore this at their peril. As we addressed earlier, the literature suggests that online course offerings will continue to grow. Faculty will continue to be called on to develop and teach these courses. The changing work life of faculty must be considered as institutions rapidly pursue more online course offerings.

Administration must begin to address these concerns. Faculty need greater support in course development. A recent study of distance learning called for better infrastructure, a focus on faculty ownership of online delivery and greater support from institution administration (Orr, et. al., 2009). This study concluded by stating that "an institution's recognition of faculty and promotion is an important motivational factor for sustaining effectiveness in the online learning environment". We concur that as institutions rapidly pursue the advantages online courses offer, they not neglect the delivery agent. We also believe that faculty must take a leading role in discussing with administration what the experience of teaching online is revealing to them.

Lastly, we recognize that this study has several limitations. The study is certainly exploratory in nature. It is limited in both sample size and scope, and therefore, we would not conclude that it is broadly generalizable. The methodology is quite simple. However, the findings are strong enough to conclude that further investigation is certainly called for. Since the study addresses such an important issue regarding the quality of work life for faculty, a broader and more sophisticated study is necessary. Such a study would be potentially very valuable information for administration as the endeavor to integrate more online learning into their overall course offerings.

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COST OF AUTO REPAIRS: CUSTOMERS BE AWARE A CASE STUDY

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CASE DESCRIPTION

The primary objectives of this case are as follows: (a) To select an auto service shop for replacing and repairing certain auto parts: replacement of valve cover gaskets, a left lower control arm, and rear struts in an old Honda Accord. (b) To get cost estimates and warranties from two auto service centers for the work to be done. (c) To compare these cost estimates and warranties. (d) To negotiate price and warranties and select one of the auto service centers to do the work.

Secondary issues examined in the case include the following: (a) To discuss the different ways some auto repair shops rip off their customers; (b) To discuss the various options and strategies that customers can use to choose reasonable auto service centers and have their car repairs done at reasonable prices.

It involves a real life customer and two real life auto service centers. Their actual names, however, have not been used here.

While the case contains several financial numbers, the case resolution does not require any above average financial knowledge or background.

The case is appropriate for junior and senior level students. A teacher would need about an hour to explain it to them, particularly how to answer its questions. Depending upon the kind of research and fieldwork the teacher would require his/her students to undertake, each student may spend 1-3 hours of his/her time to answer those questions.

This case can be used in courses dealing with topics such as decision making, comparison shopping, bargaining, consumer behavior, franchising, entrepreneurship, and marketing. It could be assigned as an individual or as a team project.

CASE SYNOPSIS

Owning a car is often a necessary evil. You must have it in order to manage your daily routines. Imagine that you are driving to or from work, or going on a vacation, and your car has a major breakdown. You pull over, bang on the car dashboard, use some of your favorite slurs, call for help, and have your car towed away to an auto repair shop. You feel helpless and stressed all the way! But now a different kind of stress takes over. Now you have to hold your breath until you find out what is wrong with your car that you left at the auto service before going home.

The shop owner calls you explaining what needs to be done to fix your car, often using technical jargon that you don't understand a bit. You don't have much of a choice. You give a go ahead; wondering how much you have been ripped off?

Auto service costs are escalating every year. This case would help students learn how to select an auto service center by analyzing and comparing selected centers' cost data and other terms of service.

Some widely known auto service franchises would be introduced. A teacher can ask the students to use this introductory material to further study them to select which franchise they would like to join if they wanted to.

Key words: Auto service. Cost of auto service. Role of gender in the cost of auto service. Selecting an auto service center. Auto service warranties. Auto service franchises.

THE BODY

A Cost Estimate from Moon Auto

Richard Nolan's 1996 Honda Accord, V6, was having some problems. He went to Moon Auto Service Center (a small business franchise) for diagnosis and cost estimate. They called him the next day and recommended for replacing three items: Valve cover gaskets (3 units), left lower control arm, rear struts (2 units), and wheel alignment. Their quotation and terms for the work to be done are presented in Exhibit 1. Mr. Nolan agreed to their price of $1,355.64 to do the work with the condition that they would match their competitor's quotations, if lower than theirs.

Mr. Nolan has been getting his family cars serviced from this auto center for the last about 12 years; during which time he has given them a lot of business.

A Cost Estimate from Sun Auto

Mr. Nolan then visited a Sun Auto Center (part of a large national auto service chain), one of Moon Auto's competitors, for an estimate. They quoted a price of $868.44 to do the same amount of work. Sun Auto's quotations and terms for the work are presented in Exhibit 2.

THE CHALLENGE

Assume you are Mr. Nolan, and that you are planning to have either Moon Auto Service Center or Sun Auto make the recommended repairs. Which company will you use, and why?

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Exhibit 1
Moon Auto's Quotations

	Items	Moon Auto's Quotations		
1	**2**	3	4	5
	Items	**Labor $**	**Parts $**	**Total $**
1	Valve cover gaskets	165.00	173.98	338.98
2	Left lower control arm	135.00	169.99	304.99
3	Rear Struts (2)	180.00	339.98	519.98
4	Computerized wheel alignment	89.99		89.99
5	Shop supply		13.20	13.20
6	Sales tax			88.70
7	Total			1,355.84
8	Conditional Warranty	3 months on labor	1 year on parts	

Exhibit 2
Sun Auto's Quotations

	Items	Sun Auto's Quotations		
		Labor $	Parts $	Total $
1	Valve cover gaskets	74.00	69.99	143.99
2	Left lower control arm	135.00	169.99	304.99
3	Rear struts (2)	144.00	120.00	264.00
4	Computerized wheel alignment	89.99		89.99
5	Shop supply		8.66	8.66
6	Sales tax		56.81	56.81
7	Total			868.44
8	Conditional Warranty	6 months on labor	2 years on parts	

Note: Sun Auto's quotations also included some other services which are not included in this exhibit for the purpose of comparison with Moon Auto's quotations.

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WELLS FARGO AND THE UNAUTHORIZED CUSTOMER ACCOUNTS: A CASE STUDY

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Patrice Ingram, Valdosta State University

CASE DESCRIPTION

The case discusses the controversial sales practices at one of the largest financial institutions in the country that led to unprecedented penalties by the Federal Reserve. The case exposes students to corporate governance policies within an organization, especially the ethical responsibilities of those charged with governance. The case can be used in an undergraduate or advanced auditing class and students can utilize the Committee on Sponsoring Organization or COSO framework to formulate responses. The COSO framework defines internal control, including corporate governance, and provides a systematic approach to internal control evaluation and assessment. The case can also be used in a management course that discusses leadership and/or corporate governance issues. The case is designed to be taught in one class period and is expected to require approximately two hours of outside preparation by students. The case is based on real events as reported in various media outlets.

CASE SYNOPSIS

$185 million! This was the initial combined fine levied by the oversight bodies against Wells Fargo (the Bank). They alleged that the Bank engaged in improper activities by opening or applying for over 3.5 million bank accounts and credit cards without customers' knowledge or approval. This action was done using a customer intensity model in which the Bank aspired to be the market leader in the cross-selling of products and services to existing customers. Employees who noted inappropriate activities by their colleagues reported the issues to the Bank's ethics hotline and to those charged with governance. These employees faced retaliation for reporting the potential violations and were either demoted, resigned, or terminated. Facing mounting pressures from various regulators and Congress, the Bank acknowledged the controversial sales practices and agreed to discontinue their use. The Bank eventually reached an agreement with the Federal Reserve that imposed significant penalties and restricted it from future growth until risk management practices were addressed.

THE ORGANIZATION

A Brief History

Wells Fargo (the Bank) was founded in March 1852 by Henry Wells, William Fargo, and other investors. The Bank's first office was opened in July 1852 in San Francisco, California and soon after more offices were opened in other cities and mining camps. The company's initial focus was to offer banking and express services to the western part of the United States. These services included buying gold, selling paper bank drafts that were equivalent to gold, and delivering gold and other valuables to customers.

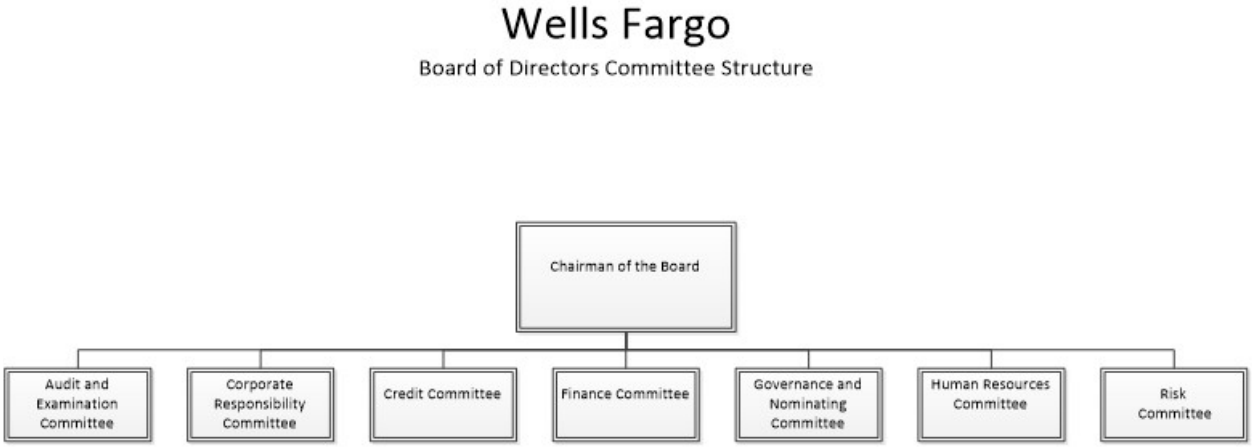
Throughout the 1920s, Wells Fargo played a key role in developing businesses, agriculture, fledgling auto, aerospace, and film industries in the western U.S. Starting in the 1980s, the Bank engaged in a series of mergers to create the current institution. Most notable was the 2008 merger with Wachovia which allowed the Bank to expand operations throughout the country.

Today, it is one of the premier financial services companies in the world with such diverse offerings as personal and small business banking, wealth management, investment banking, retirement services, and treasury management. It operates with approximately 269,000 team members, in over 8,600 locations worldwide. Wells Fargo is rated 26 on Fortune's 2017 rankings of America's largest corporations, and it provides services to approximately 33% of all households in the United States.

Leadership and Governance

The Bank is governed by a 15-member board of directors (BoD) headed by the chairman. The BoD conducts its oversight role through the following committees – audit and examination, corporate responsibility, credit, finance, governance and nominating, human resources, and risk. The risk committee is charged with the organization's enterprise risk management (ERM) oversight and is supported by approximately 14 management level committees. These committees include business group risk, regulatory compliance risk, operational risk management, and fiduciary and investment risk oversight. The risk committee interacts on a regular basis with the chief risk officer, the executive responsible for assessing and mitigating the enterprise risks. The BoD committee structure is depicted in Figure 1.

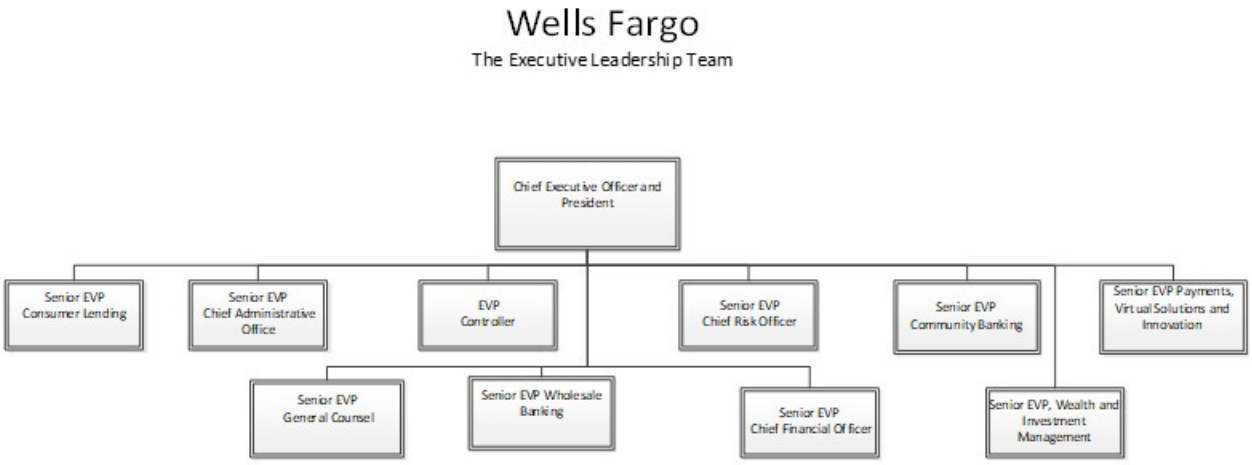
Figure 1: Board of Directors Committee Structure



The executive leadership team is headed by the Chief Executive Officer (CEO)[1]and President. This position is supported by executive officers, including the general counsel, and chief risk officer. Each executive has responsibility for a specific business area. The leadership team structure is depicted in Figure 2.

[1] The CEO was also the chairman of the board during the duration of the controversial sales practices.

Figure 2: The Executive Leadership Team



THE ALLEGATIONS AND RELATED ACTIVITIES

The Community Banking Division

The Community Banking Division (CDB) was a key driver in the organization's growth. The CBD was headed by a senior executive vice president who was supported by three senior vice presidents (SVP) with responsibilities for Digital Channels, ATM Banking and Store Strategy, and Deposit Products. These executives were supported by more than 50 regional presidents who oversaw 120 area presidents, each responsible for several branches. The branches were managed by more than 600 and 5,700 district and branch managers respectively, who reported to the area presidents.

The CBD defined itself as 'America's Community Bank'. This was probably reflected in the approximately 22 million retail households and the 2.5 million small businesses that it served. It also had over 30% credit card penetration of retail bank households and was the leader in small business loans for five consecutive years.

The CBD developed a basic density and cross-selling model in which it defined revenue as the number of households multiplied by the revenue generated per household. To advance this model and thus maximize revenue, it introduced a new level of growth called customer intensity. Simply stated, the more intensely customers used its channels, the better the density and the sale opportunity.

Opening of Customer Accounts

In approximately 2009, the Bank developed a new sales program to distinguish itself from its competitors. The main objective was to be the market leader in the cross-selling of banking products and services to existing customers. The bank established a target for each customer to have at least eight accounts or relationships with it.

To achieve the sales targets and thus earn additional compensation, employees used customers' information to open additional checking and credit card accounts, often without their

consent. Signatures were often forged on the applications and in some instances, the Bank sent unsolicited credit cards to customers. The ideal customers were ones that employees thought might not notice any discrepancy in their banking relationship, such as elderly clients, and those who were not fluent in English. Employees and management earned financial rewards under the Bank's incentive compensation program for satisfying these sales goals.

Sales volume was the ultimate performance measure and managers encouraged workers to boost daily sales. Branch personnel were assigned sales targets that kept increasing over the years. Employee progress was tracked and reported daily to managers and other executives. Supervisors pressed low performers to achieve their quotas and the CEO communicated with high performing managers by email or in person, to congratulate them on achieving goals.

Employees were encouraged to use misleading sales pitches, such as telling customers that a checking account was bundled with a credit card. Other examples of techniques used by employees to achieve sales targets included:

- Branch employees invented fake businesses and subsequently used them to open new bank accounts.
- Bankers in one branch opened new deposit accounts in existing customers' names and established the resulting pin numbers on the new accounts debit cards as "0000." The bankers would also enter false data into the customer contact information fields to avoid customer communication responses using email addresses such as 1234@wellfargo.com and noname@wellsfargo.com
- Bankers at another location moved funds from existing accounts to newly created accounts to reflect artificial growth.

Opening unsolicited accounts created unexpected consequences for customers. For instance, multiple credit card inquiries could negatively impact their credit scores. Also, frequently applying for and opening credit cards could impact the average age of accounts, an item that factors into the individual's overall credit score. Checking accounts opened and not funded incurred annual maintenance fees, plus accrued interest if such fees were not paid on time.

Communicating with Bank Management

Some employees grew uncomfortable with the Bank's sales practices and reported their concerns to local and national management, to the Bank's ethics hotline and, in some cases, to the chief executive officer. Employee notifications were not positively received and some were either demoted, forced to resign, or terminated for reporting the controversial sales practices. This was despite the Bank policies prohibiting retaliation against employees who report suspicious conduct.

The following are a few examples:

- A branch employee filed a report with the branch manager, the manager's boss, and the Bank's ethics hotline. The report alleged that a colleague was opening and closing accounts without customers' permission. The reports were ignored, and the employee was fired a year later for insubordination while the managers involved were rewarded with promotions.
- An employee in the wealth management group was terminated after reporting concerns about the Bank's sales practices to management and the ethics hotline. This action occurred despite the employee's past positive job performance reviews.
- An employee filed approximately 50 ethics complaints while working at the Bank. However, no action was ever taken by management and the employee was denied bathroom

breaks as part of intimidation efforts. The worker's employment was finally terminated for not reporting to work on time.

- An employee was fired after a five-year career as a telephone banker at one of the Bank's call centers. The worker handled incoming customer service calls and was expected to refer approximately 23% of the callers to a sales representative for additional product sales. The underlying customers had financial difficulties with mortgages in foreclosures, credit cards in default, and cars being repossessed.

Executive management was highly compensated for the earnings increases reported due to the controversial sales practices. For instance, the Bank paid approximately $76.5 million to its most highly compensated employees in 2016, a 14.71% increase from the previous year. Looking specifically at the 2012-16 timeframe, the CEO and chairman received total compensation of $104 million, while the head of the CBD received $45 million. The chief risk officer was paid $5.3 million for 2016 (the only period available).

Board members also received generous compensation for their services. In 2016, members received cash and stock-based compensation from $300,000 - $486,000. This was much higher than the $245,000 median pay for directors of Standard & Poor's 500 companies.

Management's Response

In approximately 2015, the Bank finally acknowledged that it had a problem with unauthorized accounts and began an internal investigation. Unfortunately, it was too late. The issue had captured the attention of the local prosecutor's office and two federal regulators ("the parties") which collectively fined the Bank $185 million and issued a consent decree.

The parties alleged that the Bank opened or applied for more than two million bank accounts or credit cards without customers' knowledge or permission. The allegation covered the period from May 2011 to July 2015. The alleged misconduct also caught the attention of other oversight bodies including the FBI, federal prosecutors in multiple states, and the U.S. Congress; each opened its own investigation.

Bank management could no longer ignore the problem and its initial action was to terminate approximately 5,300 low-level employees (1% of its workforce) who were suspected of being involved in the fraudulent activities. However, no senior level employee was terminated at this point. Meanwhile, management hired an outside accounting firm and the board of directors hired a law firm, to help each governing body better understand the root cause of the improper sales practices within the CBD.

Actions of Those Charged with Governance

The Bank announced in September 2016 that it would end its sales program effective January 1, 2017, and introduce a new performance plan based on customer service, growth, and risk management. Meanwhile, the accounting firm found that between the period 2011 to 2015, approximately 565,000 credit card accounts were opened without customers' approval. An additional 1.5 million deposit accounts were opened and probably not authorized by customers.

Employees whose careers were impacted for failing to meet sales targets and/or for reporting managers to the Bank's ethics hotline initiated their own lawsuits against the Bank. Some 500 employees joined a class action lawsuit claiming wrongful termination and retaliation. In one settled lawsuit, the court ruled in favor of an employee who was unlawfully terminated by

the Bank and it was ordered to pay the employee $5.4 million to cover back pay, compensatory damages, and legal fees. The Bank was also required to rehire the employee.

In September 2016, the CEO testified before two congressional panels that were investigating the Bank's handling of the developing scandal. During the same period, the State of California, one of the Bank's most important customers, suspended it for at least one year from underwriting some of its municipal bond offerings. The state attributed the move to the Bank's on-going account scandal.

By October 2016, the CEO opted for early retirement from the Bank ending a 34-year career due to public outcry resulting from the accounting scandal. The CEO's retirement package was estimated at $134 million inclusive of cash, stocks, and other compensation amassed during his tenure. He forfeited his 2016 salary and bonus, as well as stock awards of approximately $41 million. His roles as CEO and chairman of the board were split, with the chief operating officer assuming the CEO role and a board member assuming the chairman role. In July 2016, the head of the CBD took a leave of absence interrupting her ten-year tenure in the role. In early 2017, she was retroactively terminated by the board of directors for her role in the scandal.

The board's independent review report, released in April 2017, attributed the scandal to the Bank's decentralized structure. It also exonerated the board of directors, including the risk committee, suggesting that it was misinformed by various executives during their board meetings and other presentations. The review further suggested that the chief risk officer had limited authority over the CBD since the risk assessment and response were completed within the CBD unit and not adequately communicated to the appropriate oversight bodies.

The executives connected with the scandal were not as fortunate. In 2017, the board clawed back prior compensation from executive leadership for their role in the scandal. This included $69 million and $66 million from the former CEO and the CBD senior EVP, respectively. The board also fired four mid-level executives who played prominent roles within CBD denying them any bonus or unvested equity or stock options. In July 2017, the new head of the CBD eliminated 70 senior managers' positions as the division continued to deal with the fallout from the scandal.

The Aftermath

The Bank continued to struggle to end the fallout from the controversial sales program. In August 2017, its internal review revealed that the fraudulent account scandal was bigger than previously estimated. The expanded review identified an additional 1.4 million accounts (for a total of 3.5 million accounts) that customers may not have authorized. The review also found 528,000 cases in which customers signed up for online bill payment without their knowledge or consent. The Bank agreed to refund approximately $1 million to those customers who incurred fees or other charges for this service.

As the scandal continue with new disclosures, the U.S. Congress is acutely interested in the outcome. In fact, one senator proposed in September 2017 that the Federal Reserve Bank remove the Bank's board of directors who were on the board during the time of the scandal. Other members of Congress are exploring new investigations into the bank that might include requiring a testimony from the current CEO. Time is no longer a luxury for the Bank and it must act quickly to resolve the scandal and regain its stakeholders' trust.

A summary of the actions taken by those charged with governance is provided in Table 1 below

Table 1: Activities Summary

Dates	Actions
September 2016	• The Bank announced the end of the controversial sales program • An accounting firm identified 565,000 unauthorized credit card and 1.5 million unauthorized deposit accounts • The CEO testified before two congressional panels
October 2016	The CEO opted for early retirement ending a 34-year career
Early 2017	The head of the CBD is retroactively terminated by the board of directors
April 2017	The independent report (ordered by the board of directors) determined that the CBD was responsible for the fraudulent activities and not ineffective board oversight
Mid 2017	The board of directors clawed back compensation from executives involved in the controversial sales program
August 2017	The Bank's internal review identified an additional 1.4 million unauthorized accounts

DISCUSSION QUESTIONS

Answer the following questions:

1. The "tone at the top" is considered a key component of an organization's corporate governance process. Use the fundamental principles within the control environment component of the Committee of Sponsoring Organizations of the Treadway Commission (or COSO) framework to discuss:
    i. The company's commitment to integrity and ethical values
    ii. The Board of Directors' independence from management
    iii. The structures, reporting lines, and appropriate authorities and responsibilities established by management in the pursuit of objectives
    iv. The organization's commitment to attract, develop, and retain competent individuals
    v. The organization's ability to hold individuals accountable for their internal control responsibilities

    [Note: Use Appendix A to answer each of the above in terms of both the *design* and *operating* effectiveness of the control environment]
2. Comment on the effectiveness of the Bank's overall control environment
3. Comment on the effectiveness of the corporate governance process at the Bank and its ability to respond timely to the controversial sales practices.
4. Did the board of directors adequately fulfill its oversight responsibilities?
5. Do you agree with the senator on the removal of the directors who were on the board during the scandal?

Appendix A: The COSO Framework – Control Environment

COSO Component – Control Environment	Related Principle	Comment on the design or existence of this principle within the Bank	Comment on the operating effectiveness of this principle within the Bank
	i. The organization demonstrates a commitment to integrity and ethical values.		
	ii. The board of directors (BoD) demonstrates independence from management and exercises oversight of the development and performance of internal control.		
	iii. Management establishes, with board oversight, structures, reporting lines, and appropriate authorities and responsibilities in the pursuit of objectives.		
	iv. The organization demonstrates a commitment to attract, develop, and retain competent individuals in alignment with objectives		
	v. The organization holds individuals accountable for their internal control responsibilities in the pursuit of objectives		

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A SYSTEM ANALYSIS, DESIGN, AND DEVELOPMENT CASE STUDY: XTREME ADVENTURE TOURS RESERVATION SYSTEM

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CASE DESCRIPTION

The primary purpose of this case study is for Systems Analysis and Design, Systems Development, and Database courses. Students examine realistic dialog and Interview Notes, as well as existing documents. For Systems Analysis and Design courses, the students should be able to follow this realistic case study of a small business which arranges "adventure-style" tours and conduct the planning, analysis, and design phases of the System Development Life Cycle (SDLC), using either a traditional or object-oriented approach. Deliverables would include process and data diagrams and modeling, and user interface designs, and should require approximately 12-15 hours to complete, outside normal class time. In System Development courses, e.g., capstone courses for a computer information systems major, students can use this case study to not only analyze and design a solution, but actually develop the solution using various windows or web-based tools. This solution could be Windows, web or mobile-based, although the recommended solution is for a Windows environment. The entire project should require approximately 20-25 hours to develop a working system. For Database courses, this case could be used to illustrate database design techniques, resulting in the creation of appropriate data models and physical database designs. This should require approximately 10-12 hours to complete. The case study is of moderate difficulty – ranging from a three to five on the GJBP difficulty scale, and is designed for junior and senior level students, but could also be used in similar graduate courses.

CASE SYNOPSIS

Dr. Thomas Waggoner, an information systems professor at the local university, wants to book a camping and kayaking adventure tour for his family through a local tour agency. In the course of the conversation, he realizes that the tour agency could greatly benefit by using a computerized system to track customer reservations. He discusses the idea with the students in his classes. Dr. Waggoner's students interview the tour agency's owner and develop a list of the requirements for this new system.

CASE BODY

"Xtreme Adventure Tours – We don't take the easy way out! This is J.C., how can I help you?" answered the recipient of the call just placed by Dr. Thomas Waggoner.

"Hi, J.C. My Name is Tom Waggoner, and I was wondering if you could provide me with some information about some of your adventure tours," replied Dr. Waggoner.

"Sure, I will be happy to. What type of tour are you interested in? We have a variety to chose from - high adventure, not-so-high adventure, family-oriented, short overnight tours, and longer-length tours."

"It sounds like you have a lot to choose from. I am thinking about the 3 day kayaking adventure for my family, camping each night. Do you have availability the 10th through the 12th next month, or possibly the weekend after that?"

"Of course we do. Or, I think we do. I mean, I think we might still have availability on that tour. Uh, could I get your number and call you back?" answered J.C.

"I guess. It sounds like you don't really know what tours you have available." asked Dr. Waggoner. "Your website had pictures of kayaking and camping, and it said you had packages readily available."

"Well, yes, we have several tour packages available, but I have to go through several different reports and calendars and our signup sheet to see what is available. I think we have openings that weekend, but I am not really sure. It will take me a little while to check."

"Okay, but you are making me a little nervous. I am not sure I want to trust my family's safety on an adventure tour if you aren't organized enough to know if the tour is available."

"I'm sorry – I understand your concerns. Actually, our adventure tours are well organized and very safe, it's our paperwork that's the most challenging aspect," explained J.C. "We have been talking about computerizing everything, but we just haven't been able to find anything that will work for us."

"I might be able to help you with that, if you are able to put our tour together," offered Dr. Waggoner. "I teach several different classes on systems design and development at the university. I think this might be a good project for my students."

"We would be 'xtremely' grateful if you could do something like that. Give me about an hour and I will call you back with all the information about your adventure tour," responded J.C.

"Okay. And let me talk with some of my students, and we will get back in touch with you about a potential system. We will need to spend some time with you to gain an understanding of how your business operates, as well as what type of information you maintain on your customers and tours," concluded Dr. Waggoner.

By the end of the week, the Waggoner's adventure tour was scheduled, and Dr. Waggoner's students had met with J.C. They had interviewed him, gained an overview of the operations at Xtreme Adventure Tours, and identified their information needs. They compiled their notes and developed the detailed requirements below.

Xtreme Adventure Tours: Detailed Requirements

Xtreme Adventure Tours offers a variety of packages, on predetermined dates. Tours are generally scheduled up to six months in advance. Their tours are as follows:

3 Day Tours

Tour Number	Tour Name	Price per Person
3WW12	Class 1-2 Whitewater Rafting/Camping	$100.00
3WW34	Class 3-4 Whitewater Rafting/Camping	$125.00
3KC	Kayaking/Camping	$70.00
3HC	Hiking/Camping	$50.00

5 Day Tours

Tour Number	Tour Name	Price per Person
5WW12	Class 1-2 Whitewater Rafting/Camping	$145.00
5WW34	Class 3-4 Whitewater Rafting/Camping	$175.00
5KC	Kayaking/Camping	$95.00
5HC	Hiking/Camping	$70.00

Each tour can be scheduled many times on different dates. A customer can take more than one tour over time, i.e., repeat customers.

Information needed for Tours include the Tour Number, Tour Name, Tour Duration, and Price per Person. A Tour is scheduled for a specific Start Date. Each tour can accommodate a maximum of 15 people.

When a customer calls to make a tour reservation, Xtreme records their first and last name, address, city, state, zip code, phone number, and email address. For the purpose of the system, a unique customer number will need to be created.

As shown in Appendix 1, the reservation consists of a reservation number, date the reservation was made, and tour being reserved. Note the tour is a specific tour on a specific date. The number of people for each reservation will also be recorded.

Appropriate and user-friendly data entry/edit user interfaces need to be created. In addition, the system needs to generate a report showing, for a specific tour, the customers on that tour. The system also needs to generate a reservation confirmation that can be sent to the customer, listing the reservation number, tour, date, and total price. Lastly, the system should generate a report showing upcoming tours for a specific date range, listing the number of people scheduled for each tour.

Dr. Waggoner explained to his analysis and design students what Xtreme really needed was a database system which would maintain information about each customer and each tour. The system should generate several reports including a reservation confirmation, a listing of customers for a specific tour, and a listing of upcoming tours and the number of customers registered for each tour.

After gathering the detailed requirements for the system, Dr. Waggoner assigned his students the requirements shown below. His systems analysis and design students began

developing data and process models and designing the user interfaces. As the semester progressed and the analysis and design phases were completed, Dr. Waggoner had his system development class use the specifications and start creating the working system. By the end of the semester the system was completed and implemented, and Xtreme Adventure Tours was able to keep track of their customers and tours much more efficiently.

APPENDIX 1

Xtreme Adventure Tours Reservation Form

XTREME ADVENTURE TOURS
RESERVATION FORM

Reservation #	1027	**Reservation Date**	08-21-xx
First Name	Toby	**Last Name**	Barlow
Street Address	512 Oak Tree Lane		
City	Evansburg	**State**	IA **Zip** 52501
Phone Number	441-080-8123	**Email address**	tbarlow@hmail.com
Tour	3ww12 - Class 1-2 Whitewater Rafting/Camping		
Date Begin	09-17-xx	**Tour Length**	3 days
# of People	4	**Cost Per Person**	$100.00
Total to be Collected	$ 400.00		

APPENDIX 2

Xtreme Adventure Tours Logo