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Table of Contents
THREE INNOVATIVE APPROACHES TO INCREASING EFFICIENCY IN THE HUMAN SERVICES FIELD ........................................................... 1
SOCIAL ENTREPRENEURSHIP: PATHWAY TO INTER-PROFESSIONALISM BETWEEN BUSINESS AND SOCIAL WORK ........................................ 9
GLOBAL LEADERSHIP: IS IT DIFFERENT? .................................................. 12
GLOBAL LEGISLATION OF ELECTRONIC MONITORING IN THE WORKPLACE AND BEST PRACTICES FOR MULTINATIONAL EMPLOYERS ........................................ 13
IMPLICATIONS OF THE INTERNET AND SOCIAL MEDIA ON THE HUMAN RESOURCES INFRASTRUCTURE ...................................................... 15
DERIVATIVES: WHAT THEY ARE AND THE PURPOSE BEHIND THEM .......... 16
SMARTPHONE BIOMETRICS: IPHONE 5S FINGERPRINT SECURITY, ANDROID VS. IOS, AND WEARABLE TECHNOLOGY ........................................ 17
THE MCDONALDIZATION OF KNOWLEDGE: DOES STANDARDIZATION PROMOTE OR HINDER INNOVATION? .......................................... 35
CHANGE LEADERSHIP IN A GLOBAL ENVIRONMENT ........................................... 36
PANEL: INNOVATION & CHALLENGES IN LATIN AMERICA ............................ 36
NICARAGUA: THE COUNTRY AND ITS ECONOMY ........................................... 56
A UNIVERSITY ON THE LEADING EDGE OF INNOVATION................................. 57
SERVANT LEADERSHIP THEORY: AN INNOVATION AND INTERNATIONALIZATION DRIVER ................................................................. 66
THE EFFECT OF SARBANES-OXLEY SECTION 203 ON AUDIT QUALITY: A LOOK AT FRAUDULENT FINANCIAL REPORTING ........................................... 71
HUMAN KIDNAPPING FOR RANSOM THE PROBABILITY FOR CYBER KIDNAPPING ................................................................. 81
INTERNATIONAL PERSPECTIVE ON ACADEMIC INTEGRITY SUMMARY ........ 101
TESLA FIGHTING THE MEDIA AS WELL AS THE INDUSTRY: AN INTERNATIONAL CONCERN ................................................................. 104
JAPANESE COST ACCOUNTING: CASE STUDY OF JAPANESE AUTO INDUSTRY ... 112
SMALL & MEDIUM Sized ENTERPRISE (SME) INNOVATION AND ENTREPRENEURSHIP IN PUERTO RICO ...................................................... 114
PERCEIVED IMPACT OF HIGHER EDUCATION INSTITUTIONS ON LOCALIZED ECONOMIC DEVELOPMENT ...................................................... 115
THREE INNOVATIVE APPROACHES TO INCREASING EFFICIENCY IN THE HUMAN SERVICES FIELD

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Abstract

Presented are three approaches to managing workloads and client interaction in the human services field using portable computing devices, social media, and web-based conferencing technologies. First, the authors examine the use of portable tablets and laptop computers featuring wireless and cloud-based capability for human services practitioners working in the field. Second, the authors explore ways to incorporate social media to organically deliver content, recruit volunteers, fundraise, and share resources in the non-profit sector. Third, the authors evaluate various video-conferencing platforms as a means to monitor, consult, and advise clients. Organizations employing these three innovative approaches may experience an increase in operational efficiency.

Background

Often human services professionals and individuals working in the human services profession experience challenges with managing information related to human services occupation (Young, 2012). For the purpose of this paper, managing information consist of sharing information about resources available within the community and maintaining contact with clients. This paper addresses the use of technology in areas of the human services field to form a more cohesive way for professionals and clients to connect.

The authors, who are scholar-practitioners in the fields of business and human services, apply three forms of technology from a theoretical perspective to working with clients in the field, sharing information about community service events, and interacting incarcerated clients. The discussion includes the use of tablets to collect information from homeless individuals to
seniors, the use of social media among service providers to share information about available resources and community events, and the use of video conferencing with webcams to allow inmates to participate in virtual video visitation. What emerges is a comprehensive examination that human services professionals and individuals working in the human services vocation can utilize to manage information and increase operational efficiency.

Motivation

Inquiry into these items may lead to improvement with gathering data, sharing information about resources and community events, and maintaining a sense of family by human services professionals and those working in the field. Maintaining a sense of family is of particular importance to the inmates and relatives (Doyle, Fordy, & Haight, 2011). In addition, improvement in these areas may save money, time, and at a minimum provide a positive return on investment as well as allow for better management of staff (O’Donoghue, 2013; Young, 2012). Individuals and providers who incorporate the use of technology interacting with clients who are in need may assist with managing collected information, allotted time for clients, scheduled visitations, and shared resources.

Problem

The collection, dissemination, and sharing of information and resources is a common issue in the human services industry (Young, 2012). Human services professionals are tasked with case management and directing clients to the appropriate resources. They often have heavy caseloads that pose issues with time management and connecting with their clients. Various forms of case management involve visiting clients in multiple settings including in the field, at their homes, in care facilities, or prisons to name a few. The number of clients and time spent with each presents challenges with taking field notes, sharing information about resources, and updating client records (Reardon, 2010). The use of technologies such as portable tablets, social media, and video conferencing may help to alleviate some of the challenges faced by human services professionals and others working under the human services umbrella (Reardon, 2010).
Portable Tablets

While tablets date back to as early as 1956 (Dimond, 1957), the ones that are common and in use today include those devices built with operating systems and internet access. In 1972, Alan Kay created the Dynabook, which was an educational concept device for children. It was a portable device that featured an extended battery life and is the origin for tablets, laptops, and computing devices in use today (Chen, 2008). Later products arriving in the 1980’s included operating systems that were expanded on by companies like Apple, Microsoft, and Linux.

In addition to being revolutionary, the unveiling of portable tablets with internet access sparked another realm for consumer interaction. The Webb Company introduced the first internet-based tablet in 1996. The Microsoft Tablet introduced in early 2000’s by Microsoft, was presented as rugged note-taking device for the field worker. In this example, the field worker was a healthcare worker collecting information from the patient’s bedside on the device (Olavsrud, 2002). The combination of the operating system and the internet accessibility are features found in today’s portable devices.

Traditional methods for capturing information include writing notes in a notebook, recording conversations or notes-to-self on a tape recorder. Human services professionals can use these devices when interacting with clients in the field. While traditional methods of collecting information are still viable, the use of a device allows front line workers to do more. They can have client’s complete surveys. Beyond taking notes, they can email notes, take pictures and record videos all with one device. In addition, tablets allow supervisors to easily review session recordings or to provide assistance during live sessions via the internet (Hill, Pusateri, Braun, & Mawe, 2012).

The use of tablets saves time, increases accuracy, and alleviates having to carry multiple devices such as recorders, cameras, notebooks, or writing utensils. Instead of taking notes on paper or recording them on a recorder, frontline workers can write notes either in the device on an electronic notepad or directly into their personal email. Upon returning to the office, they can copy and paste the collected data into the client’s permanent record. This activity assists human services professionals with making regular updates and maintaining accurate client files. Saving notes, pictures, or video in the field or client’s home preserves the captured data from qualitative narratives or answers to survey questions (Singleton et al., 2011).
Social Media

Even though social media platforms are relatively new, they are excellent tools for reaching a wide audience. James Young recently completed a study in Richmond Virginia in which he examined the use of social media by nonprofit service human services organizations. His results discuss the use of social media as a communication tool by human services organization as early as 2005. Around 1997, many of the human services organizations used blogging as one of the initial forms of sharing information about the organization, community events, web links for the organization, or to share pictures. As technology advanced and new platforms arose such as YouTube in 2005, Facebook in 2005, and Twitter in 2006, human services organizations began to share more content in the form of videos and to build followership through individuals linking to their pages. These platforms were used to interact with the community, promote the business, fundraise, increase social media use, and recruit volunteers (Young, 2012).

Many of the popular social media outlets are free and user friendly. As each human services agency has their own use for social media, coming together on a collective basis in a single central location could assist with allocating resources, non-duplication of services, and better awareness within the community to serve those who are in need. Sharing information, resources, and provide support for a cause, community events, a population in need. In addition to these items, human services organizations can also promote awareness. They can still promote their interest on their individual sites; however, the central site can provide useful information on common events, populations. This assists in saving time and cutting cost.

In addition to serving as a platform to advertise and market the organization, social media services allow human services organizations, human services professionals, and individuals working in the human services profession to connect with members of the community. Human services workers can promote awareness, prevention programs, and intervention services as well as share resources and upcoming events happening in the community, announce events such as food drives, clothing collections, free meals, free wellness (HIV) screenings, AA meetings, shelters (abused spouses homeless), crisis centers, counseling services, and fundraising events (Young, 2012).

There are many way to provide this access. For example, human services providers and professionals could set up a central human services community board and three social media
sites that feature the content posted on the board. A common feature available on social media sites is the ability to have content post to multiple sites at one time. The use of this feature and/or a social media management application allows a content manager such as HootSuite or Tweetdeck, to perform one update, which updates the same information on Facebook, Twitter, and Pinterest.

**Video Conferencing**

Although video conferencing has been used in many industries such as business, military, education, and news media outlets, its use in the human services profession is fairly new (Hill et al., 2012). One of the leading providers in video conferencing software in prisons is Renovo software. A couple of other commercial providers include Polycom and HomeWay. One of the earlier known demonstrations of conferencing occurred at the World’s Fair in 1964 when AT&T introduced the video phone to the public.

The demonstration included a deaf person speaking with a hearing person using sign language. The technology used at this time was called video telephony. The cost was high and the quality was poor due to the use of data phone lines (AT&T, 2014). In 1970's, newer equipment known as video relay systems (VRS), surfaced to assist deaf, hard of hearing, or speech-impaired individuals communicate with sign language interpreters. Today, users of VRS enjoy a federally subsidized system that allows for VRS communication nationwide (Admin, 2012).

Records show the use of video conferencing for visitation in correctional facilities occurred in the early 1990's with the installation of the first equipment in a Florida county jail in 1995 (Business Wire, 1999). The purpose of the systems was to allow for interaction between visitors and prisoners from separate secure areas within the prison. The video conferencing systems consisted of equipment, which was installed in a designated visitation. These systems were stationary.

The equipment dramatically reduced the movement of visitors and inmates. This reduction assisted with security concerns related to transporting visitors and inmates throughout a secure prison. In 2001, the Pennsylvania Department of Corrections installed video conferencing equipment at four correctional facilities in the state, the first state to perform this feat. Between 2009 and 2010, prison systems tested and installed the first virtual visitation systems for use
with laptop computer that featured webcams (Doyle et al., 2011).

Advances in technology allowed for the addition of management functions such as scheduling software to be included as part of the visitation process. Around 2001, access to high bandwidths on the internet and webcams were the catalyst for the expansion from stationary systems to digital video conferencing (Harrison, 2009). While switching to this type of technology can be costly, the long-term benefits outweigh the initial costs. The new systems meant that visitors no longer had to come into the facility and prisoners could have visits from their cells.

In addition, human services professionals could meet with inmates remotely. For the prison system, this expansion led to improved operations in terms of management of prison staff in particular guards, facility security, inmate transport, and access to inmates. For human services professionals, the inclusion of digital video conferencing saves times and money as well as provides another form of access to interact with clients who are incarcerated in prisons. Video conferencing technologies continue to expand to other areas such as course delivery for human services college classes (Hill et al., 2012).

The creation of portable devices such as iPad in 2010 and Kindle Fire HD in 2012 that have a webcam and digital video conferencing capability in addition to video-chat platforms such as OoVoo, Skype, and Facetime provided human services professionals access to technology to reach a wider range of clients (Young, 2012) while providing services remotely (Hill et al., 2012). In addition to meeting with clients who are incarcerated in correctional facilities, human services professionals can conduct interviews for qualitative research or sessions with seniors requiring assistance while maintaining their sense of independent living.

Such technology is especially useful to those who have mental or physical limitations such as speech or hearing impairments. When appropriate, human services professionals can take screenshots of living conditions. Platforms such as OoVoo, Skype, and Google+, however, are not used at correctional facilities, as they do not provide monitoring and oversight services, which are common and necessary to correctional system video-conferencing technology (Doyle et al., 2011).
Conclusion

The use of portable technologies in the human services field is becoming increasingly important to the management of workloads, employees, and client interactions. More pointedly, laptops, tablets, social media, and digital conferencing services provide a robust set of hardware and web-based tools that allow the human services practitioner to operate more efficiently and at lower cost (Young, 2012). The future use of such technologies is only limited by the imagination of the professionals harnessing their potential power.

For example, Human Services Professionals could conduct qualitative research by interviewing clients from a remote location or by viewing survey results in real-time through a web-based service. They could take screen shots of a client’s living conditions with a tablet and share them with the home office immediately. This not only saves time, but also may prove useful in situations where response time is critical due to domestic violence or to an emergency medical concern. Family and friends can visit a juvenile prisoner located in an out-of-state facility through videoconferencing as opposed to taking a long drive or, worse yet, deciding not to visit the youth and thus lowering the level of support (Hill et al., 2012).

Organizations employing portable tablets, social media, and videoconferencing may experience an increase in operational efficiency through centralized resourcing, increased response times, real-time data collection, and remote visitation or support of their client base. As technologies continue to evolve, human services organizations should continue to adapt for the greater good of the industry.

References


Worlds Apart

Business and Social Work, guided by different philosophies, have traditionally been at opposite ends of the continuum, with business concerns centered on wealth and ‘cost-effectiveness’ and social work concern centered on justice and ‘social effectiveness’. Business ultimate mission is profit, although there is some pressure in the form of corporate social responsibility (CSR) from organizations such as non-government organizations (NGO: Waddock, 2010), where businesses give back to the community. Some may argue that businesses in the form of ‘social enterprise’ focus on bringing about social change. However, these organizations are seen as having a “double bottom line” in that they are jointly motivated, both socially and financially (Dart, 2004). While Business and Social Work are worlds apart, Innovation and internationalization calls for global thinking thus allowing for differing beliefs, engaging in dialogue, and broadening our approaches to finding solutions to social problems worldwide.

The Council on Social Work, the accrediting body for social work education, in collaboration with the White House Office of Public Engagement, held a White house briefing in September 2013 on the future of America in terms of ‘shifting demographics’ healthcare concerns and the new Affordable care Act, mental health care, and our abilities as professionals to ‘ensure care for all.” The focus was on Social work’s role in meeting the needs of an increasingly multicultural diverse population. Governmental officials from various federal agencies led the charge in calling for an inter-professional approach to working with a diverse America. Inter-professionalism calls for health practitioners from all disciplines to work together in improving lives, utilizing a holistic framework in working with those we serve as opposed to seeing only through the lens of one’s profession. While Business was not presented as part of this approach to inter-professionalism, business is indeed an integral part of inter-professionalism. Evidence of this is present in the rollout of the new Affordable Care Act in October 2013, as analysts criticize the business aspect of the plan. Business has always been an
integral part of healthcare; the implementation of managed care in the 1990s is a more recent example. While health care and social work focused on individuals and social problems, business focused on the bottom line.

Business has made some leaps in social responsibility through social enterprises and more recently through social entrepreneurship where entrepreneurs have begun to address social problems through the use of business methods. Many business schools, including Harvard, Duke, and Stanford, to name a few, have begun to recognize the need for looking beyond the bottom line to impacting social change on both local and global levels by creating programs leading to a degree in Social Entrepreneurship, a concept that speaks to bringing about social change through the use of business solutions. Ashoka, a leading entrepreneur network, defines social entrepreneurs as “individuals with innovative solutions to society’s most pressing social problems” (https://www.ashoka.org). Austin, Stevenson, and Wei-Killern (2006) define social entrepreneurship as “innovative, social value creating activity that can occur within or across the nonprofit, business, or government sectors” (p.2). While the definition sometimes vary Austin et al. states, that the commonality among them is the focus on creating social value over individual wealth

Bridging the Gap

Social Entrepreneurship is a perfect path for inter-professionalism among business and social work; coming together, each with their specialized skillsets, working with individuals and groups locally and globally in bringing about social change in ways capable of meeting both mandates, cost and social effectiveness. Waddock (2011) sees social entrepreneurs as ‘difference makers’, defining them as “systems thinkers capable of finding leverage points for change – and social benefit – and understanding that a dialectical, not linear, process is sometimes the best path forward” (p. 10). In social work, that role is comparable to that of the macro social work change agent in that both possess a desire to bring about social change yet possessing different skill-sets necessary in implementing and sustaining that change.

Social work macro practice is defined as “professionally guided intervention designed to bring about change in organizational, community, and policy arenas” (Netting, p.5). Beyond these skills, the social worker is also trained in micro practice thus being able to apply both skillsets, as appropriate, in enhancing relationships while bringing about social change. The social worker employs a systems approach to social problems emphasizing the person-in-
environment framework (Netting, 2012), a needed skill in this global society. ASHOKA maintains that “that anyone can learn and apply the critical skills of empathy, team work, leadership and changemaking to be successful in the modern world.” While this may be, Social workers are trained in these skills and can be an asset to the entrepreneur in implementing and sustaining change around social problems.

This paper promotes an inter-professional collaboration between schools of business and schools of social work, bridging the gap by broadening the understanding of the scope of social work, which employs micro and macro skills, preparing students to be change agents across systems. Business schools offering degrees in social entrepreneurship would advance the cause in collaborating with schools of social work in addressing solutions to social problems, a mission at the heart of the social work profession. Social work is much more capable of the social aspect of the curriculum while business addresses the entrepreneurship aspect. It is a win-win situation for business, social work, future social entrepreneurs, and society.

References


GLOBAL LEADERSHIP: IS IT DIFFERENT?

Dr. Webster B. Baker
Dr. Pete Simmons

The behaviors of organizational leaders has long been the topic of study to establish effective patterns of traits, characteristics, and actions. Ever increasing globalization of markets has raised the issue of effective leadership behaviors notwithstanding culturally specific sensitivities. The traditional measures of an effective organization may not provide adequate scope of the true measure of success valued by social communities, metropolitan infrastructures, local and global ecologies, as well as human capital. Organizational effectiveness assessed by Genuine Wealth indicators take into consideration accounting measures such as ecological footprints, total turnover, community satisfaction reports, community and organizational citizenship commitments, work-life balance, and community criminal activity, among others. Measures of organizational effectiveness dictate behavior patterns for effective global leaders. Global leaders are differentiated by the concern for the Human, Social, Natural, Built, and Financial Capitals of the organization as well as the community. Traditional leadership concerns of emotional and cultural intelligence, ethics, and transformational inspiration remain important, however, the measure of successful Global Leadership encompasses long-term perspectives beyond mere immediate organizational profitability.
The increased use of cell phones, iPads, laptops and other electronic gadgets that are supposed to improve productivity introduce a variety of privacy issues for employers and employees. As computers arrived in the office, employees were informed through employee handbooks and other communications that the computers belonged to the company and employees had no expectation of privacy when using company-owned equipment. As technology evolved, employers provided a company cell phone and/or laptop, which allows the employee to work from home and check mail and messages when away from the physical office environment. The employee and employer may appreciate the flexibility and the opportunity for more productivity; however, the use of these tools present new issues concerning privacy and the right to monitor and track text messages, email and even the physical location of the employee.

Using GPS devices, laptops and cell phones are capable of the same type of tracking from remote locations as computers found in the office (Barker, 2009; Ciocchetti, 2011). While employers often use GPS to track employees’ locations in the workplace, the same tools allow them to track cell phones outside the workplace in non-working hours. Does the employer have a need or right to know where an employee is during the non-working hours? RFID chips have proved to be great tools for retailers to track merchandise and reduce theft of merchandise (Barker, 2009). Transportation companies use RFIDs to track and increase the security of the cargo to satisfy government security concerns as well as monitoring their employees (Barker, 2009). What is next? Will employers require employees to be implanted with RFID chips to track their actions? Several states in the US have enacted laws that prohibit employers from mandating RFID implants for employees; however, the law is still developing in this area (Ciocchetti, 2011). Do other countries have more or less developed laws concerning employer monitoring? How can multinational companies ensure they do not violate the laws concerning electronic monitoring?
As part of the research, we will explore national and international employment-related regulation of social media such as Facebook and Twitter. Private sector businesses are starting to intrude into the personal lives of employees. One of the most controversial in the news recently is requiring job applicants to turn over passwords to social media account. Is this a consistent trend globally? Some initial research reveals an article by Pagnattaro, M.A. (2004) which addresses this issue.

We will explore current issues and case law surrounding technology such as cell phones and laptops from the perspective within the US as well as internationally. An important facet of this exploration will also be employer and employee rights associated with these areas and what employers are doing with policy creation. We will conclude with sharing insights and perspectives on the future, and where technology and employee privacy challenges may be headed.

Preliminary References


IMPLICATIONS OF THE INTERNET AND SOCIAL MEDIA ON THE HUMAN RESOURCES INFRASTRUCTURE

Sheri K. Bias, SPHR
Spencer Williams

The internet and social media, such as Facebook, Instagram, Linked In, and Twitter, have had impacts on the way organizations do business. Technology has, and will continue, to evolve. So how does an organization keep up with the constant changes? This is not an easy question to answer. In our presentation, we will explore the impacts of the use of the internet and social media on the human resources infrastructure. We will discuss leading-edge practices by organizations to recruit, staff, train, and retain employees.
DERIVATIVES: WHAT THEY ARE AND THE PURPOSE BEHIND THEM

Joshua Buck

Derivatives have become a vital process for many major businesses including banks and other financial institutions, yet the purpose behind them and how they are used to create value in a business are not widely understood. This presentation provides information on some of the more commonly used derivatives and how they impact the economy. These include, but are not limited to options, futures, forwards, and swaps. Additionally, some of the lesser known, yet very important derivatives, such as weather derivatives, rainbow options, and replication (synthetic asset) transactions are also discussed. To show the impact of derivatives on an industry, the author researched the airline industry and their use of derivatives to help mitigate rising oil prices. The results show that if used correctly, derivatives may have significant positive impact on a corporation. However, if derivatives are used incorrectly such as for high risk transactions, it could negatively impact not only the company, but the economy as a whole.
Abstract

In this paper we first look at the significance of biometrics, specifically fingerprint readers which have been implemented into smartphones, primarily the iPhone 5S. The security of the technology is presented and analyzed while the security breaches and hacks are demonstrated in detail. Next, we take a closer look at the mobile operating systems and the secure options in Android and iOS; deciding which one allows for more user security. Then, we propose an idea, dubbed two-factor authentication, which we believe will increase internal security in smartphones. Lastly, we look at the past, present, and future of biometrics as well as an up and coming trend, wearable technology.

Keywords: iPhone, Security, Touch ID, iOS, Android

1 Introduction

Technology is ever changing. In a world like ours we are constantly seeking the next big discovery or invention. One of the biggest influences and dependencies of our daily lives right now is the Internet and the ease of access to information. Humans are so reliant on the Internet that we need to carry it in our pocket at all times. But with owning something so private and precious, we feel like it is a part of us; and thus it needs to be protected.

Advances in smartphones require equal advances in security. In a perfect world, we would not need to worry about security authentication, back-ups, passwords, etc. But we do not live in that perfect world. Things we physically own or rent, or even ideas we write down, need some form of security, or they the run the risk of getting stolen or broken into. This is why cell phone designers and manufactures encourage their users to create hard to guess passwords or pin numbers; however they were finding, to their dismay, that most users do not even bother with these security features and are at risk for exposing potential sensitive data to an attacker or thief. This is where biometrics comes in.
The whole point of the newly designed fingerprint reader from Apple is to save time and to force people to implement some form of security on their devices to protect their private lifestyle. In fact, between 30 and 60 percent of people do not use a locking system or form of internal security on their device [16]. The fingerprint reader is a unique and trendy alternative to inputting long strings of complex passwords every time you want to unlock your device or buy a new mobile application or game. Humans, by nature, are demanding; and we want speed and efficiency over most everything. The fingerprint reader, dubbed Touch ID, allows just that while also applying as much, if not more security than a password or pin number.

2  Apple History

2.1  Company Roots

Officially founded in 1976, garage-started Apple Computer went from being the laughingstock of the neighborhood in Palo Alto, California to a multinational corporation with an incredible reputation for constantly revolutionizing different industries. While it was not taken seriously in its first few years, Apple has been ahead of the game while laying cornerstones along the way of technological advancement within our world. Apple’s public offering of $22 per share in 1980 jumped 32 percent in the first day, instantly making 40 employees (those select few who were awarded shares before the IPO) millionaires [2].

2.2  iPhone Evolution

In 2007, a revolutionary device was unveiled at Macworld conference. The iPhone. Although smartphones had previously been around, none were quite like the iPhone. Combining three products into one: Internet browser, iPod (already a revolutionary device on its own), and Cellular Communication. In June of 2007, the device was released to the public, selling 700,000 units on the first weekend. Although many people could not afford the device with a contract due to its outrageous price, so a year later the second generation device, iPhone 3G, released at half the price and sold over 1 million units its first weekend on the shelves. This also co-launched the App Store, a feature that allowed third party developers to create an application or game using XCode (a high level programming language native to Mac and iPhone Operating Systems). Developers could upload their creation to the store either for free or for a designated price to turn a profit.
Again, a year later, as we start to see a pattern, the 3G is given an internal overhaul (dubbed 3GS) selling another 1 million units opening weekend [1]. In 2010, Apple decided to change things up a bit by reinventing the exterior of the phone, which had been roughly the same size and shape for three years. The iPhone 4, along with its new operating system which contained hundreds of fixes and updates also introduced a soon-to-be trademark feature that many Apple fans were waiting for - the Retina display.

In 2011, Siri, the artificially intelligent companion was introduced along with the iPhone 4S, selling a whopping 4 million units first weekend. In 2012 the introduction of iPhone 5 changed the physical dimensions of the glass screen that had been used for five years, making the resolution natively 16:9, which meant no more black bars when watching movies; a courteous renovation. Which leads us to today, 2013, and the first time in iPhone history of a dual device release. The iPhone 5S with its notable fingerprint reader, and the 5C which adds a splash of plastic color, undoubtedly geared towards a younger audience. Both these devices sold 9 million units their first weekend and are now available in 47 countries around the world [3].

2.3 The Cost to Build an iPhone

Apple spends exactly $199 (with the majority of that cost going to the glass screens) on a 16GB 5S model, which retails for $649; however, the majority of those who purchase iPhones wait long enough to be eligible for a discount (with the renewal of a 2-year contract from a service provider like AT&T) which then costs the customer exactly $199 [9]. Apple profits from each device when the service providers pay to add that device to their array of smartphones; and from the few wealthy individuals who pay full price.

3 Fingerprint Technology

3.1 5S vs. 5C – 7th Generation Device Comparison
So why did Apple choose to release two devices at the same time? They probably wanted to create a more affordable device for those who previously had not been able to purchase Apple products due to their notorious overpricing. The biggest noticeable difference between the two models (5S and 5C) is their exterior. The 5C is made from a hard-coated polycarbonate, which is just a fancy way of saying cheap plastic made in China; while the 5S is made from aluminum, just like the previous models [4]. Internally, they are vastly different. The 5S is sporting the new A7 processor, which has a 64-bit kernel architecture, the first smartphone ever to do this. Meanwhile, the 5C is still using the A6 processor. The 5S also has a new motion coprocessor, which works the accelerometer and gyroscope to further pinpoint details of its user’s current condition (if they are standing or sitting). The 5S has a slow-motion video ability which enables the user to record up to 120 frames per second in 720p. Of course, the most intriguing of these differences is the 5S fingerprint reader (Touch ID) that is built right into the Home button. The iPhone lets you add up to five unique fingerprints which can be utilized to unlock the device and even authorize purchases from the App Store. This feature is a hot debate right now in regards to the actual security it claims to have.

3.2 Issues and Complaints

The fingerprint reader, like all first generation technologies, came with bugs. Many of the consumers who purchased the latest flagship smartphone have been having more trouble than they should when trying out the new feature. A Wall Street Journal business editor tweeted, regarding his own device, that the Touch ID was buggy and worked, “a very frustrating 70% of the time” [7]. However this seventy percent is a generous estimate compared to what some users are claiming.

The way the Touch ID actually works is like this: you set up your first fingerprint, of the available five slots, by repeatedly lifting and holding your desired finger on and off the home button. This act does not actually store an image of your fingerprint (like those in the database
of the crime scene TV shows) but instead translates your input as a mathematical representation, to which Apple claims cannot be reverse engineered [6].

This mathematical representation can be thought of exactly like a hash function. The iPhone then stores this encrypted information in a secret compartment within the A7 processor, known as the Secure Enclave, which was specifically developed to protect Touch ID and passcode data. The encrypted data is protected with a key that only the Secure Enclave has access to. This data is only ever used and seen by the Secure Enclave, meaning no other third-party app or even the Operating System has access to your print (or rather, hash), which also means it is not stored anywhere on Apple Servers, backed up to iCloud or anywhere else you can imagine – it is totally locked down to that unique device. Apple took this even a step further by pairing each and every Touch ID Sensor to only the device or CPU that it is associated with.

This theory was tested and proved by employees at iMore blog and forum. They took two brand new iPhone 5S devices, ensured the Touch IDs worked, then opened the enclosure, swapped the Touch IDs between devices, and tested the feature. They found that it did not work at all. When selecting the option to set up a new fingerprint, the screen fails immediately and redirects the user back to the settings page. They swapped the sensors back to their original devices and discovered the Touch IDs to be working properly again.

This adds an extra layer of protection unique to each device. An attacker would have to modify the sensor cable itself in order to tamper with the Touch ID feature under the hood, so to speak. However, this makes do-it-yourself repairs a little bit more challenging, especially since removing the Touch ID is required for replacing cracked screens; probably the most common repair due to the full-glass front and back of the device mixed with the carelessness of those who do not invest in a warranty or protective case. This will be especially challenging to third-party vendors who repair iPhone screens for cheaper than Apple’s rates.

3.3 Security Breaches

Less than two days after the iPhone 5S was sold to the public there were multiple claims from those who had bypassed the fingerprint reader, as if it was a race to expose the flaws. A notable group of German hackers, known as the Chaos Computer Club, uploaded a video to YouTube showing they could indeed bypass the Touch ID sensor [11]. They photographed an original fingerprint at a high resolution, then cleaned up the image in post-production. That image was inverted and laser printed it to a transparent sheet with thick black toner ink. From here they
used pink latex milk to transfer the negative print to the flesh like material. This fake print was then heated up by human breath to give it organic moisture which then successfully unlocked the iPhone on the very first attempt.

Apple claims its fingerprint sensor is better than those existing currently due to its higher resolution scans, but all the hacker group had to do was increase the resolution of the photographed print respectively. The CCC comments that, “It is plain stupid to use something that you can’t change and that you leave everywhere every day as a security token” [10].

This hack was the third major security flaw reported since the devices release. Previously someone discovered how to bypass the lock screen to access photos and email. Also, someone else discovered how to make a phone call to any number from a locked device by exploiting the emergency call function. Apple’s head of software, Craig Federighi, comments on the idea of extracting a fingerprint digitally from the actual device, “No matter if you took ownership of the whole device and ran whatever code you wanted on the main processor, you could not get that fingerprint out of there. Literally, the physical lines of communication in and out of the chip would not permit that ever to escape” [10].

3.4 Firmware

iOS 7 is all the rage right now. Whether you love it or hate it, iOS 7 is advanced and completely diverse from the previous iPhone Operating Systems throughout the years. But something that unique is bound to come with issues that need patching. Currently on iOS 7.0.4, the previous firmware updates were primarily geared towards bugs in the Touch ID [14]. 7.0.1 fixed an issue regarding Touch IDs authentication in the iTunes Store. 7.0.2 fixed bugs that allowed a hacker to bypass the lock screen passcode (as stated in section 2.8). Along with 7.0.2 they introduced the use of Greek characters for passwords to improve security. 7.0.3 was a huge update, including a feature called iCloud Keychain, which keeps track of all your usernames and passwords along with associated credit card numbers [15]. A password generator was also implemented into the web browser to suggest unique and hard to guess passwords. And another lock screen bypass hack was fixed. Future patches should allow for two-factor authentication when unlocking the device. Meaning a user can choose to unlock the phone with a required fingerprint and then passcode or password as well.

3.5 Ways for Users to Improve the Feature
With biometrics implemented into pocket devices, there are a lot of areas where physical problems can arise. Moisture, oils, sweat, and debris can affect the overall performance of the Touch ID [8]. Keeping your device (and hands!) clean by using microfiber cloths can certainly help decrease the print fail rate.

Since people are cell phone dominant, meaning they use a designated pocket to hold it and a designated hand to grab it, usually related to which hand they write with, there is a way to increase recognition. The iPhone allows for up to five fingerprints.

But, the iPhone does not know if you are using the same fingerprint for each one registered. Most people usually use their dominant thumb to unlock, so by adding five prints of that same thumb, there is a five times greater chance the device will recognize it and accept it. Of course, the down side is that you are then limited to unlocking only with that finger.

3.5 iPad Air – No Touch ID?

The iPad Air and iPad Mini with Retina, both released shortly after the 5S, do not have the Touch ID feature. There are a few speculations as to why, but primarily Apple’s way of doing things is keeping new technology product-exclusive for as long as possible before branching out and implementing it to other devices.

The most plausible guess is that it was simply a productivity error. There were known problems with 5S production with the Touch ID feature, and seeing as these devices were announced right around the same time, it could just be that there simply was not enough resolve to meet deadlines – so perhaps Touch ID will be implemented on the next generation tablets, most likely to release Quarter 4 of 2014 [5]. Or perhaps this feature is already on its way out from the problems users have been running across with the 5S?

3.6 Adopting This Technology

Apple is not the founder of fingerprint technology. In fact, fingerprint readers have been implemented to security features long before the iPhone was even invented. Motorola had integrated a print reader in one of their smartphones in 2011, a model called the Atrix. Ironically, right after the release of iPhone 5S Motorola sent a tweet intending to put down the idea of fingerprint readers in cell phones [12]. HTC proclaimed shortly after the 5S was announced that they too would have a device with this technology.
The HTC One Max’s fingerprint sensor is more difficult to use and is not as well integrated to the device as the iPhone’s. The sensor itself is located on the back of the device, making it hard to see when you hold it properly (screen facing you). It is located right underneath the protruding glass that covers the camera lens, and since it requires a swiping motion to activate, more than likely your finger will smudge the glass and blur your next photo. It is not as easily felt as the iPhone’s, which is built into the indented home button. This means users often have to physically turn the device over to see where to swipe their finger [13].

4 Android vs. iPhone

4.1 The Big Question

Since the dawn of the smartphone, many companies have been competing to provide the best device. Over the years, the question that prevails (which is still one of most contended debates in regards to mobile smartphones security) is: Which is better, iOS or Android? To answer this question we will not review iOS 1.0 until 7.0 or Android Cupcake (1.5) until its most recent version released Jelly Bean (4.3). This question will be answered on the two most recent operating systems available and wildly used today - Apple’s iOS 7 and Android’s 4.3 Jelly Bean.

Like anything else in life, aesthetics and ease of use cloud our judgment. Humans are likely to jump to the newest and greatest gadget around instead of taking a step back and looking at the security.

According to a survey from Motorola, “Only 12 percent of buyers take security into account when they’re buying a phone” [16]. Everyone else is more intrigued with the design, look, and feel of the device.

To compare these two OS we will use a three layer approach and will use our personal phones for comparison; starting from the lock screen, the application security, and finally, on to advanced security protection. The iPhone 5S is loaded with iOS 7.0 and the Galaxy S4 is currently running Android 4.3 Cyanogen mod.

4.2 Security Options

In the first layer, we are at the lock screen of both phones. With Android we are presented with five options to secure the device:
1. Slide to unlock, which has no security features, it just needs to be utilized in order to gain access into the phone.

2. Face unlock, which uses the front facing camera to scan for facial recognition. If the scan is positive the user may enter the phone.

3. Pattern, in which the user physically traverses a graph like pattern through nodes on the screen. This is fairly secure, but risky if the owner does not clean their touch interface often. If held at the right angle, a person can make out the commonly used swipe pattern from the smudges on the screen.

4. A four digit pin, which is the second most secure. Think of this just like a pin for a bank account with \(10^4\) (10,000) possible combinations.

5. A password, like any other password can be as simple or as complex as the user intends.

In iOS 7 with an iPhone 5S there are only four options:

1. Slide to unlock, which has no security features, it just needed to be utilized to gain access into the phone. The default setting.

2. A four digit pin, which is the third most secure, and behaves the same as Android.

3. A custom password, also like Android. Heavily debated to be the second most secure over the last option.

4. Touch ID, where the user rests their designated print finger on the home button for a brief second. If the scan is positive, the user gains access to the phone. The Touch ID is said to be faulty 1 in every 50,000 attempts [25]. This would make Touch ID five times more secure than a 4 digit passcode whilst providing significantly faster access. In other words, you would need to find 50,000 fingers to attempt to open a locked device; however after five failed attempts the iPhone automatically disables the Touch ID feature until the phone is unlocked with the passcode or password.

Overall these options for both Operating Systems provide great security; but a security-fanatic user who is of the twelve percent (as stated in section 4.1) might be more inclined to choose Android.
4.3 Google Play vs. App Store

The second layer to consider is the Google Play Store vs. Apple's app store. The more technologically inclined are to assume that because Google does not require their apps go through rigorous testing before being released to the public they are more likely to harbor malware. While that may be true, it does not make the App Store invincible or more secure than Google Play.

In fact, recently Apple allowed an app called Jekyll into its app store. This app, 'could send e-mails and text messages, tweet, take photos, steal personal information and device ID numbers, and attack other apps, all without the user ever knowing. It even had a way to direct Apple's Safari browser to a webpage filled with additional malware' [17]. Both app stores are easily corruptible.

Android, being an open source platform allows their users to have full control of their phone and install applications from approved sources and unapproved sources. This gives the user empowerment and less headaches trying to perform work around as in the iPhone. In addition - unlike iOS - Android displays all the information that the application will access and asks for approval before being installed. In the current ROM we are running, it goes even further and contains an option called Privacy Guard. Privacy Guard manages the apps that have access to your personal information regardless of what agreement you might have made upon installation. This is a huge feature only available on Android.

However, even though Android has all these available features, iPhone still comes out on top since it takes such preventative measures to combat malware from being introduced in its app store.

4.4 Advanced Security

The third and final layer that will be discussed is the advanced security options. In Android, once a device is rooted (giving complete control of the operating system to the user), a program called superuser is installed. This app denies access to all apps that are not approved for use. This app also has the ability to set certain time lengths of approval. The times range from: this time only, the next ten minutes, or permanently.

For those who are familiar with Linux operating system, it is essentially the same as a root permission from an application. This can be very useful, but also dangerous to the
inexperienced and could potentially leave your new smartphone bricked (locked and useless) with a voided warranty.

Android also has an encryption feature (not enabled by default). This feature uses AES-CBC 128-bit encryption on the device. Since the default setting is set to off, it takes time to configure; however the setup time is worth the added layer of security.

iOS overpowers Android again by implementing its encryption by default. It uses a significantly greater AES 256-bit encryption, ensuring its users are protected from the moment they begin to use their phones [18]. As one can see, both are very powerful and have their own advantages and disadvantages; however, in the case of security, iOS 7 comes out on top.

In this day and age, the technology we have at our fingers is fascinating, welcoming, and becoming the norm. It is not uncommon to see a family household where each member has two or more electronic devices. Those devices range from iPhones, Android phones, iPads, or Android tablets. We can only imagine what will be available ten years from now.

But all this technology makes us lazy. Why spend hours in a library looking through old books when it is much easier to use a search engine like Google, and with a few clicks, locate exactly what you were looking for?

The disadvantage that we are facing with this technology is from a security stand point. As these devices and innovations are coming out to help us with our daily lives, we are unable to keep up from new attacks and breaches from those who wish to exploit.

The Apple iPhone 5S is a prime example; aesthetically, the iPhone is superb, and its graphical user interface is very forgiving for beginners. So, a why is this such a bad thing? The reason is that we, as average consumers, are looking for devices that are simple yet secure. We are looking for simplicity, since we are too lethargic to punch in a pass word or pin code every time we access it, yet we want the security of a Top Secret government facility.

It is impossible to have both. The iPhone 5S fingerprint reading feature is one of those that cannot be both. As previously discussed, the fingerprint, if approved, not only allows access to navigate the iPhone, but also enables the user to purchase items directly from the iTunes store.

This is a wonderful idea, but from a security point of view it can introduce many issues, like accidental purchases and fraudulent charges that are very difficult to get refunded on.

A brief and very likely situation can occur - suppose someone nefarious [Attacker B] gains access to your phone [User A]. Also suppose User A has their Gmail account linked in their iPhone. This account could contain very sensitive information ranging from personal images to bank
account information. A person's email essentially keeps a digital footprint of their life. When you purchase an item from Amazon, you are sent an email receipt, when you make payments in other accounts you are sent an email. When you create other accounts such as a Facebook or an online banking account you must register it with a legitimate email account. However, when you forget your password, where is the new temporary one sent, or where is the 'change your password' link sent to? Your email of course. All it takes is for one person, Attacker B, to access your phone and your life can be drastically altered.

4.5 Two-Factor Authentication

Yes, you can enable two-factor authentication on your accounts via the Google Authenticator app, which provides users with a randomly generated token that expires after 30 seconds. However, the app located on the device itself. Users might wonder how in the world someone could steal their fingerprint and hack the biometrics of a device. As human beings, we leave our fingerprint everywhere. Anything we touch, a fingerprint can be lifted and copied to bypass a sensor, which has a hard time telling the difference. In addition, "As Deloitte & Touché researchers noted way back in 2006, spoofing a person's biometrics, particularly fingerprints (using lifted prints on gummy bears), and is a legitimate threat. However, it's the second problem with biometrics that is the really big one: once a person's biometrics have been compromised, they will always be compromised" [19].

So the question that remains is how can we use this unique trait? Is it even worth our time and investment? Fingerprint readers will continue to improve now that they have been integrated with one, if not the most popular technology brandings (Apple), other manufactures will follow and implement similar features in their devices. Essentially, it comes down to us computer scientists. We need to create solutions to resolve this issue and others to come in the future.

Like in network security, we propose a layered defense strategy. Usually, in most cases, two is better than one; and the same is true here. We suggest a fix to increase security measures. It is called two-factor authentication; basically an option which can be enabled via the settings that allows a user to be able to authenticate themselves twice: once via the fingerprint readers and again by entering a pin or password. Although gaining access to the device might take a fraction longer, two-factor authentication will greatly increase the overall security of the device.
5 Biometrics

5.1 Different Forms

Biometric Authentication, also known as Biometrics, is a form of technology that makes use of biological traits for identification purposes. Using biometrics as a form of security has really expanded over the last few years quite rapidly. This has happened mostly for two reasons, the first of which is security and the second is convenience. Biometric identifiers are basically split up into two groups: physiological and behavioral. Physiological includes fingerprints, palm prints, facial recognition, retina scanning, DNA, and iris recognition. The second form is behavioral which includes voice and typing rhythm. In computer science, most biometric authentication is used for access control. The most common example of this is using biometrics as a password, although it is not uncommon for biometrics to also be used as an identifier [20].

5.2 Uniqueness

Since biometrics are unique to the individual that they are describing, they tend to be more secure than previous methods of identification and access control. Previous methods for these include photo identification and written passwords. It is much more difficult to fake a retina scanner or palm print than to guess a password or create fake photo identification. Typing a password or constantly carrying photo identification is also much more of a hassle than placing your palm or eye up to a scanner. Granted, the first two methods are not an enormous inconvenience or incredibly difficult, the latter two methods are much easier. Also, a password or photo identification card can be lost or forgotten, whereas a hand or eye cannot be (at least we hope). This contributes to the security of biometrics because not only is it more difficult to fake a palm scanner or retina scanner, but also the authorized individual cannot give or loose these to an unauthorized user.

When biometric data is taken, it verifies certain parts of the scan as match points. These match points are then converted to numeric data via an algorithm. Then, this numeric data is compared to verified match points of how the scan is supposed to be. If the new numeric data is compared and accepted, the new scan is approved. If the data is rejected, then the new scan is denied. All of this information is immediately encrypted to help decrease the chances of identity theft [21].
5.3 Principles of Biometrics

Biometric technology needs to contain a few principles in order to be utilized. The first is that every person needs to contain whatever biological part is being analyzed (ex. If implementing a palm scanner in a business, every employee needs to have a hand). Next, the biological trait needs to be unique and permanent to every individual (ex. All humans have different palm and fingerprints and these prints do not become unrecognizable over time). These biological traits must be measurable. Measurability means that the trait must be able to be measured; and the performance of it needs to happen fast and provide to be accurate and reliable. The final two principles are acceptability and circumvention. Acceptability refers to the technology being precise so that the individual (an employee) providing the scan actually feels protected. More importantly, the one protecting the information (say the employer) needs to feel confident that their private information is guarded by this biometric security. Circumvention refers to how easy these biometric traits can be faked or bypassed. Circumvention can be decreased by multimodal systems. These systems have multiple copies of the same verified match points, therefore increasing the verifications that new match points are compared to. This allows for things like lacerations on fingers during a scanning to go unnoticed [22].
6 Conclusion
6.1 The Future

As the future progresses, biometrics will become more and more entwined with it. Currently, the largest biometrics database system in the world, called the Aadhaar, is located in India. The database serves as the country's National ID program. It is a biometric identity which will follow an individual their entire lifetime, from birth to death. It can be accessed and verified instantly at anytime, anywhere. Currently, there are about 550 million people registered into the database; however India aims to enroll the entire population (just under 1.3 billion) in the near future [23].

The next biometric technology to emerge looks to be brain and heart signals. Researchers at the University of Wolverhampton are leading the way regarding the research and development of this technology, although it appears that this form of biometrics will not be as fast to procure and it looks like it may be quite difficult to read accurately.

While biometrics obviously display an immediate side of safety, there are still quite a few concerns regarding it. While things like fingerprints and the human face cannot be replicated (albeit the use of plastic surgery), they can still be compromised. If the facial image of person is compromised or stolen, nothing can be done regarding the matter. That person's information and image is now available to the public or toward a malicious person. On the other hand, if a password is stolen, it can be cancelled and a new one can be reissued within minutes. This gives the classic password feature an advantage.

Some items require a form of biometric security, like a fireproof safe containing a great sum of money or precious jewels. If a thief wants to steal the contents of the safe they will likely need the person whose biometrics unlock it, which could lead to kidnapping or even worse. Another issue regarding biometrics is privacy. By giving someone a finger print or DNA sample, you are relinquishing some serious personal security and allowing yourself to be put in certain unwanted situations.

DNA can be used in many different ways in today's world. It could be analyzed (perhaps in an unwanted way), given or sold to another organization or person. It can even be used to frame an individual for a crime they did not commit. A fingerprint can also be used in similar unwanted fashions. This added sense of unique security is essentially a double-edged sword [24].
6.2 Wearable Technology
Although it is not really a form of biometrics, there are many technological (and more organic) devices which are being developed for use with the human body. A wonderful example of this is Google Glass. Google Glass is essentially a pair of glasses that can be paired with a smartphone device and can display information on the inside of the glasses that can be controlled via the human eye. A person can open applications and perform many of the same functions simply with the movement and blinking of their eyes, or with a touch of the frame.

Other similar devices are in development as well. Recently, the common wrist watch market has expanded to include devices like the Pebble Smartwatch. The brand Samsung offers a digital watch that can be connected to the Samsung Note 3 via Bluetooth and functions similar to the smartphone itself, bringing a new meaning to hands-free.

While biometrics seem be helping to pave the way of the world’s future, there are certainly some issues and kinks which need to be worked out. As the field increases, there will definitely be new and better forms of biometric security introduced as well.

6.3 Where Does This Leave Us?
While we may be decades or centuries behind technologies found in a Star Trek film, we do have incredible opportunities right in front of us. The invention of the iPhone has revolutionized the way we socialize and keep in contact with our friends and family - one of the basic needs for survival. The App Store has turned middle-class programmers and high school script monkeys into famous millionaires.

Technology is increasing at an exponential rate, which means advancements in security will have to be just as equal, if not more. Without security options protecting our devices we risk everything being exposed. So, please, for the sake of humanity and our future, use a password on your cell phone.

References


<http://searchsecurity.techtarget.com/definition/biometrics>.
<http://uidai.gov.in/what-is-aadhaar.html>
http://www.sngsecurity.co.za/biometrics_systems_advantages_disadvantages.html
THE MCDONALDIZATION OF KNOWLEDGE: DOES STANDARDIZATION PROMOTE OR HINDER INNOVATION?

Patricia Campion
Hakan Kisal
Marcela Van Olphen
Thomas Murphy

George Ritzer's theory of McDonaldization posits that the principles of efficiency, calculability, predictability, and control that run the fast-food industry are expanding to govern more and more areas of our lives. Ritzer applied his theory to numerous fields, including science and education, where we produce and diffuse knowledge. In those fields, and in the context of globalization, standardization has become of greater importance. This panel will examine whether this global standardization helps generate more or better innovations, or whether it stifles creativity. Participants in the panel will present examples from their research experience to support one side of the argument or the other.
CHANGE LEADERSHIP IN A GLOBAL ENVIRONMENT

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ABSTRACT

Peter Schwartz (1996) in “The Art of the Long View” talks of scenarios instead of the traditional strategic approach. The strategy designed with a laser focus often fails as a result of exogenous variables that are not considered. For example, cultural issues in a diverse global environment can undermine the focused strategy if not properly accounted for in the business model. The leadership that drives the culture of an organization is critical variables to any strategic scenario. Conversely, the culture of an organization is critical to the acceptance of any change.

In the turbulent global environment of today's organizations, a conventional approach to leadership in a worldwide environment will not give you the results mandated. Projects and process changes in global organizations require specific attention. Leaders need to identify and overcome the resistance to change that goes beyond charisma and vision by using the skills of true leadership, to consider the attributes of systemic leadership to synthesize changes in culture and change leadership, thereby achieving a vision and strategic objectives.

The authors have reduced some of the primary variables to two major defining elements that affect Change Leadership in a Global Environment namely: Culture and Change Leadership. We offer a synthesis of those elements in the form of “systemic leadership” espoused by Beerel (2012). What has been missing beyond traditional trait and transformation models are the means of empowering leadership in others, understanding and use of emotional intelligence, requirements for continuous organizational learning and the mandate to draw on the knowledge, the passion and the creativity of employees — a Systemic Leadership approach
INTRODUCTION

On a global basis, we know you have to be fast and flexible. If we’re big, we have to act small; to be innovative, productive, and creative. Heil, et al., (1995), said “We’re living in a world with an overcapacity of everything from crackers to jet engines and the only way to grow for most of us is to grab new customers from our competitors while keeping the ones we have. Our products are becoming commodities; quality levels are at their highest ever, and we’re having trouble meeting financial analysts’ demands because our own projections are being undermined by a fickle, rapidly evolving marketplace.” To compete, we must focus on the two primary distinctive competencies in an organization’s environment, people and processes. We shall discuss both and the changes required. Only a highly motivated, highly skilled workforce will be able to surprise and delight those they serve. In these times when people are justifiably concerned about their employment, we have to achieve full employee commitment.

So why haven’t we created the fast, flexible, customer-focused organization internationally competitive? Because leaders have chosen instead, faced with short-term accountabilities and a wide range of uncertainties, to do what will react positively for stock prices, satisfy the stockholders but as a result, ostensibly mortgaging their future.

To bring about those changes, there can be no non-leaders. No one can be exempt. Every person will be expected to lead. They will help design and continually re-engineer every facet of the supply chain process. Heil, et al., (1995), continues, “Provide people with a supportive environment, allow them to contribute and pursue their aspirations, while ensuring personal accountability, and they will accomplish extraordinary things.”

Leadership is really about choices but it’s also about feeling free in making those choices, confident they are well-informed and comfortable. The key is a shared mindset: a unity of culture.
MAJOR IMPACT AREAS
Culture

Schein (2010) described culture in terms of artifacts, expressed beliefs and values, and basic underlying assumptions. “Artifacts are visible structures and observed behavior.” He notes that the observed behavior is difficult to decipher. The expressed beliefs and values speak to the organizations goals, what the organization aspires to and the ideals that present in the organization. However, he also notes that “these beliefs and values may not be in line with the observed behavior and the other artifacts” (p.24). The underlying assumptions are the taken for granted beliefs and values present in the organization that may not be in concert with the artifacts, beliefs and values. Schein’s work illustrates the difficulty in describing a single organization, much less the interaction between organizations.

McDonald and Foster (2013), building on the work of Johnson (1992) further described a ‘cultural web’ as a diverse and inclusive model for defining the attributes of organization culture. All organizations are characterized by a complex relationship of Organizational structures, Control systems, Power structures, Symbols, Stories, Rituals and Routines. One cannot separate a company from its culture. It is simply the way things are done in that particular environment. Often there are cultural barriers that are not intuitively obvious.

In addition, in the global market there are significant differences in the business structure, management style, communications styles, and team work. Internet resources highlight many of the differences (World Business Culture). For example, the business structures in the United States and Germany are hierarchal while in Japan the hierarchy is based on consensus and cooperation. Communications in Germany are direct and truthful, while in Japan they are epitomized by subtlety and nuance. In China, the inability to say no can cause loss of face or embarrassment. Team work varies by country as well. In Germany teams are a group of people working specific leader toward a common goal. Team work in Japan is a part of the culture and consensus is reached before any formal meetings to avoid confrontation. In the US, teams are expected to be fully committed to common goals and be dedicated to their achievement. The paradigm shift needed is how to manage/lead change in a global environment where cultures are very different.
Change

Change is a highly complex process which impacts every person in an organization from the CEO to the shipping clerk. One must provide support for transitions or the force of the existing culture can easily neutralize a proposed change. Certainly, as noted, each culture has its own approach to employees, their motivation, relationship building, and influence. Trompenaars & Hampden-Turner (1998) contrasts the various cultures and reinforces why some management techniques such as six sigma, TQM, etc. succeed in one culture and perform poorly in another. Miller (2002) noted that between 70 and 80% of the organizational transformation attempts fail. Latham (2013) notes that “over the past 20 years, less than 10% of more than 1,000 applications for the Baldrige Award resulted in award” (p.19). In recent years, it has been suggested that organizations have to adapt, not simply to the environment and culture, but also to the views of participating employees.

Numerous processes and methods of introducing change have been offered. Change managers speak in terms of the goal, the team, the what, and the rules related to effective change (Schein, 2013). Others offer a more comprehensive view of addressing the human or cultural side of change. Jones, Aguire, and Calderone (2004), note that the change initiative must start at the top of the organization and involve every layer of the organization. A formal business case, with appropriate measurements is necessary to communicate the message and create ownership in every level within the organization. Leaders must assess the cultural landscape and communicate the message down to the individual level. Nowhere is this more complex than in a global environment where local cultural artifacts are widely varying and require the commitment of senior management in both organizations to commit to the desired vision and end state.

Sponsorship

Crucial to any change initiative is the executive sponsorship from the top that focuses on building the vision, as well as the measurable abject of sin goals. The executive sponsorship team from the CEO and their supporting staff must provide the resources for the project. The Project
Management Institute defines sponsorship as “individual or group within or external to the performing organization that provides the financial resources, in cash or in kind for the project (PMBOK, 2000, p.16). Are financial resources sufficient? The engagement of every individual at every level of the organization in response to the vision started at the top is suggested by Jones, et al. (2004). Jones, et al. emphasize that the initiative must start at the top. Senior management must structure change initiatives with the appropriate purpose, focus and support. The direction, commitment, and priority must be communicated to every level and resistance to the change managed.

Helm and Remington (2005) expand upon the attributes to add that sponsors must have appropriate seniority, the ability and willingness to collaborate with others to insure the success of the program, and to motivate the team through excellent communications skills. The sponsor must have the knowledge of the organization and to objectively challenge the project manager.

Measurement

Sponsors must create the focused strategy, enable, empower and engage people, and measure performance with a view to long term shareholder value. Senior management must review performance to the KPI’s and reinforce the desired behavior. Throughout the process the team must learn and improve in their planning and execution of not only financial measures, but the changes in the culture to be value driven, focused on teamwork and excellence (Jones, et al., 2004). The measurement system must establish the basis for developing the desired leadership culture.

Leadership

At this point in development, most of us realize that the primary role of a leader is managing change. Clawson (2013) claims that leadership is about managing energy; first in yourself and then in those around you. The leader must be deeply committed to an outcome that others can engage in and understand. We will take an overview approach to some of the prevailing leadership concepts including Servant Leadership. (Northouse, 2013, pp.219-251).
 ➢ Trait Leadership – Probably one of the first systematic attempts to study leadership; what innate characteristics made certain people outstanding leaders --- “great man” theories. Stogdill (1948 & 1974) indicated that there was no consistent set of traits that identified leaders from non-leaders across a variety of situations. He suggested that both personality and situational factors were basic to leadership. Some of those traits included persistence, self-confidence, tolerating frustration, influencing other people’s behavior and the absorption of stress.

Emerging in the 1990’s as an important area for assessing the impact of traits on leadership is the concept of emotional intelligence (EQ-1, 2011, Coleman, 2000 and Bar-On, 2006). Further studies on Trait Leadership have been uncertain and ambiguous and the list of traits endless.

 ➢ Skills Approach to Leadership – The Skills approach emphasizes knowledge and abilities needed for effective leadership. Revitalized interest in skills emerged since the ability to solve some of the complex organizational problems came into the forefront. (Katz, 1955). Skills are based on what leaders can accomplish vs. traits based on who leaders are. Katz divides skills into three areas: technical, human, and conceptual. These skills vary however, between management levels. In recent years, (Mumford, et. al., 2000) other skills have been added including career experiences, competencies, the environment and outcomes.

The skills approach has not been widely used in an applied leadership arena. It could however, be used as a base for leadership development programs. Consider that vital for teaching leaders are also aspects of active listening, influence, creative problem solving and conflict resolution skills.

 ➢ Style Approach to Leadership – This focuses on what leaders do rather than who they are. Engagement is in two main areas of behavior: concern for results (task) and concern for people (relationships.) Popular application of this approach is the work of Blake and Mouton on the Managerial Grid (1985) with five major leadership styles: authority-compliance (9, 1), country club management (1, 9), impoverished management (1, 1), middle-of-the-road management (5, 5), and team management (9, 9). This style offers
limited support for effective leadership in areas of productivity or job satisfaction or morale (Yuki, 1994).

- **Situational Style of Leadership** – The concept is that different situations demand different kinds of leadership. An adaption effort on a leader’s style must occur depending on the different situations. Classification is in four styles: high directive – low supportive, high directive – high supportive, low directive – high supportive and low directive – low supportive. The original model was developed by Hersey and Blanchard (1969) with Blanchard (1985) and his Situational Leadership II. This approach is often used as a standard for training leaders. It recognizes the need for leaders to be flexible with adaption of their style to the respective situation. There however, is a degree of ambiguity and lacks clarity in movement from one classification to another. Demographics and use in group settings need further studies.

- **Contingency Style of Leadership** – Effective leadership depends on how the leader’s style fits the situation or context of the setting (Fiedler & Chemers, 1974). It is predictive of leadership effectiveness using a Least Preferred Coworker (LPC) scale which measures the leadership style and three variables (leader – member relations, task structure, and position power) to measure situations. Although backed by a large amount of research, this style relies heavily on the LPC scale, which is questionable as to its validity and usability.

- **Path – Goal Style of Leadership** – This is about leaders helping associates to meet their goals by varying the leaders behavior best suited to the associate’s work they are doing (House, 1971). It depends heavily of the motivational skills of the leader with the basic principles derived from the expectancy theory. It becomes hard to use this theory practically in organizations with so many assumptions that inter-relate. Unlike other styles, path-goal does not promote subordinate involvement in the process. But it does have the redeeming feature of emphasizing the vital ways in which leaders help subordinates.
➢ Leader – Member Exchange (LMX) Theory of Leadership – Takes the approach that leadership is a process on the interactions between leader and follower (Graen & Uhl-Bien, 1995). Further research indicated that a good leader – member exchange leads to the increased productivity of the follower. Trust, respect, and commitment is promoted but the “how to” is not explicit probably given the complexities of the process.

➢ Transformational Leadership – Burns (1978) also looked at the leader – follower relationship but felt that leadership cannot be separated from the needs of the follower. He differentiated between ‘transactional’ leadership (majority of relationships between leader and follower) and ‘transformational’ leadership (raises the level of motivation – knows needs and wants of the follower in order for them to reach their full potential). Assessment can be through a Multi – factor Leadership Questionnaire (MLQ) which measures behavior in seven areas such as consideration, charisma, contingent reward, etc. The validity of the MLQ has been challenged by some further research (Tejeda, Scandura, and Pillai, 2001). It does however, evolve around the growth of the follower and has been widely used for its intuitive appeal. This style also espouses that leadership is not the sole responsibility of a leader but jointly from the relationship between leader and follower.

➢ Authentic Leadership – This style is in the early stages of development but may have some potential. A need exists for leadership that is honest and genuine, trustworthy, transparent, highly communicative, with moral sensitivity and responsiveness to people’s needs and values. To date, there is no single accepted definition but many depending on the emphasis (Chan, 2005). The approaches have not been fully substantiated and there remains a lack of evidence as to its effectiveness.

➢ Appreciative Leadership – Some characteristics of this style (Boonstra, 2013) include knowing values and involving others in the change process, building relationships on trust, and appreciating differences because these differences can be a source of renewal. Conflict can then be used to open a dialogue. It builds on positive aspects – what works.

➢ Learning Leadership – People encouraged to experiment and learn from that experience – Team learning --- Systems Thinking (Senge, 1999).
Team Leadership – This is a rapidly growing area of leadership. Teams are comprised of members with specific roles, sharing common goals and coordinate activities (Levi, 2011). However, inter-relationships are quite complex. Additional studies are required in team diagnosing and action taking.

Servant Leadership – In 1987 Max DePree wrote, “Leadership is an Art.” He not only truly believed in the rule of “abandoning oneself to the strength of others” but practiced it as well. Not just the “expert” others, not just designers or highly educated associates, but all his employees. DePree felt the art of leadership is “liberating people to do what is required of them in the most effective and humane way possible.” He suggested that an ‘elegant’ leader is the ‘servant’ of his followers and their debtor. He removes the obstacles that might prevent positive change to occur thus allowing the follower to reach their full potential. Max DePree was Chairman and CEO of Herman Miller and was the force behind his company continually changing for the future and renewing its enterprising spirit. Leadership he said, is “more tribal than scientific; more a weaving of relationships than an amassing of information.” His philosophy extended to a corporate ‘bill of rights’ for employees; the right to be needed, to be involved, the right to a covenantal relationship, to understand, to affect one’s own destiny, to be accountable, with the right to appeal and make a commitment.

Consider that we are discussing one of the primary distinctive competencies of any organization, namely the people. We must recognize and understand the diversity of people and their talent. We must endorse this liberation based on compassion and sound reasoning. We must admit we cannot as a leader know or do everything. It is thinking about institutional heirs; about stewardship rather than ownership. We talk of stewards in terms of relationships, of legacy, of effectiveness, of civility and value (Greenleaf, 1977).

So in summary, Servant Leadership is about being humble, value-drive and using influence and persuasion rather than command and control (Cialdini, 2007). As Guillaume, et al., (2013) indicated, it is about inspiration rather than position and title; about character and caring rather than skills; about creating an environment of love rather than a culture of fear. It focuses on
others strengths rather than weakness. It is about listening rather than giving orders. It is about stepping inside someone else’s shoes; to understand their reactions and perspective. It is about humility rather than pride, about long-term benefits rather than short-term profits; about a global vision rather than territorial instinct. It is about creating new futures rather than maintaining the status quo.

A SYNTHESIS -- A SYSTEMIC LEADERSHIP APPROACH -- The Primacy of the Whole

“To better understand the melding of culture, change, and leadership, think Systems; think Primacy of the Whole” (Senge, 1994, p.25) who suggests that relationships are, in a genuine sense, more fundamental than things, and that the whole is more valuable than the sum of the parts.

We tend to assume the parts are primary, independent of the whole and see organizations as things rather than patterns of interaction and relationships. But you can’t fix the organization by fixing the managers; you need to examine what is around and impacting them. Try relationships and processes. In our world, the unconnected individual doesn’t exist (Wheatley, 1999. pp.32-34). Gregory Bateson (1980) suggests we stop teaching facts – the ‘thinks’ of knowledge – and focus instead on relationships. None of us appear to exist independent of our relationship with others.

Our corporate experiences have shown we tend to break things down to their individual parts in order to fix them, assuming that this will optimize the whole. Naturally the, a manager’s personal ability comes to the forefront for this narrow approach. But you cannot fix the whole by isolating and correcting the parts (Senge et. al., 1995, pp.190-1).

What we know if we want substantial change, the system and the status quo it represents will be fighting us every step of the way. It has been said many times, that if we put a good person in a bad system, the system wins every time.

Today’s systems thinkers understand the significance of the system that encompasses individuals in their work. This system becomes a substantial determinant of performance when compared to the personal ability of the individual. W. Edwards Deming (1986) stated “Placing
blame on workforces who are only responsible for 15% of mistakes, where the system designed by management is responsible for 85% of the unintended consequences... A manager needs to understand that the performance of anyone is governed largely by the system that he works in... It is the structure of the organization rather than the employees, alone, that holds the key to improving the quality of output.” Supporting Deming, John Seddon (2003) claims simply “it’s the system that governs performance.”

We have talked about some key variables; culture, change and a number of popular leadership approaches. We can deduce that leaders in inspired cultures take a more holistic approach and serve as advocates and change agents for all systems and processes. They are indeed responsible for new cultural imperatives having significance by aligning vision, attitudes, and behaviors. The research also found these ‘best’ leaders: (Best of the Best, 2003)

- Act and initiate change based on the right things to do.
- Radiate goodness, humbleness, caring, and kindness.
- Be humane, real, authentic, appreciative, and balancing hearts and minds.
- Acknowledge the value of others’ contributions.
- Be skilled at inclusion, collaboration and relationships, and dialogue.
- Be accessible, empathetic, committed to the community.

We’ve now alluded to the fact that we live in a highly complex, rapidly changing world, where everything is connected to everything else. It is vital that a more holistic approach is needed to understand, integrate and manage this complexity — no simple solutions or final answers but Systems Thinking tends to have a World View and Paradigm.

b – SYSTEMIC LEADERSHIP

“Leadership is not defined by the exercise of power, but by the capacity to increase the sense of power among those led.” (Follet, 1924, p. 122)

When our generation was first introduced into organizational life, we were subjected to directions emanating from a manager to follow processes for the accomplishment of certain
goals. We tended not to question the validity of those directives; whether they were simply ‘Band-Aids’ or effective for the long term. Leaders were accepted by virtue of their positions in the hierarchy. We simply followed orders. That was the world of leadership, as we knew it.

But leadership is foremost a social activity, one conducted through relationships, with dependency on interacting with colleagues and others, the immediate environment along with the existing culture in and around the organization. As indicated above under culture (Schein, 2010) leadership is influenced by culture, culture by leadership — the environment and person in a symbiotic relationship. Especially in a worldwide marketplace, the environment can affect the leaders ability to perform, constraining attempts to make the changes the organization needs.

Considering the complex network of organizational systems, to remain competitive and meet the rapidly escalating customer demands, traditional top-down leadership is proving inadequate. Traditional leadership development approaches tend to focus on enhancing traits, capabilities and harness the differentiating characteristics of individuals, largely ignoring the organizational context within which the leaders function. The intricacies of interconnecting systems that comprise their organizations sphere are not understood.

An alternative approach to leadership based on systems theory, addresses leadership within the context of the organizational system. We can see that the old methods of governing organizations, people and nations are not functioning well these days. More than ever before humanity needs a drastic change in the way we relate to one another and the planet at large. That is not to say that the autocratic leader, the one man show, the ‘great man’ will disappear. There is lots of fear within organizations and the autocratic approach is still in use by those who thrive on its directive doctrines.

There is another management style present, however. This new style substitutes fear with trust, command and control with support and cooperation and tends to be in balance with the entire system. This style moves away from approaches where leader-specific traits and personalities are the focus of leadership in the organization, but is more focused on the integrated and complex systems including among others, culture, technology, change processes and the leader’s
relationship to the networks. This style is a ‘tipping point,’ where management ends and leadership begins. Cohesion and alignment between people and their values and behaviors, become vital. It is called “Systemic Leadership.”

From the premise of systemic leadership, it follows that services and products are delivered to stakeholders and markets through systems, not by individuals with specific leadership traits. From this perspective, the purpose of leadership is to optimize and enhance these systems. Successful leaders are those who are able to strategically harness the knowledge of systems and synchronize them; along with understanding the complexities of the internal and external factors of change.

The advantages of the many are amplified by James Surowieski (2005) in his book “The Wisdom of Crowds.” He states “If you put together a big enough and diverse enough group of people and ask them to make decisions affecting matters of general interest, that group’s decision will over time be intellectually superior to the individual, no matter how smart or well informed he is.”

Highly qualified employees and teams need empowerment, self-organization and cooperative structures to achieve optimization. Certain conditions can support a system of systemic leadership in an organization, including strong organizational values, fostering of high-level collaboration, support of relationship, building of a trust environment, appreciation of diversity and humility and continually adjusting to the demands brought about by change and its impact on the organizational network.

The key attitude in the understanding and the implementing of systemic leadership (Kunovski, 2010) is that the “system is governed by the wisdom of the system itself (collective intelligence).” The new leaders will be in the service of the system (see Servant Leadership above). They will feed the systemic wisdom back into the system itself. The leader is being led by the wisdom of the people he leads. In such a case we do not have a leader but rather a shared ownership and responsibility or a “systemic shared leadership.” This is how we can govern our organization, nation or indeed, our humanity. This is how leadership sustainability can be accomplished even on a global basis.
One of the key exponents of Systemic Leadership is Annabel Beerel (2012) with an approach that addresses systemic challenges that comes with a highly interdependent world. She “recognizes that groups, organizations, and societies comprise a plurality of stakeholders with competing interests and needs. Due to the growing interconnectivity of nations, culture, societies and groups, new realities present complex systemic challenges … Systemic Leadership tackles the challenge of change in an integrative and holistic way.”

Let’s take a look at some key assumptions of the Systemic Leadership approach:

- There is a symbiotic relationship between leadership and the organization as a system with the system affecting leadership as much as leadership affecting the system. Systemic leaders use a systems mindset to understand the changing nature of reality.
- Consider that existing systems have considerable negative power, with a built-in tendency to favor the status quo.
- Observes the changing networks and relationships within a system.
- Acting systemically means taking the whole system into account rather than selecting individual parts of the system. Looking at the big picture demands observing the operations from a balcony view --- an observer view
- No one person or group of people can know all the perspectives of reality.
- Leadership is defined by the tasks performed rather than skills or traits of particular individuals.
- Leadership activity is not confined to top management or tied to elites or authority. There is a need to distribute leadership throughout the organization.
- Leadership is needed to improve the system, and one of the ways the system needs to change is to make it more enabling of people’s leadership.
- Leadership is not something that only those in positions of formal or informal authority are able or expected to do. Therefore, let’s refer to ‘exercising leadership’ rather than referring to ‘the leader’ or ‘the leadership.’ Anyone can conceivably exercise leadership from anywhere in the organizational hierarchy. Function, discipline or level in the organization should not inhibit the opportunity to exercise leadership.
- Managers will not voluntarily take a lead if the organization fails to provide them with clear direction, a clearly accountable job, challenges and a sense of security.
Focuses on enhancing the adaptive capacity of the organization by optimizing its learning potential. Systemic leaders understand that adaptive organizations are continuous learning organizations.

Sees leadership and followership as ‘mirror images’ rather than as subject and object. Everyone is expected to exercise leadership at times while also being a ‘follower’ at other times when someone else is in the leadership role.

Shared motives and goals throughout.

Creates a network of alliances across formal and informal authority boundaries.

Embraces and mobilizes others to accept change in an energetic and committed way.

The systemic model (Tate, 2013) offers the managers a solution and may persuade them to change when they see it gives them a more important role, one focused on how well the system performs holistically and even at a world paradigm level.

c – RESISTANCE TO SYSTEMIC LEADERSHIP

We can expect that any change (see Change section above) that threatens the status quo to experience difficulty. Systemic Leadership undermines the present fundamental belief about management and leadership. Tate (2013) lists some considerations:

- Can provide deficient leaders with a possible “cop out” since they can blame the system.
- Certainly challenges ingrained belief that leadership is about individual leaders.
- Runs counter to a competency/behavioral framework in which organizations have made a big investment.
- Can be difficult to understand, especially if they lack awareness of organization dynamics, the concept of systems, or Organizational Development methods. Certainly they prefer leaders and leadership to be simple, black and white, good and bad, and easily judged.
- Takes too long to make a difference.
- Letting go may threaten some leaders’ self concept and a cultural way of being. It may be difficult for the whole chain to become less concerned with exercising hierarchal control in order to be able to ‘liberate’ leadership. Not all managers want to give away part of their decision-making power, responsibilities or control. Not all want to receive more.
SUMMARY

So we have Systemic Leadership — an underlying focus on Systems thinking with emphasis on a Process Orientation — constantly measuring the culture, the pulse and health of the whole system — the entire global environment.

Leaders need to learn how to facilitate processes within the system, to focus on establishing supporting relationships that nurtures growth, development, creativity, value-added processes, and problem solving instead of focusing solely on tasks. By having increased participation within the organization, there are more observers to interpret data and information. Participation in leadership allows people to deal with uncertainties and provides opportunities to interpret that data in a multitude of ways. Organizations then become more intelligent through this holistic approach.

A new leadership agenda is long overdue. Reform, based on continuous improvement can only occur if more leadership forces are heralded. Leadership needs to be released.

In addition, the concept of power needs to be redefined. Power is engendered through relationships and should be shared. Everyone is not only capable, but must participate in that leadership. Leaders are needed to help min developing a clear identity especially in this world of chaos and confusion. Bosses are no longer needed. Leadership at all levels is needed to help people understand that the best work is accomplished through participation. In recognizing the human need for meaning, Wheatley (2006) believes that we can influence change anywhere. There must be new meaning and descriptions for leaders, stewards, servants, and facilitators.

We are in the midst of a radical transition in developing a new worldview. The old ways of doing things is slowly disintegrating, yet the new ways have yet to emerge with any substantial support. Wheatley (2006) urges us to embark on the journey together. The answer may lie in a Systemic Leadership approach — in a One World Scenario.

AREA FOR FUTURE CHALLENGES
Now comes the true challenge. Making it happen. Recently Zappos announced they are in the middle of instituting a entirely new organization structure, focusing their 1500 workers, 400 circles into what is called a Holacracy. No more managers. No more job titles. No more typical corporate structure. Authority is distributed with everyone performing as a leader, an innovative entrepreneur. They share a common purpose and are accountable for specific roles on behalf of the corporation. (Sweeney, C. and Gosfield, J. Fast Company, Jan. 6, 2014.)

The future will show that companies will experience positive results when governed by this organic systemic leadership and are more sustainable. This will tend to verify that the system is always wiser than the leader or the leadership team presently in control.

In the systemic mind, leadership is required to achieve two mandated goals: to safeguard the future while also considering current business. This tends to challenge today’s paradigm emphasis on short-term results.

The authors invite you to the land of ‘Nobility.’ To make things happen...

“I’ve seen knights in armor panic at the first sight of battle. I’ve seen the lowliest unarmed squire pull a spear from his own body to defend a dying horse. Nobility is not a birthright; it is defined by one’s actions.

~~~~ Kevin Costner as Robin Hood, Robin Hood, Prince of Thieves.

REFERENCES


“Best of the Best” Report (2003), First Light PMV Inc., Toronto, ON.


EQ-1 (2011). Emotional Intelligence. MHS, Toronto, ON.


Martin, J. (1992), *Cultures in Organizations; Three Perspectives*, New York, Oxford University Press


PMBOK, Project Management Institute, 2000


World Business Culture (http://www.worldbusinessculture.com/)

PANEL: INNOVATION & CHALLENGES IN LATIN AMERICA

Active Moderator: Dr. David Felsen

Roger Volkema
Pontificia Universidade Catolica do Rio de Janeiro
Ricardo Alencar
Pontificia Universidade Catolica do Rio de Janeiro
Ricardo Gomes
Georgia State University

The panel explored different aspects of innovations and challenges in particularly Brazil. Dr. Roger Volkema spoke about higher education in Brazil while Dr. Ricardo Alencar discussed the challenges and initiatives of internationalization of Brazilian universities. Dr. Ricardo Gomes spoke about innovation in public administration from the University of Brasila.
NICARAGUA: THE COUNTRY AND ITS ECONOMY

Janet Franks
Joyce Bergere

Abstract

This paper explores the Central American country of Nicaragua, a country plagued by war, corruption, and an uneducated society. It will discuss the history and reasons for the current condition of the country. The paper will also go in depth about how these issues developed and what has been done in recent years to improve Nicaragua on many levels. Issues discussed in the paper include its current education system, current economy, international relations, and the future economic outlook. While the struggles in Nicaragua seem insurmountable, there is indication that some things are improving. The Nicaraguan people have great hope for a more stabilized country in their not-too-distant future.

Nicaragua, situated between Honduras to the north and Costa Rica to the south, is the largest of the Central American countries. Since its independence from Spain in 1821, Nicaragua has experienced decades of struggles through dictatorships and corruption (The Giving Lens, 2013).

A movement formed by Augusto Cesar Sandino, a revolutionist and hero during U.S. occupation from 1927 to 1933, eventually led to the creation of the Sandinista party (Nicaragua Economy Profile, 2011). During the occupation, a counter-rebel group was formed by Anastasio Somoza, who began a brutal dictatorship lasting 43 years (Nicaragua Economy Profile, 2011). Part of the Somoza government strategy to control the Nicaraguan people was to intentionally keep them illiterate. Eventually the Sandinistas overthrew the Somoza government, only to form another brutal and corrupt government (Nicaragua Economy Profile, 2011).

The Contra War, beginning in 1979 and lasting until 1990, was a civil war uprising against the Sandinista government taking power (Nicaragua Economy Profile, 2011). Current President Daniel Ortega rose up during that time through the Sandinista government. Nicaragua, fragile from previous conflicts, was left war-torn; many citizens died, villages were destroyed, human rights violations were rampant, and there was virtually no health or education
Education in Nicaragua

Education in Nicaragua has experienced periods of both advancement and set-backs. Towards the end of the 19th century, the education system had begun experiencing improvements through purposeful education development. However, under Somoza’s rule, investing in education for the Nicaraguan people became a lesser priority. During this time, the Somoza government was primarily interested in advancing their power and political issues. This in turn significantly decreased spending towards education, and the Nicaraguan people suffered as a result. In 1970, only 22% of their children completed primary education, and because of limited educational opportunities, many youth resorted to jobs in the manual labor market (New Media Holdings, Inc., 2013).

In 1979, when the Sandinistas took over Nicaragua’s government, education became somewhat of a higher priority, and improvements began to take shape (International Living, 2013). The Sandinista government was able to improve the overall economic status of Nicaragua, which trickled down to its education system. During the 1980s, a literacy campaign during this timeframe also decreased the illiteracy rate from 50% to 23% (International Living, 2013). Because Nicaragua suffers from a long history of struggles, the country continues to experience more set-backs in the education of its people. In 2000, the illiteracy rate rose to 35.7%, though it had been reduced to as low as 13% in 1975 (International Living, 2013).

Nicaragua has the smallest education budget of all the Latin American countries. Education spending increased in 2013, with the Education Ministry will receiving $300 million for its budget, totaling $33 million more than in 2012 (Hutt, 2013). Though the current education system in Nicaragua, including primary and secondary education, is free to all its citizens, requirements for school uniforms, books, and supplies prevent the poorest children from attending school. Therefore, poverty is a major contributor to the failure of Nicaragua’s education system (Hutt, 2013). However, today more students attend school, fewer drop out, and test-success rates are improving.
Current Economy in Nicaragua

Nicaragua remains the poorest country in Central America. Much of the reason for this can be attributed to war, corruption, lack of education, and low-skilled workers. In 2006, The US - Central America Free Trade Agreement (CAFTA) sought to expand export opportunities for many of the countries in that region (International Living, 2013). For Nicaragua, this agreement allowed the country to more easily export their goods and allow more investment capital into the country. Although some improvements to the economy have been seen as a result, it provided very little economic improvement to the poorest and neediest of Nicaragua (International Living, 2013).

In Nicaraguan history, agriculture was the primary industry to support its economy; though today it makes up only 17.5% of the economy (Nicaragua Economy Profile, 2013). Agriculture products that Nicaragua currently produces include its primary exports of coffee and beans; and beef, cotton, plantains, sugar cane and pineapple. Other primary exports are textiles and apparel. As with other Central American countries, the service sector has become a large part of the economy, making up 56.7% of the GDP (Nicaragua Economy Profile, 2013). Industry, such as food processing, chemicals, machinery and metals products, make up 25.8% of the GDP. Agricultural jobs encompass 28% of the labor market; the service industry makes up 53%; and industrial jobs make up 19% (Nicaragua Economy Profile, 2013). Consumer goods, raw materials, petroleum and equipment make up the majority of imported goods (International Living, 2013).

After a few straight years of slight economic growth in Nicaragua, the economy is expected to slow to about a 4.5% growth rate of the next three years (Rogers, 2013). This current projection is also met with high caution, as slight variances in factors such as lower export rates, a slower U.S. economy, or a reduction of critical Venezuelan aid, this number could be way off and the economy could be suppressed to around 2.5%, according to the Nicaraguan Foundation of Economic and Social Development (Rogers, 2013).

The Sandinista government has received some good marks for improving the economy and welfare of the country, but is still lacking in true economic stability. The unemployment rate in 2012 was 7.4%, but the underemployment was nearly 47% (Nicaragua Economy Profile, 2013). Primary keys to strengthening the economy, according to the Nicaraguan Foundation of
Economic and Social Development (FUNIDES), are “consolidating macroeconomic stability, diversifying our sources of foreign aid, increasing productivity, improving infrastructure, health and education, and strengthening our institutional democracy and governability” (Rogers, 2013). Foreign aid sources and use are still a concern. Eighty percent of foreign aid coming into the country is in the form of loans, while only 20% are donations. But as Nicaragua consumes about 32% more than it actually produces, the numbers are becoming increasingly problematic (Rogers, 2013).

United States – Nicaragua Relations

The United States and Nicaragua have had a rocky relationship throughout history, including U.S. occupation and intervention in its affairs; and rebellion, dictatorships, and assassinations (Bureau of Western Hemisphere Affairs, 2013). Most of these conflicts are a result of generous U.S. financial support conditioned on democratic reforms. These measures have included training of new democratic leaders, fostering civil society participation, reinforcing independent media, and advancing local governance (Bureau of Western Hemisphere Affairs, 2013). Other U.S. initiatives have been directed at facilitating economic growth and reducing poverty with market-led food programs; military engagement and prevention training to promote safety in underserved areas with high crime activity; and forgiveness of $259.5 million in debt to the U.S. in 1991 (Library of Congress, 1993).

While the assistance is well received, U.S. interference in Nicaragua has caused resistance and conflict. Nicaragua has been expected to implement free-market reforms; privatize industries, reinstate illegally-seized property to owners; and withdraw the 1984 international lawsuit against the U.S. for the Contra war, which charges the U.S. of violating international law by “supporting, aiding, and directing military and paramilitary actions in and against Nicaragua” (Library of Congress, 1993). The country is not complying with the conditions, however, and is unlikely to improve on its end of the bargain as long as the Sandinistas are in power. Further increasing tensions, large sums of money from Venezuela were unaccounted for in 2012, prompting the U.S. to restrict assistance to Nicaragua for violating the international standard of fiscal transparency (Bureau of Western Hemisphere Affairs, 2013). This resulted in the U.S. imposing limits on security assistance, counter-narcotic programs, and development initiatives.
Recent elections in Nicaragua have been denounced by the U.S. and other countries as “seriously flawed,” resulting in the re-election of President Daniel Ortega (Rogers, 2012, para. 1) and other Sandinista party members. (The re-election bid itself is illegal in Nicaragua’s constitution.) The party’s maneuvers have increased its authoritarian reach to the extent of controlling all government branches (Rogers, 2012), imposing controls on non-Sandinista residents such as massive layoffs and employment discrimination, restrictions on entrepreneurs, and political persecution (Guevara Mena, 2012). Furthermore, the Ortega family and supporters currently own most of the country’s media, from the generous financial backing of former Venezuelan President Hugo Chavez. The U.S. has declared that these actions undermine democratic efforts and citizens’ rights in holding their government accountable (Bureau of Western Hemisphere Affairs, 2013).

Human rights abuses in Nicaragua are widespread and include violence against women, restricting voting rights, police brutality, extensive government politicization and corruption, limitations of freedom of press to include harassment and intimidation of journalists and nongovernmental organizations (NGOs), human trafficking, and discrimination against minorities (Rogers, 2012). Property seizures continue to be a very serious problem, with restitution a lengthy process and many cases still unresolved since the 1980s. Furthermore, corrupt Sandinista government officials are free to act unlawfully with impunity (Rogers, 2012).

There is strong concern among U.S. government officials about the Syrian Deputy Foreign Minister’s recent visit to Nicaragua and other oppressive Latin American countries of Venezuela, Cuba, and Ecuador, which follows the previous year’s visit from Iran’s President Ahmadinejad (Sutton & Cruz, 2012). According to the Chairman of the House Foreign Affairs Committee, U.S. Representative Ileana Ros-Lehtinen (R-FL), this is tantamount to thumbing their noses at the U.S. and therefore should be answered by stricter sanctions to these “sadistic tyrants...[and their] state sponsors of terrorism” (para. 5).

Another serious matter that the U.S. is watching is the Russian government’s renewed interest in Nicaragua since the Sandinistas’ return to power in 2006 (Berman, 2013). With plans to create a canal similar to Panama’s, and other possible benefits, Nicaragua has attracted Russia’s financial support for projects that include modernizing its weapons, funding a military training center, creating a munitions disposal plant, and constructing a counter-narcotics
training site. Since the Sandinista party was a Soviet Union ally during the Cold War, one concern is that Russia may be strengthening its regional intelligence capabilities (Berman, 2013).

**Investment in Nicaragua**

Both the U.S. and Nicaragua are members of CAFTA-DR (U.S.-Central America-Dominican Republic Free Trade Agreement), which helps promote investment and trade toward economic development by eliminating tariffs, reducing barriers, opening up markets, and encouraging transparency (Western Hemisphere Affairs, 2013). There are currently over 125 U.S.-affiliated companies in Nicaragua, representing energy, textiles and apparels, financial services, fisheries, and manufacturing industries (Bureau of Western Hemisphere Affairs, 2013). Though the Foreign Direct Investment (FDI) in the country more than tripled from 2006 ($282.3 million) to 2011 ($967.9 million), the first half of 2012 showed investment tapering off 20% from the previous year (Bureau of Economic & Business Affairs, 2013). This is probably due to investors becoming more uncertain about the direction the country is headed, along with election fraud allegations and widespread corruption.

According to the U.S. Department of State’s 2013 Investment Climate Statement, Nicaragua presents serious challenges for foreign investors. These include President Ortega’s opposition to U.S. democratic reforms and privatization of energy and telecommunications industries, which are heavily invested in by foreign companies (Bureau of Economic & Business Affairs, 2013), and his staunch support for socialism. A long-standing point of contention is the Sandinistas’ confiscation of 28,000 properties owned by U.S. citizens in Nicaragua during the 1980s, of which most cases have not been resolved (Bureau of Economic & Business Affairs, 2013). Furthermore, property infringements and invasions continue against U.S. citizens, with some recent cases turning violent.

Corruption in the Nicaraguan government carries over into the legal system. Foreign investors are discriminated against in political disputes and those where the opposing parties have personal connections (Bureau of Economic & Business Affairs, 2013). Additionally, U.S. investors have been defrauded out of large sums of money due to scams.

Investors often complain about the arbitrary, slow, and negligent application of law favoring Nicaraguan citizens over foreigners (Bureau of Economic & Business Affairs, 2013). Furthermore, contracts and judicial rulings are unevenly enforced and unpredictable, and
bribery is commonplace (Becker, 2011). On the positive side, however, Nicaragua has been named Latin America’s “second best country” (after Brazil) for investment in renewable energy, with 25% of the country without electricity (Bureau of Economic & Business Affairs, 2013).

Future Economic Outlook

The International Living magazine, a publication that promotes living and investing in other countries, does not paint a bright future for Nicaragua’s economic growth (International Living, 2013). It contends that Ortega’s mixed business dealings with local and Venezuelan oil companies, and the non-enforcement of laws, could hamper short-term investment in the country. The magazine also notes that election fraud in 2008 caused foreign investors to cut back on their investments in Nicaragua, which the country needs in order to pay internal and external debt obligations. With the recent 2012 election declared fraudulent by the U.S. and other countries, this will likely hurt the economy even more. In fact, Moody’s Investment Service also expects that foreign investors will be less likely to donate much needed capital to Nicaragua because of its corrupt elections (Rogers, 2012). Moody also states that the country suffers from “a large infrastructure investment gap, low human capital, and weak institutions” (para. 4), all of which it needs to resolve in order to improve economic development and reduce its high level of poverty. According to the International Monetary Fund (IMF), the country’s economy could also be vulnerable due to policy uncertainty in Venezuela, which could hurt oil import subsidies. Additionally, the serious issue of property seizures does not bode well for foreign investment in Nicaragua.

The U.S. has encouraged Nicaragua to do what is necessary to help its economy. In a recent Statement of the Deputy U.S. Trade Representative report, the country’s improvements were noted along with cautions to continue moving toward free market reforms, addressing governance problems, such as enforcing laws and non-discriminatory practices, and upholding fiscal transparency (Targeted News Service, 2012).

Overall, Nicaragua has many issues that seem insurmountable. U.S. involvement is resisted and unwelcome beyond any financial assistance. The conditions attached are contrary to the Sandinista government currently in power, and this causes an ever-widening divide between the two countries. Gaps in financial assistance created by U.S. sanctions seem to be
getting filled by other countries with serious current or historic conflict with the U.S., such as Iran and Russia, which are strengthening their ties to Nicaragua. Furthermore, as U.S. government and investors lose confidence in the country’s government and business practices, it is likely that they will continue to decrease their much needed support to the country. This could make it a perfect storm for anti-democratic governments to gain a stronghold in Nicaragua, creating dangerous conditions ripe for conflict.

References


Nicaragua Economy Profile (2013, February.). Index Mundi. Available at www.indexmundi.com/nicaragua/economy_profile.html


A UNIVERSITY ON THE LEADING EDGE OF INNOVATION

Andrew Gold

John Lax

Susan Colaric

Saint Leo University prides itself on incorporating leading edge technology to deliver the best product possible. Many times, this involves incorporating technology into the classroom, but we are also focused on other aspects of the University. Three recent examples of our commitment to the latest technological advancements include the Saint Leo Pride Consulting Group, the Saint Leo Polling Institute, and a Gates Foundation grant that focuses on applying adaptive learning technologies directly into the classroom. This session described these efforts and how they incorporate leading edge technology to achieve their goals.
SERVANT LEADERSHIP THEORY: AN INNOVATION AND INTERNATIONALIZATION DRIVER

Charles Dennis Hale, EdD
Carol G. Walker, PhD.

The presentation explores SLT theory to identify those leader attributes and behaviors which fosters organizational creativity and innovation to improve competitiveness and survivability. A model, based on prior research, will be presented, which is intended to guide organizational decision-maker intervention to foster both innovation and international competitiveness. Group discussions will be part of the presentation. Conversations will focus on applying a decision-making model to workplace experiences leading the audience to a richer understanding of the attributes of servant leadership.


Greenleaf (1977, p. 21) argues that “the great leader is seen as servant first” or put another way, “the servant leader is servant first” (p. 27). Greenleaf goes on to note, “It [leadership] begins with the natural feeling that one wants to serve, to serve first. Then conscious choice brings one to aspire to lead” (p. 27). Greenleaf labels his concept as servant leadership. Greenleaf (2003) drew his concept of the “servant leader” from nearly 40 years corporate experience at AT&T (between the 1920’s and 160’s) and Hermann Hesse’s Journey to the East (p. 248). Greenleaf goes on to assert that the true test of effectiveness for a servant leader is, “[T]o make sure that other people’s highest priority needs are being served...Do those served grow as persons?” (p. 27).

A central theme in servant leadership theory (SLT) is the role behaviors of the leader with respect to his or her followers and the organization’s surrounding community, including customers, vendors, and those affected by the organization’s processes, tasks, and product. Research has revealed several leader attributes and behaviors common to most SLT expressions, some of which are summarized in Table 1. The attributes suggest that a servant leader possess
integrity, humanity, stability, and self-confidence. These attributes are expressed in consistent, observable behaviors.

The focus on the leader as servant to followers and the organization’s surrounding community makes SLT widely applicable to a variety of tasks and contexts. Indeed, Bekker (2010, p. 56) points out that four of the world’s major theological systems (Judaism, Buddhism, Christianity, and Islam) incorporate SLT in some form. Dirk van Dierendonck and Laurens Rook (2010, pp. 155-165) argue that SLT is quite suited to fostering innovation and creativity. They argue that particular servant leadership characteristics directly affect mediating variables (e.g., empowerment, accountability, authenticity, courage, etc.) which themselves stimulate creativity (p. 156), which then fosters innovation.

As economic globalization continues to accelerate, organizations must continually innovate their products and services to serve customers, improve quality, and lower costs in order to remain viable (Hill, 2011). Organizational creativity and innovation are critical competitive advantages as companies internationalize to compete globally.

References

References

Table 1: Authentic Servant Leadership Attributes and Behaviors

<table>
<thead>
<tr>
<th>Authentic Attribute</th>
<th>Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desire to Serve</td>
<td>Decision to Serve, Service</td>
</tr>
<tr>
<td>Concern for Others</td>
<td>Altruism, Puts People First (i.e., Meets Others Priority Needs), Compassionate, Empathetic, Appreciates</td>
</tr>
<tr>
<td>Self-Confident</td>
<td>Empowers, Models Behavior and Attitudes</td>
</tr>
<tr>
<td>Self-Secure</td>
<td>Trusts Others, Lacks Fear</td>
</tr>
<tr>
<td>Moral</td>
<td>Honesty, Integrity, Fairness, Holds Self and Others Accountable</td>
</tr>
<tr>
<td>Foresight</td>
<td>Vision, Risk-Taking or Pioneering, Aware and Realistic, Generates Ideas, Initiates Action</td>
</tr>
<tr>
<td>Responsible</td>
<td>Stewardship</td>
</tr>
<tr>
<td>Knowledgeable (Cognitive)</td>
<td>Competence</td>
</tr>
<tr>
<td>Seeker</td>
<td>Enables Personal Growth, Accepts Feedback (i.e., Listens to Learn), Renews Him or Herself</td>
</tr>
<tr>
<td>Stable (Mentally &amp; Emotionally)</td>
<td>Enables Stability and Consistency</td>
</tr>
<tr>
<td>Builder</td>
<td>Builds Community (i.e., Promotes the Common Good), Mediates Conflicts Provides Structure, Teaches, Listens, Communicates, Mentors, Shares Power</td>
</tr>
<tr>
<td>Emotionally Intelligent</td>
<td>Exhibits Stress Tolerance, Exercises Considered Judgment, Is Emotionally Stable and Mature</td>
</tr>
</tbody>
</table>

Note. Table 1 was originally presented in Hale (2013).
THE EFFECT OF SARBANES-OXLEY SECTION 203 ON AUDIT QUALITY: A LOOK AT FRAUDULENT FINANCIAL REPORTING

Kelli Horne

Abstract

The purpose of this research is to determine if audit quality has increased as measured by the number of cases of fraudulent financial reporting following the implementation of the Sarbanes-Oxley Act 2002. Sarbanes-Oxley Section 203 initiated mandatory audit-partner rotation every five years to promote auditor independence. The two main streams of research related to audit quality and auditor independence involve auditor rotation and auditor tenure. Prior research finds fraudulent financial reporting is more likely to occur in the first three years of the audit firm-client relationship. Current research debates the gains or losses from firm or just partner rotation: changes in knowledge transfer, in corporate governance, in discretionary accruals and in fraudulent financial reporting in general. If the ability to identify fraudulent financial reporting has not decreased in the first three years of the auditor-client relationship in the post Sarbanes-Oxley period, then the initiative of mandatory audit-partner rotation in this new era of conservatism may prove ineffective in reducing fraudulent reporting. This hypothesis is tested with firms cited for fraudulent reporting from 1993 through 2012.

Introduction

The purpose of this research is to determine if audit quality has increased as measured by the number of cases of fraudulent financial reporting following the implementation of the Sarbanes-Oxley Act 2002. Users, auditors, regulators, and society may have different views as to what constitutes audit quality. Audit quality for purposes of this study is defined as “the market assessed joint probability that a given auditor will both discover a breach in a client’s accounting system, and report the breach” DeAngelo (1981, 186). Fraudulent financial reporting is defined as the company and/or its officers being charged by the SEC with a violation of rule 10(b)-5 of the 1934 Securities Exchange Act in an Accounting and Auditing Enforcement Release (AAER).

Sarbanes-Oxley Section 203, was enacted by the United States Congress, to promote auditor independence and improve audit quality (SOX 2002, Title II, Section 203). If investors do not believe that the auditor is independent from the issuer, they will derive little confidence from
the auditor’s opinion and will be far less likely to invest in the issuer’s securities. Fostering investor confidence, therefore, requires not only that auditors be independent of audit clients, but also that investors perceive the auditor to be independent (SEC, 2000). Loss of actual independence or perception of independence may be catastrophic for client employees, shareholders, creditors, and the markets and society (Olazabal & Almer, 2001).

Much of the debate surrounding SOX 203 compliance issues include both costs and audit quality related to tenure resulting from audit firm rotation. Practitioners feel SOX was enacted hastily in a very tumultuous environment following the Enron scandal. The concern stems from the lack of application of scientific research methods to the SOX mandates. Defond and Francis (2005) encourage the use of scientific methods to bring rigor and discipline in addressing the criticisms of SOX. Furthermore, concern that mandatory audit firm rotation may yet be proposed by the SEC deems more research is needed.

The two main streams of research related to audit quality and auditor independence involve audit rotation and audit tenure. The length of the client-auditor relationship is likely to impact the quality of the audit. The ongoing debate among practitioners, academics, and regulators involves the proper length of the tenure that will ensure investor perception of auditor independence and enhanced audit quality. Research suggests that longer auditor tenure is associated with greater earnings quality (Myers, Myers, & Omer, 2003).

Specifically related to the frequency of financial statement fraud, Carcello and Nagy (2004) find that fraudulent financial reporting is more likely to occur in the first three years of the auditor-client relationship. This present study is important because it will compare the period 1993 through 2002 (prior to the SOX mandate) to the period 2003 through 2012 (after the SOX mandate) and examine if the mandate has been effective. In the U.S., prior to the passage of SOX 203, the audit partner was not required to sign the audit report in their own name deeming it impossible to perform an empirical evaluation of whether a policy of partner rotation is beneficial to audit quality. However, since the 2002 passage mandated audit partner rotation a comparison can now be made to determine the effect of audit partner rotation on the cases of fraudulent financial reporting. It now becomes imperative to examine the period within which the partner rotation mandate is in place to monitor its effectiveness, and if it is found not to have been effective determine other ways to improve audit quality. The intention of this paper is not to resolve the debate between short or long auditor tenure effects on audit quality but to determine if the SOX mandate related to auditor partner rotation has, in fact, reduced the
occurrence of fraudulent financial reporting. This study contributes to the literature and seeks to answer the question as to whether the SEC achieved its objective of increasing audit quality and auditor independence. If the ability to identify fraudulent financial reporting has not decreased in the post Sarbanes-Oxley period, then the initiative of mandatory audit-partner rotation in this new era of conservatism may prove ineffective in reducing fraudulent reporting.

Literature Review

Research Problem Overview

Audit Quality

The necessity of auditor independence, both in fact and in perception, is accepted (Nelson, 2006). Ensuring auditor independence has been a long-standing objective of good corporate governance. Financial statement credibility is determined by independent external audits (Watts & Zimmerman, 1986). Audit quality comprises actual and perceived quality. Actual quality is correlated with the level of the risk of reporting a material error in the financial accounts, while perceived quality is how effective users of financial statements believe the auditor is at reducing material misstatements (Jackson, Moldrich, & Roebuck, 2008). Auditors lacking independence are more hesitant in their efforts to report a discovered breach (Gates, Lowe, & Philip, 2007). Rotation may yet be necessary to strengthen auditor independence (GAO, 2003).

The AICPA acknowledges the importance of investor perceptions of auditor independence. Former chairman, Robert Elliott says, “[The AICPA] believe[s] that appearances are very important and capital markets require confidence in financial statements and audit reports, and the member firms of the AICPA are basing their business of auditing on their reputations, and that is heavily affected by appearance” (Elliott, 2000).

While there is no doubt the audit profession needs improvement, pre-sox and post-sox research experience difficulty in defining audit failure (DeFond & Francis, 2005). Measures including abnormal accruals, earnings restatements, and going concern opinions have all been used as measures. Studies that used restatements (Reynolds & Francis, 2000) found direct evidence the auditor failed to detect or report an accounting treatment inconsistent with GAAP.

The literature is flush with research on audit firm rotation, both firm and partner, and auditor tenure. However, the effectiveness of the SOX 2002 mandate of audit partner rotation is still an open question.
Audit Tenure and Audit Quality

Research has proven the tenure of the auditor-client relationship affects auditor independence and the quality of auditing decisions (Deis & Giroux, 1992). Practitioners maintain that longer tenure increases audit quality due to increased knowledge and expertise while shorter tenure decreases audit quality due to the lack of knowledge. Regulators, however, look through a different lense and claim lengthy tenure erodes independence which results in impaired audit quality, and that audit quality is increased when a “fresh look” is applied. (Dopuch, King, & Schwartz, 2003).

Myers et al. (2003) use absolute values of discretionary accruals and current accruals as proxies for earnings quality and find that with longer audit firm tenure auditors apply greater constraints on management decisions in financial reporting. Bazerman, Lowenstein, and Moore (2002) find that long auditor tenure creates entrenchment and a self-serving bias which supports the view of regulators. Evidence points to higher quality audits by larger accounting firms (Frances, 2004). Congress and the SEC believe that a higher quality audit will lead to higher quality earnings (Levitt, 1998). Bamber and Iyer (2007) show a correlation between the auditor-client tenure and the extent to which auditors identify with a client, wherein the auditor is more likely to be in favor of client-preferred outcomes.

Several studies focus not only on audit partner rotation but on audit firm rotation (Geiger and Raghunandan, 2002; Johnson et al., 2002; Myers et al., 2003; and Nagy, 2005; Manry, Mock & Turner, 2008). These studies find that estimated discretionary accruals and the lead partner’s tenure, are significantly and negatively correlated, representative of audit quality increasing with increased partner tenure.

Client specific knowledge such as operations and internal controls is important for auditors in allowing them to detect misstatements. Johnson et al. (2002) posit that lack of such knowledge in the early years of the relationship decreases the likelihood that misstatements will be detected. However, once the engagement partner gains the necessary client-specific knowledge there is a period where audit quality is thought to be at its maximum. This period is expected to be between five and seven years. After this period, research suggests a reduction in audit quality becomes apparent.

Myers et al. (2003) designed a research project to determine the relationship between auditor tenure and auditor independence and conclude that mandatory audit firm rotation may have adverse effects on audit quality, as audit quality is lower in the earlier years of the auditor-client relationship.
relationship. Research performed by the Public Oversight Board and the National Commission on Fraudulent Financial Reporting found that audit failures are three times more likely in the first two years of a client-audit firm relationship. Carcello and Nagy (2004) find that fraudulent financial reporting is more likely to occur in the first three years of an audit firm-client relationship. Their study failed to find any evidence that fraudulent financial reporting is more likely given longer audit firm tenure.

Auditor Rotation and Audit Quality

Proposed audit firm rotation can be traced back to the 1939 McKesson and Robbins fraud case (Chatfield, 1996) and the 1976 release of the Metcalf report. Jackson et al. (2008) investigate the effect that a regime of mandatory audit firm rotation would have on audit quality. Given the additional costs associated with switching auditors, this study concludes there are minimal, if any, benefits of mandatory audit firm rotation. The results suggest that audit quality is associated with the length of audit tenure.

Ensuring auditor independence has been a long-standing objective of good corporate governance, and some have questioned whether public auditors can be independent from the public companies that pay for their own audits. Positioning the PCAOB in charge of audit assignments with remittance coming directly from the PCAOB rather than the public company would remove the conflict of interest (Barnett, 2007).

Gates et al. (2007) examined the effect of audit firm rotation and/or audit partner rotation on individuals’ confidence in the quality of financial statements and found that confidence was increased with audit firm rotation, but not so much with audit partner rotation. Results show that audit firm rotation will best enhance confidence in financial statements. Winters (1978) and Wolf, Tackett, and Claypool (1999) advocate that mandatory audit firm rotation may be an effective means to enhance auditor independence and objectivity. These studies are in conflict with the GAO which states that audit firm rotation might not be necessary.

Development of Hypothesis

Practitioners argue that audit quality is lowest in the early years of the auditor-client relationship because of the auditor’s unfamiliarity with the client’s business and environment Carcello and Nagy (2004). Regulators argue that higher audit quality in the early years decreases with longer tenure due to an attitude of complacency and loss of objectivity. Opponents of mandatory auditor rotation maintain that effective audits require a thorough understanding of the client’s business and processes; such understanding develops over time,
and there is a learning curve that lasts a year or more; hence, audit quality is likely to be lower in the initial years of an audit (GAO, 2003). Auditors experience a significant learning curve with new clients (Knapp, 1991), and much of the knowledge acquired during an audit is client-specific (Kinney & McDaniel, 1996). Audit failures are generally higher in the first years of the auditor-client relationship as the new auditor becomes familiar with the client's operations (Arel et al., 2005).

The empirical evidence is "consistent with the hypothesis that audited financial statements ... are perceived as more reliable for firms with longer auditor tenure" (Ghosh and Moon 2005, 609). Mandating auditor rotation would lead to a loss of client knowledge when the auditor is replaced. Opponents of audit partner rotations expect fraudulent financial reporting to be higher in the early years of the auditor-client relationship.

The driving factors in the push for mandatory audit firm rotation are the requirement of auditor independence, the necessity of excellent audit quality, and the need to manage audit cost. Investors must believe that the auditor is independent from the client or they will derive little confidence from the auditor’s opinion. Excellent audit quality is critical to the continuance of the company as a high incidence of fraudulent financial reporting can have a substantial negative impact on a company’s existence as well as market value. The resources required by the audit firm and the client related to startup costs do not outweigh the benefits obtained by audit-partner rotation mandates.

Proponents of mandatory audit partner rotation expect audit quality to be lower as tenure increases due to an increase in complacency by the auditor partner (Casterella, Knechel, & Walker, 2002). Auditors become incentivized to continue the quasi-rents provided by a long-standing client. The two aforementioned situations are a determent to auditor objectivity.

Therefore, the hypotheses are stated as follows (in alternate form):

**H1:** Fraudulent financial reporting is more likely in the period prior to the Sarbanes-Oxley five year audit partner rotation mandate and is also more likely during short (3 years or less) auditor tenure.

**H2:** Fraudulent financial reporting is more likely in the period following the Sarbanes-Oxley five year audit partner rotation mandate and is also more likely during short (3 years or less) auditor tenure.
The issue of whether the current reforms will achieve the desired outcome remains an open question (Gates et al., 2007). This study provides empirical evidence in the quest to determine if SOX has been successful in reducing fraudulent financial reporting. This study contributes to both research and policy setting. It contributes to archival research by presenting empirical evidence of the effect of audit partner rotation on fraudulent financial reporting. The results are important to regulators and standard-setters as they make future decisions regarding audit partner and audit firm rotation.

**Theoretical base for study**

Decisions regarding financial statements are controlled by firm management. There are many reasons why managers employ management earnings in their decision-making practices. In the majority of cases, remuneration is tied to performance results. Managers have the ability to follow GAAP guidelines and still be able to disguise information. Gates et al. (2007) points out that the combination to earn long-term quasi-rents and a pending financial need to retain the client, might allow a client to persuade the auditor not to report misstatements by hinting that reporting the misstatement would result in the audit-firm dismissal (Gates et al., 2007).

The accounting firm is charged to monitor, validate, and correct the financial results of a corporation. Clearly auditors’ agency problem arises when auditors (the agents) are hired by the companies and are compensated for their services by the same management they audit (the principals). The quandary on the part of the auditor in such situations is that they realize they are susceptible to class-action lawsuits by shareholders, but they would rather risk that than risk losing a client. Auditing firms have become too cozy with corporate management and have failed to uncover frauds and major financial misstatements. The colossal accounting scandals over the past few decades substantiate that auditors’ independence is in need of SOX regulation. SAS No. 99 instructs auditors to exercise professional skepticism when considering the possibility that fraudulent misstatements could be present. Auditors are required not only to identify misstatements but also communicate the same. There is much debate about auditor tenure related to audit quality. SOX addresses the issue of a long-term relationship between the auditor and the firm by requiring audit partners’ rotation with a time out period. The SEC’s ultimate goal is “to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation.” (‘U.S. Securities and,”)
This study will provide empirical evidence relative to the SOX audit partner rotation mandate in order to determine if it has been effective in carrying out its intentions to protect investors and maintain the integrity of the securities markets.

Research Methodology

Sample

This study examines AAERs (Accounting and Auditing Enforcement Releases) issued by the SEC between 1993 and 2012. This sample period was chosen as it was more likely to capture the relation between short auditor tenure and long auditor tenure in the pre and post Sarbanes-Oxley era. Rule 10b-5 prohibits the use of any "device, scheme, or artifice to defraud," and creates liability for any misstatement or omission of a material fact, or one that investors would think was important to their decision to buy or sell the stock (Sarkar, n.d.). Like Johnson et al. (2002) and Carcello and Nagy (2004) tenure is categorized as short (3 years or less) and long (9 years or more).

Data and measures.

Researchers have used numerous outcome measures to determine audit quality including abnormal accruals, earnings restatements, and going-concern opinions. The design of this study follows Carcello and Nagy (2004). It matches firms on year, industry, and size. Erickson et al. (2003) offer evidence that the occurrence of fraudulent reporting varies with time and industry. Beasley et al. (1999) use firm size as an indicator finding a higher occurrence of fraudulent reporting among small companies. Using the last clean year, each fraudulently cited firm is matched with a non-fraud firm. The firms are then matched by industry SIC code and by size, based on total assets. This study uses a logistic regression model to test the relation between audit firm tenure and fraudulent financial reporting in the pre and post Sarbanes-Oxley mandate period.

References


Manry, D. L., Mock, T. J., & Turner, J. L. (2008). Does increased audit partner tenure reduce
HUMAN KIDNAPPING FOR RANSOM THE PROBABILITY FOR CYBER KIDNAPPING

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ABSTRACT

There are evidences suggesting technological era has benefitted mankind in so many ways, while at the same time introduced technology based criminal activities such as hacking. Erbschloe(2003) suggests some of immediate impact hacking attacks could have on an organization, including damage to systems that require human intervention to repair or replace, disruption of business operations, and delays in transactions and cash flow. Miller (2012) cites many enterprises, modern threats catastrophically destroyed their businesses. For example, DigNotar was compromised in 2011 by fraudulent Certificate Authority (CA), which generated hundreds of seemingly valid certificates for dozens of popular domains. This attack led to DigNotar to file bankrupt, example cyber-attacks are no longer a joke. Cybercrime is now a common vocabulary, just as Hackers are synonymous with nefarious attacks. Miller suggests these hackers are evolving from “whiz kids” seeking notorieties into bona fide cybercriminal, often motivated by significant financial gains. They are even in some cases sponsored by nation-states, criminal organizations, and radical political groups.

Judging how an information system (IS) has influenced individuals, there must be strategies and programs to effectively secure their computer assets, while preventing IS compromise (Im and Baskerville 2005).

On organizational levels, prior research has concluded that the largest security threat facing organizations is the inappropriate or insecure behavior of its own IS users (Keller et al.
2005; Ramim and Levy 2006; Whitman 2003). The causes of these behaviors are not fully understood, and research is required to identify the factors responsible for the inappropriate security behavior of IS users (Teer et al. 2007). Cronan and Douglas (2006) argued the need for a better understanding of the precedents of inappropriate security behavior.

Is ransomware the next cybercrime wave? Miller suggests today’s cyber threats are sophisticated and pervasive. Many enterprises and information are being targeted, equally evidence these threats are not limited to business entities but also individuals. This study will investigate this phenomena and the probability of individual single strike.

Arora (2012) defines ransomware as “a kind of malware that first installs itself on a victim’s system through downloads or malicious links, then proceeds to encrypt important files that can be only decoded on payment by a private key provided by the attacker.” Weisbaum (2013) describes ransomware as a diabolic nasty malware that can lock up all the users’ personal files including backup files in some cases with state-of-the-art encryption. The attacker(s) have the only decryption key and demand payment such as $300 or two Bitcoins to decrypt the files. Even with threat of this nefarious cyber-attack, the publicly awareness appears limited. The Webster dictionary, for example is yet to update in its vocabularies. However, it is important to elevate ransomware to higher public awareness, especially as cybercrimes continue to envelop into newer dimensions. Abrams (2013) describes CryptoLocker, a ransomware program released in September 2013 targeted all versions of Windows including Windows XP, Windows Vista, Windows 7, and Windows 8. It encrypted certain files using a mixture of RSA & AES encryption. After, it displays a CryptoLocker payment program prompting the users to send a ransom of either $100 or $300 in order to decrypt their files. Abrams states, “this screen will also display a timer stating that you have 96 hours, or 4 days, to pay the ransom or it will delete your encryption key and you will not have any way to decrypt your files. This ransom must be paid
using MoneyPak vouchers or Bitcoins. Once you send the payment and it is verified, the program will decrypt the files that it encrypted."

This study investigated Computer self-efficacy (CSE) relating to ransomware. CSE is defined as individuals’ judgment of their ability to use a computer in the achievement of a job task (Compeau and Higgins 1995), has been used to explain the behavior of IS users (Compeau and Higgins 1995; Kuo and Hsu 2001; Marakas et al. 1998). Research has shown that CSE exerts a significant influence on an individual’s decision to use computers to achieve various tasks (Compeau and Higgins; Kuo and Hsu 2001; Marakas et al.). One problem with using CSE, however, is its generalizability, that is “the extent to which self-efficacy perceptions are restricted to particular situations” (Compeau and Higgins 1995, p. 192). As such, Compeau and Higgins argued the need for further examination of CSE and its associations with specific domains of interest or tasks relating to computers. InfoSec represents one such computer-related task that can be performed by a group of non-specialist IS users (Aytes and Connolly 2004). Marakas et al. (2007) argued that even vigorously validated measures of CSE, when applied to unrelated studies, will have limited generalizability.

As such, researchers have been advised to develop new measures, or to significantly revise and revalidate existing measures to align measures of CSE with the specific task being investigated (Bandura 2001). This research built on seminal work of Compeau and Higgins (1995) by addressing the need for the development of newly specialized CSE measures, examining the inappropriate

**Theoretical Background**

The theory of self-efficacy theory (SCT) (Bandura 1977) advocates the belief one has in his or her capability to perform a specific task. The theory is that environmental influences such
as social pressures, cognitive and other personal factors such as personality and demographic characteristics, and behavior are reciprocally determined (Compeau and Higgins 1995).

The SCT advances output expectations and self-efficacy as the cognitive forces that influence behavior (Bandura 1977; Compeau and Higgins 1995). Accordingly, individuals will undertake behaviors they see as having favorable outcomes (Compeau and Higgins 1995). Thus, before actually performing a behavior, individuals often evaluate their ability to perform such behavior. Self-efficacy expectations deal with beliefs about one's ability to perform a particular task (Bandura 1986). As such, it relates to judgments of what individuals can do with the skills they possess and is not focused on the actual skill itself.

Computer Self-efficacy

Derived from the broader self-efficacy construct, CSE is concerned with self-efficacy in relation to computer use and was defined by Compeau and Higgins (1995) as “an individual’s perception of his or her ability to use a computer in the accomplishment of a job task” (p. 193). Using an empirical study of the perception of 2000 randomly selected knowledge workers, Compeau and Higgins examined how computer use was mediated by encouragement of others, duration of use and use by others, organizational support and training, outcome expectations, affect, and anxiety. Compeau and Higgins concluded that IS users with higher CSE had higher usage of computers, enjoyed using them more, and possessed less computer related anxiety.

These claims were further validated in a later study of 394 subjects (Compeau et al. 1999). For their seminal study, Compeau and Higgins (1995) developed the instrument of CSE consisting of 10 items in ascending order of difficulty; respondents were asked to state whether or not they could complete the job using a software package. If respondents could complete the task, they would then indicate their confidence in their ability using a 10-point Likert scale. The Compeau and Higgins measure has been applied in various technological contexts, and has been
identified as having high reliability and validity (Levy and Green 2009). The original seminal CSE instrument was central to this research study as it was used as the foundation for the development of a new Computer Security Self-Efficacy (CSSE) instrument and construct.

**Computer Self-Efficacy and Information System Security**

There has been limited research that advances CSE as a variable in the study of InfoSec related behaviors. Crossler and Belanger (2006) examined the impact of CSE on the usage of InfoSec tools, based on the level of instruction received by individuals. They concluded that an individual's level of CSE directly impacted his or her use of security tools. Phelps (2005) examined the effect of CSE on the effectiveness of InfoSec in relation to a library IS and concluded that participants with higher self-efficacy were more effective at implementing system security. Other researchers, such as Chai et al. (2006), as well as Lee, LaRose, and Rifton (2008) also identified a positive relationship between self-efficacy and information security behavior, however, they failed to develop and validate a robust specialized instrument to measure CSE in the context of InfoSec.

In reviewing measures utilized in prior studies measuring InfoSec related self-efficacy, multiple instruments were identified. Chai et al. (2006) utilized a four-item measure, adapted from the work of Bandura et al. (1996), and originally developed to measure academic self-efficacy. The adapted measure consisted of four items, and utilized a five-point response format. Chai et al., however, argued the need for future studies incorporating additional factors and a larger, more diverse population.

In another study, Lee et al. (2008) developed a five-item measure that evaluated individuals' confidence to run an anti-virus program, install personal firewalls, update virus definitions, update patches, and screen e-mail on a seven-point scale. Lee et al. conceded that the model needed additional refinement and validation. Further, Phelps (2005) developed a measure
for self-efficacy in the context of InfoSec comprising 20 questions and a responses scale of 0 to 100. Phelps recommended that further research should be conducted aimed at enhancing the instrument to ensure construct validity, and to further examine factors that influence InfoSec.

This study attempted to fulfill that need through the development and validation of the CSSE measurement instrument related to a single ransomware occurrence on an individual computer user.

Research Questions:

There have been no significant empirical studies on this subject. This study attempts to answer below questions and observe how it could contribute to better understanding of this type of cybercrime.

1. How much do you know about ransomware?
2. What is the probability of individual ransomware attack?
3. Does the law enforcement agencies equipped to deal with cybercrimes like ransomware?
4. What is the probability of law enforcement agencies dedicating a ransomware?

Research Methodology

Through a review of existing literature, an initial list of CSSE items was developed. The initial list of items was developed based on a review of existing literature (Bandura 1977; Compeau and Higgins 1995; Compeau et al. 1999; Crossler and Bellanger 2006; Gist and Mitchell 1989; Hill et al. 1987; Marakas et al. 1998; Torkzadeh et al. 2006). There were 32 initial CSSE items identified from the literature review.

Qualitative Phase

The 20 CSSE items obtained from the literature review were used to develop a preliminary CSSE survey instrument. The instrument asked respondents to assess their current
capabilities related to dedicating a cyber-attack like ransomware by responding to a series of multiple choice questions. The instrument utilized a 7-point Likert scale allowing responses on a confidence scale of 1 to 7, with 1 indicated the lowest confidence and 7 the highest confidence that the individual could be impacted by ransomware given various scenarios. Participants in the main survey were asked to respond to the question: “I believe I have the ability to dictate a ransomware attack...” given various scenarios.

**Expert Panel:** The preliminary survey instrument was put through a qualitative review by an experts’ panel of three IS faculty members and three IS professionals who evaluated the instrument, the clarity of the items, and the precision of the instruments. Feedback from the expert panel was used to adjust the instrument resulting in a finalized survey instrument containing 20 items (Appendix A). The results of the expert panel were appropriate in making a determination of the instrument’s validity and addressed the second research question for this study.

**Probability of Zero Leakers, PZL Main Study**

Subsequently, this study uses a subjective probability which reflects judgment of individual Balakrishnan, N., et, al. (2013). This study applies Probability of Zero Leakers (PZL) as an effective approach to matric ransomware occurrences. The PZL is a scenario-level metric suitable for use in multiple-threat raids defined as the probability that all threats of concern in a scenario will be successfully eliminated by the BMDS (Wilkening 1999). As such, PZL is often used interchangeably with the Navy’s Probability of Raid Annihilation (PRA) which was originally defined as the probability that a “single ship will be able to defend itself against multiple anti-ship cruise missile threats (a raid)” (Blake, Little and Morse 2003) and later adopted for use in Ballistic Missile Defense (BMD). PZL is a particularly good metric to use
when the possibility of even a single leaker would be so devastating that it warrants ignoring all other possible outcomes, such as the possibility of one or more leakers.

In this study, PZL has the advantage of being very simple to calculate if a mechanism is already in place to determine the probability ransomware occurrence (PRO) for each attack. As shown in the equation below, PZL is equal to the product of the PRO values associated with each of the N attacks.

\[
P_{ZL} = \prod_{i=1}^{N} (P_{RO,i})
\]

One key observation that follows from this simple equation is that the ransomware occurrences against other cyber-attacks, in terms of P_{ZL}, will always be lower (and in many cases, it will be much lower) than the P_{RO} occurring more than once against each individual computer. Because every cyber-attack may be less than one P_{RO} occurrence, multiplying many P_{RO} values together returns a lower P_{ZL}. For example, if the P_{RO} between every cyber launch and every target computer equals .93, and we may face an attack of three, then expanding the P_{ZL} equation we have:

\[
P_{ZL} = P_{RO} (\text{Zero Occurrence}) \times P_{RO} (\text{One Occurrence}) \times P_{RO} (\text{Two Occurrences})
\]

\[
= (0.93) \times (0.93) \times (0.93)
\]

\[
= 0.8
\]

Given occurrence of two, a P_{RO} of 0.93 translates into a P_{ZL} of 0.8. In other words, a P_{RO} of 0.93 against each occurrence would translate into only an 80% chance of successfully damage to individual computers. A .93 P_{RO} therefore does not translate into a 0.93 probability of successfully damage to individual computers.

Conclusions
The examples from the preceding sections have shown how misunderstanding the applicability of a metric to the type of scenario one is trying to study can drastically skew the results obtained.

It was shown that single-threat-scenario metrics such as probability ransomware occurrence (Pro) may still be harmful to a single computer user, even at the level when considering multiple cyber-threat scenarios. Because Pro and other cyber-attack only provide information about harmfulness even a single threat, attempting to use one of these metrics for multiple-threat scenarios can result in greatly underestimating the damage of cyber-attack like the ransomware.

Probability of Zero Leakers, P_{ZL}, was then presented as a viable option for use in multiple-threat scenarios, and its limited ability to fully characterize the performance of a BMDS against a multiple-threat raid was explained. Using P_{ZL} exclusively can result in ambiguity in the output data in the best case, and in the worst case can result in trends that are opposite of the real capability of the system.

Summary of Key Research Findings

Four main factors of CSSE were identified; Performance Accomplishments and Technical Support, Goal Commitment and Resource Availability, Experience Level, and Individual Characteristics. The Cronbach’s Alpha of the four factors was very high, indicating high reliability for all four factors. The Performance Accomplishments and Technical Support factor was found to explain the largest variance in the data collected, just under 29%. This factor included the CSE characteristics of performance accomplishment and situational support found in literature (Bandura 1977; 1986). Bandura (1977) identified performance accomplishment as the most crucial source of self-efficacy beliefs. Thus, one conclusion drawn from this study is that prior success using encryption, and access to readily available support should likely result in high CSSE and users who are more likely to avoid ransomware.

Goal Commitment and Resource Availability, the second significant factor, represented a combination of the existing goal commitment, time, and persuasion characteristics identified in prior literature (Compeau and Higgins 1995; Marakas et al. 1998). These characteristics from literature were supplemented with the newly identified characteristic of resource availability.

Resource availability was identified in the qualitative phase as an item that individuals considered important when assessing their ability to dictate a ransomware. This factor explained over 20% of the variance in the collected data.

The third factor identified was Experience Level, and consisted of the characteristics of skill level identified in prior literature (Bandura 1977; Marakas et al. 1998). The conclusion, therefore, is that an individual’s experience level will impact their CSSE level. The experience level factor explained just over 10% of the variance in the data collected.
The final factor, Individual Characteristics, represented a collaboration of two characteristics identified in prior literature, namely age and gender (Bandura, 1986; Marakas et al., 1998). Of interest is the fact that age appears to impact CSSE, irrespective of whether the respondent is younger or older. This factor, although important, explained only 9% of the variance in the data, the least of all the factors identified.

Implications

This study has several implications for the field of IS. First, this study contributes to the body of knowledge regarding the use of cyber-attack like ransomware. Prior seminal research, such as Compeau and Higgins (1995), Kuo and Hsu (2001), as well as Marakas et al. (1998) have confirmed the effectiveness of CSE in influencing an individual's decision to use computers to achieve various tasks. By extending CSE research into the area of ransomware cyber-attack, this study has provided new information that may contribute to a better understanding of the precedents of inappropriate InfoSec behavior of IS users. Consequently, we hope that this work will provide fertile ground for future research aimed at understanding the precedents of industrial and governmental entities specifically, and InfoSec behavior more generally.

This study is also significant as it holds implications for the InfoSec industry. Prior research has argued for a better understanding of the precedents of inappropriate user security behavior as this can aid in the development of strategies to influence these behaviors. Understanding what IS users consider important in their ability to dictate a ransomware should assist computer security professionals' work to increase security defense mechanisms and potentially other InfoSec mechanisms. Thus, this study may have implications for the development of strategies to promote positive InfoSec behaviors.

Business Applicability

This study findings would necessitate security awareness consultancy not just for individual computer users but also corporate and governmental entities. Because Cyber-attacks like the ransomware is dangerous to all computer users; thus, the commitment to protecting computing assets are also not locally confined, cyber-attacks are global issues. As such, other factors like culture impact any common solutions for a global issue. So, an innovative security awareness approach must provide a level plain field for this global issue. Web based initiative is proposed with database as a clearing house to enhance cyber related security defense to provide computer users with timely necessary information. Furthermore, cyber-attack like ransomware is a form of kidnapping of computer assets for ransoms. In human kidnapping scenario, there are negotiators to facilitate the release of kidnapped persons. We believe that there might be a need for such in the cyber-attack like ransomware scenario, because some computer information assets might also be a life and death consequences, and negotiation must be necessary.
Because when users fail to respond to these demands, these assets could be totally be destroyed. So, security assurance becomes even more significant when our customers are faced with a data breach like the one recently announced by Target with unauthorized access to customer information in Target stores between Nov. 27 and Dec. 15, 2013.

Finally, future research should attempt to evaluate the predictive nature of CSSE in the context of other valid IS constructs, using other populations like government and corporate entities to enhance generalizability.
References


**APPENDIX A - FINAL SURVEY INSTRUMENT**
**Ransomware**: a kind of malware that first installs itself on a victim’s system through downloads or malicious links, then proceeds to encrypt important files that can be only decoded on payment by a private key provided by the attacker.

*Please indicate your confidence in your ability to complete the task specified given each condition by checking a number 1 – 7 after questions 1 to 36.*

<table>
<thead>
<tr>
<th>NOT CONFIDENT</th>
<th>MODERATELY CONFIDENT</th>
<th>TOTALLY CONFIDENT</th>
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</table>

1. I believe I have the ability to dictate a cyber-attack like ransomware because of my current training.

1 2 3 4 5 6 7

2. I believe I have the ability to dictate a cyber-attack like ransomware if I was adequately trained beforehand.

1 2 3 4 5 6 7

3. I believe I have the ability to dictate a cyber-attack like ransomware if I received no training on how to do so.

1 2 3 4 5 6 7

4. I believe I have the ability to dictate a cyber-attack like ransomware if learning to use it was easy.

1 2 3 4 5 6 7

5. I believe I have the ability to dictate a cyber-attack like ransomware successfully given my current experiences.
6. I believe I have the ability to dictate a cyber-attack like ransomware if I knew what was expected of me.

7. I believe I have the ability to dictate a cyber-attack like ransomware if it is similar to applications I have used before.

8. I believe I have the ability to dictate a cyber-attack like ransomware if I had seen a cyber-attack before.

9. I believe I have the ability to dictate a cyber-attack like ransomware if I had successfully avoided a cyber-attack before.

10. I believe I have the ability to dictate a cyber-attack like ransomware if the task is not too difficult.

11. I believe I have the ability to dictate a cyber-attack like ransomware if it does not require too much effort.
12. I believe I have the ability to dictate a cyber-attack like ransomware if someone who had experienced it before assisted me.

1 2 3 4 5 6 7

13. I believe I have the ability to dictate a cyber-attack like ransomware if I consider it beneficial to me.

1 2 3 4 5 6 7

14. I believe I have the ability to dictate a cyber-attack like ransomware if the software is not very expensive

1 2 3 4 5 6 7

15. I believe I have the ability to dictate a cyber-attack like ransomware because I am comfortable using a computer.

1 2 3 4 5 6 7

16. I believe probability of a cyber-attack like ransomware occurring on computer is zero.

1 2 3 4 5 6 7

17. I believe probability of a cyber-attack like ransomware occurring on computer is one.

1 2 3 4 5 6 7

18. I believe probability of a cyber-attack like ransomware occurring on computer is two or more.

1 2 3 4 5 6 7

19. I believe probability of a cyber-attack like ransomware occurring on computer together with one or more cyber-attack is zero.
20. I believe probability of a cyber-attack like ransomware occurring on computer together with one or more cyber-attack is one or more.

APPENDIX B - FACTORS ANALYSIS (PCA) WITH RELIABILITY ANALYSIS

Cronbach Alpha: TBD
### APPENDIX C - FACTORS AND ITEMS OF CSSE

<table>
<thead>
<tr>
<th>Item</th>
<th>Factors</th>
<th>CSSE Item Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>Performance Accomplishment and Technological Support</td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware because of my current training.</td>
</tr>
<tr>
<td>Q2</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if I was adequately trained beforehand.</td>
</tr>
<tr>
<td>Q3</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if I received no training on how to do so.</td>
</tr>
<tr>
<td>Q4</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if learning to use it was easy.</td>
</tr>
<tr>
<td>Q6</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if I knew what was expected of me.</td>
</tr>
<tr>
<td>Q8</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if I had seen a cyber-attack before.</td>
</tr>
<tr>
<td>Q9</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if I had successfully avoided a cyber-attack before.</td>
</tr>
<tr>
<td>Q10</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if the task is not too difficult.</td>
</tr>
<tr>
<td>Q7</td>
<td>Goal Commitment and Resource Availability</td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if it is similar to applications I have used before.</td>
</tr>
<tr>
<td>Q13</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if I consider it beneficial to me.</td>
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<tr>
<td>Q14</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if the software is not very expensive.</td>
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<tr>
<td>Q15</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware because I am comfortable using a computer.</td>
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<tr>
<td>Q5</td>
<td>Experience Level</td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware successfully given my current experiences.</td>
</tr>
<tr>
<td>Q9</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if I had successfully avoided a cyber-attack before.</td>
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<td>Q10</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if the task is not too difficult.</td>
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<tr>
<td>Q11</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if it does not require too much effort.</td>
</tr>
<tr>
<td>Q12</td>
<td></td>
<td>I believe I have the ability to dictate a cyber-attack like ransomware if someone who had experienced it before assisted me.</td>
</tr>
<tr>
<td>Q16</td>
<td>Probability of Ransomware Occurrences</td>
<td>I believe probability of a cyber-attack like ransomware occurring on computer is zero.</td>
</tr>
<tr>
<td>Q17</td>
<td></td>
<td>I believe probability of a cyber-attack like ransomware occurring on computer is one.</td>
</tr>
<tr>
<td>Q18</td>
<td>I believe probability of a cyber-attack like ransomware occurring on computer is two or more.</td>
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<td>-------------------------------------------------------------------------------------------------</td>
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<tr>
<td>Q19</td>
<td>I believe probability of a cyber-attack like ransomware occurring on computer together with one or more cyber-attack is zero.</td>
<td></td>
</tr>
<tr>
<td>Q20</td>
<td>I believe probability of a cyber-attack like ransomware occurring on computer together with one or more cyber-attack is one or more.</td>
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INTERATIONAL PERSPECTIVE ON ACADEMIC INTEGRITY SUMMARY

Heather Jenkins, Institutional Effectiveness Coordinator
Karyne Kuzawski, International Credentials Evaluator
Jessica Mason, Transfer Credit Evaluator
Suzanne Smith, Director of Accreditation & Institutional Effectiveness

Plagiarism in the world of U.S. higher education is an ongoing and growing problem. It is often dubbed an “epidemic” and depicted as a sinister force descending on campuses across the country and spreading around the globe. Issues of cheating and plagiarism are neither new nor unique to higher education, and hearken back to early days of personal property rights and early copyright laws. Donald McCabe (2005) of Rutgers has studied various aspects of academic dishonesty and has found that about one in every five of all surveyed undergraduates acknowledge that they have cheated on tests or exams and one in six admit to cheating or plagiarizing written assignments. There is also pronounced academic dishonesty at the graduate scholar level. Opportunities for copying and cheating have only increased as information becomes more readily available through the Internet (Park, 2003) and as technology finds baser purposes. Not only are all levels of tertiary education affected, the challenges to academic integrity spare no discipline and are sequentially most prevalent in business, engineering, science, and humanities (Meade, 1992). As academic dishonesty grows globally, North American tertiary education institutions will need to expand their understanding of the problem to envelop policy, education, and enforcement that serves domestic and international scholars alike.

This beginning of the paper surveys current research on this topic and identifies key issues that American institutions need to be aware of and address as they venture into global partnerships. The latter portion provides an overview of how Franklin University has handled specific situations related to teaching international students at the domestic campus as well as challenges faced as global partnerships were formed in recent years. As a result, the University has looked to research to help guide decisions on curriculum design and prosecution of violations of the academic integrity policy.
References


Hochstettler, B. (2013, November 19). Academic Integrity in Graduate Programs. (J. Mason, & K. Kuzawski, Interviewers)


http://www.iie.org/Research-and-Publications/Open-Doors


TESLA FIGHTING THE MEDIA AS WELL AS THE INDUSTRY: AN INTERNATIONAL CONCERN

Dr. Keith C. Jones, Dr. Kenneth Embry and Ms. Jennifer Toole

Introduction:
Elon Musk just finished the final words on another blog attempting to defend the safety of the Tesla Model S on the Tesla website. This all began months earlier because of the words pinned by Broder, a New York Times Columnist. After all of these struggles, questions still arose, “Was it the right move?” “Could we have handled the situation differently? In a better way? In a more appropriate arena?” “Did we use all of our media, communication and marketing resources to their fullest or did we just make the issue greater than what it should have been?” “What world has these actions taken our company into?” “Are we really a communication and marketing firm now in addition to a car manufacturer?” “What impact will this possibly have on our upcoming contract negotiations with new international partners?” These are some of the possible questions Elon was juggling in his mind as he reflected on the recent actions and reactions of Tesla Motors to the recent articles in the New York Times. One question which Elon probably never pondered was the question “How has Tesla Motors changed the way businesses will deal with direct attacks via the media in the future?”

The background:
When one reviews the road Tesla traveled down it is almost deja vu when compared to the Tucker Corporation. Much like Tesla, Tucker took on the major American car manufacturers of its time (1940’s) with what was referred to as the car of the future (Tucker 2012). Unfortunately Tucker fell prey to the powers and influence of the auto industry. At present, the outcome for Tesla looks more promising than for Tucker but the road has not been an easy street to travel.

Tesla Motors was founded in 2003 by a group of engineers in the Silicon Valley of Palo Alto, CA. The objective of this group was to design an electric car that violated the stigma that an electronic car is a car that is slow and unattractive. They wanted to develop an electronic car that was ‘awesome’ (Tesla Motor Web Site). Just the conceptualization of replacing the historic fossil fuel based automobiles was a front to the existing companies and when Tesla
issued its IPO, the first for an automobile manufacturer since Ford’s issuance in 1956, really placed Tesla as a possible challenger in a very oligopolistic industry. After the establishment of the company it took five years before the first Tesla automobile (the Tesla Roadster) hit the streets. Since the introduction of that first auto, Tesla is now represented in 31 different countries and its automobiles can be found in 37 different countries. (Tesla Motor Website).

But it was not a simple task getting from inception to the first Roadster driving down the street.

Just a year into its inception in 2004 the company was in need of a financial infusion of funds and Elon Musk stepped up and provided $6.3 million in funding. Prior to investing in Tesla, Musk had developed a reputation of entrepreneurial ventures with the founding of SpaceX (2002) and co-founder of PayPal and eZip (Davis 2012, Reuters 2013). Tesla needed more assistance than just having Musk as an investor and the funds he brought to the company. In 2007 as the time came close for the revealing of the Tesla Roadster, the inaugural product, major issues infiltrated the company. The Roadster, projected to cost $109,000\(^1\) actually cost $140,000. At that point Musk started an investigation with some of his fellow investors to discover the issues of the overage. Production was completed in two countries. The chassis for the Roadster was formed in England and then shipped to the United States, to a small shop in California, for completion. In his investigation Musk quickly discovered that the fabricator in England did not have the correct equipment to do the job, a breakdown in communication between the two companies, and thus drove up the costs immensely. Tesla immediately suspended the production process until a solution could be found. The problem was the cars had been sold using a loss leader pricing strategy based on the $109,000 projected costs. The company could not financially handle that level of loss for an extended amount of time. In the next few months, Tesla experienced a series of changes in the CEO position of the firm (Davis 2012, The Tesla Web Site) resulting in more instability than just financial.

Then in late 2007 Tesla found itself facing another major financial drought. At that time Musk realized over $100 million dollars of investments had been made in the company and there was no proof of any results. Musk, as one of the major single investors, went to Drori, then the CEO and asked him to step down at which time Musk took over as the CEO. Musk knew, even in the dire financial situation, that Tesla had the ability to turnaround and become a successful

\(^1\) All dollar figures are in U.S. Dollars if not stated otherwise.
company. Musk had the goal of not only making an all-electric car available to everyone, not just the rich, he also had the dream of creating an environment that would create or spur competition in the electric power producing industry. Musk knew if the all-electric car was successful the power producing companies would start to develop electricity more efficiently to be able to compete for the ‘fuel’ industry of the electric car (Davis 2012). In a move of desperation to fund the company, Musk met with the Daimler Corporation in 2007 offering to be a source for the battery systems in their new electric car, the Smart car. Musk’s goal was to create a revenue stream that would allow the company to meet basic bills. When Daimler came to visit the facility in California, Tesla had re-engineered a Smart car to prove their battery and engine would work in a Smart car. Daimler still questioned Tesla’s ability to produce the batteries they would require. In January 2009 Daimler purchased 1,000 battery packs for their Smart cars. Then in May 2009 Daimler bought ten percent of the Tesla corporation (Davis 2012).

At this point in 2007 one of the major pieces of the company that was missing was a production facility that would allow them to meet their production goals. Also, Musk knew there was Federal financing available for the development of electric cars but again the piece of the company that was missing was the production facility. In June 2009 Tesla received a $465 million loan from the Federal Government but the government would not release any of the funds until Tesla had a production facility that would allow them to meet the production goal. So Musk started searching for a facility that would fit the needs of the company. As a side note, similar to Tucker the playing field in terms of the Federal loans was not level since both Ford and Nissan received billions in funding for electric cars (Davis 2012).

In 2010 Musk found the possible solution to this problem. A manufacturing facility located in Fremont, CA previously known as Nummi, a facility co-operated by Toyota and General Motors, became available. The facility was shuttered by Toyota and General Motors in April 2010. The facility was 5.5 million square feet with over 1.5 miles of assembly lines within the facility. In its peak, the facility produced 450,000 cars a year (Davis 2010). However, the price tag was almost three times what Tesla could offer. After several meetings with Akia Toyoda, President of the Toyota Corporation and controller of the Nummi facility, Musk offered what the company could afford with the expectation of the offer being rejected. Toyoda traveled to California to meet with Musk and to see the Tesla Roadster. Toyoda, a trained test track driver, took the Roadster
out for a drive. Toyoda was so impressed he cancelled the rest of his appointments for the day to continue driving the car. Based on his experience with the car Toyoda accepted the offer. And then three months later, the Toyota Corporation invested an additional $50 million in Tesla (Davis 2012).

While many of the production challenges and issues have been addressed Tesla continues to experience many potholes in their road to success. There are three major potholes that Tesla either needs to fill or dodge as it continues on its journey. One pothole is the results of a New York Times article and the other issue has been referred to as the carbQ.

Pothole #1: John M Broder, a writer for the New York Times, decided to complete a test drive of the Model S sedan of the newest entry into the automobile industry, Tesla motors. Tesla Motors had captured a share of the car market, specifically the electric car market, in California. At that time Tesla Motors had dealerships in the U.S., Canada, Europe, Australia, and the Asian/Pacific Rim. The company’s most recent move was to expand into the East Coast area of the United States and that is when Broder became involved.

The headlines in the New York Times were simple and actually became the fuse to a major ‘powder keg’. The headline in the New York Times simply read “Stalled Out on Tesla’s Electric Highway” (Broder 2013) and was accented with a picture of a Tesla S model being dropped off of a wrecker. For Elon Musk, this was the beginning of a new adventure within his business experience and empire.

The article was replete with misinformation and extremely fictitious comments concerning his latest venture the Tesla Model S Electric Car. Broder reported in his article inaccurate mileage readings and/or diminishing mileage reports. He also reported issues with the charging of the vehicle and the inability for the customer service office to provide beneficial information. Broder, in not so many words, accused Tesla of falsifying information concerning the car. Musk knew that the report was not at all accurate and was able to prove so through the electronic records stored in the vehicle but the issue became how to respond to the New York Times article.

Just days after the original article in the New York Times, Tesla Motors started touring down a media, communication and marketing roadway vary rarely traveled by other companies. Ingram
(2013) pointed out how this volley of words between Musk and Broder changed, and possibly forever changed, the media playing field. And it all began over a few words in the headlines. Much like he had done with other projects, Musk took on the challenge and began posting on the Tesla blog page information concerning the Model S performance. What Musk did not know is if anyone would actually see and read the articles posted there.

Pothole #2: While still facing and reacting to the New York Times article additional negative news reports were starting to surface. Within a matter of a few weeks there were three reports of three different Model S automobiles catching on fire. For the vehicle in Tennessee, the headlines passionately used the term “CarbQ” (Yoney 2013). Further investigation into the three fires revealed that all three were results from non-manufacturing related incidences. Tesla, through its investigation, determined that some modifications could be made to the vehicle to reduce the possibility of at least one of the issues; the car ‘bottomed out’ and the battery, which is positioned under the car, caught on fire.

Pothole #3: While the consequence of article and the fires is not totally known, there is a possible third pothole that could manifest from these other two potholes. This third pothole is the possible impact which the bad press from these events will have on the expansion plans for Tesla into new international markets. How much attention are those markets paying to the events occurring in the United States? Recently Tesla received notification from the German Federal Transportation Authority that it was going to complete its own investigation into the safety of the Model S. The results from the investigation would have a major impact on Tesla’s ability to sell the Model S in Germany. If the results came back in favor of Tesla it would open up the German market. If the results came back against Tesla the German market would no longer be an option and then the remainder of Europe would take note of the findings. The German Federal Transportation Authority stated after its investigation it was unable to find any manufacturer related issues with the fire and thus no further action was required. Simply put, Tesla could continue with their distribution in Germany (Tesla Web Site, Blogs 2013). But this investigation raised the concern of how other countries would look at the negative, incomplete and inaccurate public relations components when considering allowing the Tesla to be imported and/or sold within their borders. With contract negotiations going on in China, Germany,
France, Spain, Belgium and the Netherlands this may become a real issue (Shu, 2013; Evcarco.com 2012).

Dilemma:
As the world is becoming smaller and smaller through technology and as more and more people are using technology in their purchase decision process, Musk is very concerned over the effectives or collateral damage that all of this could create for Tesla. He is also coming to the realization it may be time to call in experts as he has done in the past but this time it is to deal with the communication perspective of the company rather than the car manufacturing component. But Musk has questions about making such a move.

First, if he brings in a communication specialist, what would be that person’s recommendations? What process would they recommend? What type or style of message or messages would the person recommend? Would they support the current process?

Second, with the graphic pictures on the web showing burned chassis and vehicles on tow trucks is a communication specialist enough or should he also bring on board a multi-media specialist as well? Do they need to develop a multi-media campaign as well and try to erase those negative images? What approach would a multi-media specialist recommend? Would it be effective.

Third, what would a marketing specialist recommend in terms of using the blog site as it avenue of customer relationship development? Would a marketing specialist recommend social media, viral marketing or some other form of non-traditional promotions?

Finally, would the suggestions of these three specialists be compatible? Or, would they just create another point of chaos in the ongoing public relations/customer retention battle? And, just as important, would the suggestions have any international influence?

Musk silently stares at his computer screen trying to figure out what his next move is in this new world of corporate communication and marketing. It almost seems easier to build a rocket or an all-electric car. What to do?
References:


JAPANESE COST ACCOUNTING: CASE STUDY OF JAPANESE AUTO INDUSTRY

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Abstract
The usefulness of cost management methods in the production of new products must meet customer tastes and preferences. In addition, Japanese automobile companies produced these products at the lowest cost with the hope of reducing or eliminating wastes. Consequently, total cost management systems relating to kaizen costing and target costing are key factors of meeting the ultimate objective.

The objective of this paper is to examine kaizen costing and target costing in Japanese automobile companies. This paper thus consists of two pillars; namely kaizen costing and target costing. According to Monden and Hamada (1991), cost reduction process during the manufacturing phase of the existing product is the main objective of kaizen costing system. Interestingly, “Kaizen” may be somewhat different concept from “improvement” in English. Mondel and Hamada (1991) asserted that Kaizen in Japanese is referred to as the continuous accumulation smaller activities instead of using innovative improvements. Thus, kaizen costing uses cost reduction during the manufacturing stage of existing products. Furthermore, new technological innovation is traditionally introduced during the designing and developing stage of a product. The primary objective of “Target costing” is to support the cost reduction process during the designing and developing phase of a new product or pinpointing minor changes in an existing product. “Target costing” is called “Genkakikaku” in Japanese (Monden and Hamada, 1991).

Kaizen costing and target costing consist of the total Japanese management system in automobile manufacturing. The concept of “total” cost management includes all phases in the product life cycle. In addition, total cost management necessitates involving all the people in the
company so that better ideas and decisions can be derived. Correspondingly, Kaizen costing system is not new in the U.S. and in fact it is closely related to the just in time manufacturing method and materials planning concepts in the life cycle of a product.
SMALL & MEDIUM Sized ENTERPRISE (SME) INNOVATION AND ENTREPRENEURSHIP IN PUERTO RICO

Emil Koren, Ana Machuca, Edgar Soto, Ed Roman

The panel experts discussed the history of SME’s in Puerto Rico. The panel also examined contemporary issues facing SME’s with an emphasis on the impact of the 2008 financial crisis and the local fiscal crisis. Finally, the panel presented findings on their current research into SME’s.
PERCEIVED IMPACT OF HIGHER EDUCATION INSTITUTIONS ON LOCALIZED ECONOMIC DEVELOPMENT

John Lax

Abstract

Purpose – Beyond fulfilling the requirements of ECN 6040, the purpose of this paper is to explore the impact of higher education institutions, specifically accredited schools of business, on local economic development. Further, the paper seeks to fill a gap in the extent literature regarding the perception local economic development stakeholders have of educational institutions. The activities schools of business engage in relative to economic development and how those activities are evaluated by stakeholders is also explored.

Design/methodology/approach – The paper employs a qualitative, semi-structured interview methodology utilizing seven expert stakeholders.

Findings – The stakeholders place a high, and in many cases, unique value on the impact educational institutions make on economic development. However, they also note that some schools are far more adept at this impact than others. Consistently, the participants identified the degree to which the institution engaged with the economic community as the decisive factor between being effective and ineffective. The interviews also revealed that while they recognized the value of theoretical research and a liberal arts education, they believed most entrepreneurs and business leaders placed a minimal value on these as contributing to community economic growth.

Practical implications – The study provides both economic developers and university administrators guidance in how to engage with the community and in which activities to invest.

Originality/value – Beyond the managerial value, the paper contributes to a gap in the literature regarding how business educational institutions are regarded relative to local economic development.

Key words – economic development, higher education, school of business
Perceived Impact of Higher Education Institutions On Localized Economic Development

1.0 Introduction

Known for his colorful bon mots, former Speaker of the House Tip O’Neill once commented “that all politics are local” (O’Neill & Hymel, 1994), suggesting that rather than focus on “big and intangible ideas” what he and his colleagues truly needed to concentrate on were those things that made a day-to-day impact on the voters back in their districts. In his perception, voters cared far more about their children’s schools, the roads they took to work and if, in fact, they had a job at all than they did for geo-economic and political policies. His success as a politician, and those of his fellow legislators, was determined by local issues, rather than by nebulous global or national concerns (O’Neill & Hymel, 1994).

This research takes a similar stance. While not discounting the importance of theoretical economic research with trans-national or global implications, this paper argues that much like O’Neill’s (1994) politics, ultimately all economics are local and that the concerns of those professionals in the economic development (ED) community outside of academia are much like those of the Speaker’s constituents – jobs, business growth and an expanding tax base to support schools and local services. Community stakeholders have similar concerns, caring far more about their jobs and mortgages than with broader concepts such as fiscal or monetary policy, the state of in-bound foreign direct investment or demand curves (Dewees, Lobao & Swanson 2003).

Mirroring this distinction between local economics vs. national or global development, much of the country’s economic growth is conducted at a local level (Blewitt, 2010) by comparatively smaller organizations (IEDC, 2013). Rather than examine national or global actors such as the Department of Commerce, Federal Reserve or Organization for Economic Cooperation and Development, this article focuses on those economic organizations at the city or county level. While an exact tally of the number of such organizations is difficult due to a lack of consensus on what types of organizations to include in the total, anecdotal evidence suggests there may be as many as 11,000 local economic development entities. The International Economic Development Council (IEDC), the industry’s leading trade organization with a
membership of 4,500 ED professionals, believes there are 20,000 individuals employed in local
economic development globally, mostly in smaller local organizations (IEDC, 2013). These
organizations focus on local job and tax base matters such as workforce improvement, new
business development, growing existing firms and firm re-location.

Although by no means a new paradigm, increasingly higher education institutions
(HEIs) are playing a crucial role in local development. Following the deepest recession since the
Great Depression, economic developers and HEI administrators find themselves pressured to
establish relationships to not only promote local economic growth, but also to grow and
promote their respective organizations (O’Connell, 2010). The Association to Advance
Collegiate Schools of Business (AACSB), arguably the leading international body for business
school certification and advancement, recently changed a long-standing policy of focusing
primarily on academic research to a greater emphasis on community involvement, jobs (for
graduates) and business ethics (Hayes, 2013). A recent article in the Tampa Bay Times (Hayes,
2013) notes that “gone are the days of faculty research papers that disappear into academic
journals”. Instead, faculty must demonstrate an impact on local businesses and preparing
students for employment. While only a small number of schools hold AACSB accreditation, this
change is significant. Worldwide there are approximately 13,000 business education programs
(Hayes, 2013) and there are almost 4,500 Title IV (the major source of federal funding) HEIs in
the U.S., with a student population of more than 20 million. Local economic developers are
finding this deep pool of HEI talent is a critical partner in developing human capital and
attracting both investment capital and businesses seeking expansion or relocation (Blewitt,
2010).

Although the extent literature does address relationships between local economic
development and HEI’s, there are notable gaps in the research. First, many of the studies are
dated (Moussouris, 1998; Sandhurst & Budish, 1991); second, much of the literature is somewhat
narrow, focusing on a specific aspect of ED, such as incubators, sustainability or small business
development (Weinstein, Nicholls & Seaton, 1992; McAdam & Marlow, 2008; Blewitt, 2010)
and third, many studies are outside the U.S. market (Keane & Allison, 1999; Gordon & Jack,
2010). Further, the literature provides little clarity on the impact higher education institutions
have on development and entrepreneurship (Gordon & Jack, 2010).
While none of these factors lessens the value of the existing literature, this paper aims to fill a gap in the research. Specifically, what is the perceived impact of U. S. HEIs on localized (the institution’s immediate community) economic development in the present post-recessionary environment.

2.0 Research Questions

Given inherent differences in the traditional HEI functions of research and teaching (Bacdayan, 2002) and the objectives of local ED organizations of jobs and business growth (Davis, 2011), it is not surprising that both groups question the role of the other in fostering local development (Bicknell, Smythe & Arthur, 2010). Bicknell et al (2010) note that despite recognizing the value of knowledge transfer to local communities, academics are often reluctant to engage in activities that foster that transfer. Sandhusen and Budish (1991) suggest that in order for the two groups to cooperate in the interest of the community, that each must understand the differences between the two. These differences, and how they are perceived, lead to the first (and primary) question in this research:

RI: How do the stakeholders involved in the defined service area perceive the impact the HEI makes on localized economic development?

Adding to the complexity of the ED/HEI relationships in local development is the diversity of the stakeholders. Within the HEI itself students, faculty and administrators all play unique roles (O’Connor, Lynch & Owen, 2011). Among these, faculty represent a particular dilemma in that while they are the potential talent pool providing the expertise to assist local ED, the criteria for advancement with the institution places little value on activities supporting the community (Bicknell, et al, 2010). Quite simply, promotion and tenure are rarely based on the contribution faculty make to local development and prosperity.

The actors within the economic development landscape are even more diverse and given the limited resources of the HEI may find themselves competing for the institution’s time and attention. Incubators, often closely affiliated with a HEI, provide a vital network for start-ups and innovators (McAdam & Marlow, 2008) while economic development councils are most often the nexus around which most local development occurs. Other stakeholders include business start-ups, relocation consultants, government entities and mature firms, each of which
may have very different needs. The competing interests and objectives of the community’s stakeholders lead to the question:

**R2: What differences are there in perception between classes of stakeholders?**

Schools of business (SOBs), as with HEIs in general, primarily engage in two broad categories of activities: teaching and research. However they may also participate in a number of activities with potential for economic impact on local communities, including workforce education, supporting incubators (McAdam & Marlow, 2008), small business development (Weinstein, et al, 1992) faculty consulting and student activities such as class projects (O’Connor et al, 2011). Given limited resources and the demands of teaching and research, SOBs may need to determine not only which ED activities best align with their competencies, but also which will be most valued by their stakeholders (Bacdayan, 2002). These stakeholders include not only the local ED community but also parents, students and donors. In an interview sponsored by the Atlanta Reserve Bank, Denny Coleman of the St. Louis Economic Council notes that contemporary ED incorporates a wide range of both rural and urban objectives, including job attraction, retention and creation (Davis, 2011). Universities are significant development drivers for the success of these objectives, despite the difficulties some faculty experience in being engaged in the associated activities (Blewitt, 2010). Given the constraint of limited resources, faculty attitudes and the preferences of the local ED actors this research asks:

**R3: What differences are there in the perception of the impact made by specific activities in which the HEI engages?**

In a report for AACSB, Sullivan (2011) notes that while universities should take a leadership role in ED and innovation, they often are relatively ineffective. As noted above, the manner in which faculty are compensated and promoted often discourages engagement with the local ED community (Bacdayen, 2002). Gordon and Jack (2010) suggest that “values and structures” of the university environment are often the “antithesis” of entrepreneurship. While universities are often the node around which ED occurs, many in academia find the transition to supporting ED challenging (Blewitt, 2010). Given the recent changes in AACSB standards (Hayes, 2013) the distinction between a university that integrates well into the local ED community and one that fails to do so is increasingly relevant. This leads this to question:
R4: What differentiates an effective HEI from one which is less effective?

3. Literature Review

3.1 Terminology

3.1.1 Economic Development:

What constitutes, or what is important, regarding economic development varies widely depending on the lens through which it is viewed and has been variously described as being broad and global in scope, or as is the case in this research, more narrowly defined. Collins Economic Dictionary views it broadly as “a process of economic transition involving the structural transformation of an economy through INDUSTRIALIZATION and a raising of GROSS NATIONAL PRODUCT and INCOME PER HEAD” (Collins, 2006)\(^2\), while the University of Iowa’s Center for International Finance and Development takes a more traditional academic perspective stating “economic development’ is a term that economists, politicians, and others have used frequently in the 20th century. Although no one is sure when the concept originated, most people agree that ...it is closely bound up with the evolution of capitalism and the demise of feudalism” (UICIFD, 2013).

This paper takes a view more closely aligned to that of IEDC, which characterizes ED as “...the core topics of globalization, sustainability, entrepreneurship, and economic restructuring. IEDC works with communities and economic development organizations to weave these core topics into pertinent economic development projects, such as community revitalization, business development, and job creation nationwide and abroad”\(^3\) (IEDC, 2013). In this paper ED is defined as “Activities that foster, support, fund or otherwise promote job creation, tax base expansion, firm start-up or firm relocation in the service area of the HEI.” Thus, this research is interested in a local firm starting a new microbrewery that buys a building and adds ten jobs, but is not concerned with the next Gatorade® or blockbuster pharmaceutical created by HEI research as neither of the latter necessarily has any impact on local jobs or tax base.

3.1.2 Localized

\(^2\) Capitalization from original source
\(^3\) italics those of the author
As with economic development itself, the concept of “local” varies considerably with the perspective of the entity involved. The World Bank comments “The practice of local economic development can be undertaken at different geographic scales. A local government pursues LED strategies for the benefit of its jurisdiction, and individual communities and areas within a local government’s jurisdiction can also pursue LED strategies to improve their economic competitiveness” (World Bank, 2013). Focusing on the relationship between HEIs and ED, this paper defines “local” as “the geographic area in which, given the resources of the specific HEI, the institution can directly impact economic growth and development.” Thus, a major public institution might have a multi-county influence while a small private institution might be restricted to the immediate community or county level.

3.1.3 Higher Education Institution

For the purposes of this research, a higher education institution (HEI) must meet two criteria. First it must be regionally accredited (i.e. SACS); second, it must be accredited by either (or both) the International Assembly for Collegiate Business Education (IACBE) or the Association to Advance Collegiate Schools of Business (AACSB). Private, for profit institutions (i.e., the so-called proprietary schools) are not included.

3.1.4 Stakeholders

Taking a cue from Carroll’s (1979) pyramid of corporate responsibility, this paper defines stakeholders as those in the HEI’s service area impacted by the economic development activities in which the HEI engages, including ED staff, local business leaders, entrepreneurs, government leaders, the local workforce, students and faculty.

3.2 Role of HEIs

Historically, universities have been not only home to scholarly research but often serve as the center of a community’s social, cultural and economic character. Virtually any faculty member living in a “university town” has experienced the degree to which a school can shape a community. Previous research, as well as anecdotal stories, support the proposition that HEIs in general, and schools of business specifically, are fundamental to community and economic development. Sullivan (2011), in his recent examination of AACSB’s report on the evolving role of business schools, notes that universities provide an essential role in developing the leaders that drive economic advantage. Faculty and student engagement with the community both
socially and economically benefit both “town and gown” stakeholders (Gordon & Jack, 2010; O’Connor et al, 2011).

As a result of the interviews, and supported by the extant literature, this research views the relationship between higher education institutions and the economic development community as having two broad components: function and presence.

Function describes those concrete activities in which the HEI participates that have a direct impact on local economic development. A reoccurring theme in the research interviews is the necessity for HEI to engage in tangible and actionable activities, such as incubators and small business centers, which have an immediate impact on local development. Sullivan (2011) argues that innovation must be central to the mission of schools of business and that it represents value creation as well as spurring prosperity. One way that HEI’s successfully integrate with local development is creating technology transfers between the institution and community stakeholders (Keane & Allison, 1999). University supported or assisted incubators also facilitate innovation and development, especially for inexperienced or non-business trained entrepreneurs (McAdam & Marlow, 2008). Perhaps one of the most concrete and actionable forms of economic engagement, incubators provide new firms with not only physical facilities but also with networking, access to technology and the credibility they might otherwise lack (McAdam & Marlow, 2008). Incubators can also provide the critical mass of skills and resources that provide young firms the support needed prior to launch (Bacdayan, 2002).

HEI’s are seen as the primary source for the skills both emerging and mature firms need to compete and succeed. The interviewees in this research consistently sited workforce development as a key element in launching new firms and attracting existing firms to the community. Sandhusen and Budish (1991) note the need for a skilled and trained workforce as a critical element in U.S. firms remaining competitive and considerable attention has been paid in both academic and practitioner literature to the need to prepare Millennials for the workforce (Holt, Marques & way, 2012).

The interviews conducted for this paper also revealed a consistent belief that faculty and students represented a pool of consulting skills that are needed in economic development, but which many universities fail to proactively provide. This is consistent with the literature.
Blewitt (2010) notes that faculty are often uncomfortable engaging in activities “outside of their comfort zones” and that they are often critical of HEIs serving commercial purposes rather than more traditional academic goals. However, the need for such services is considerable and HEIs are uniquely suited to the task (O'Connor et al., 2011; Weinstein et al., 1992).

Presence represents the intangible, less overt influences the HEI provides the economic development community. While more difficult to quantify, the research interviews strongly suggest that these factors play an important role in recruiting existing firms and nurturing start-ups. These factors also appear in the literature addressing ED and include social capital, contributions to the disadvantaged, the recruitment value of having a HEI in the community and student volunteerism.

While described in a number of ways by the interviewees, social capital is a reoccurring theme in this research and appears frequently in the literature. Gordon and Jack (2010) describe social capital as having multiple attributes including social ties, interaction and “facilitating action in a particular social context” (italics this author’s). This last element is particularly relevant. While social capital may be less tangible or demonstrable than the consulting or incubator activities noted above, the ability of a new firm to access skills and resources through their social network is a critical success factor (Keane & Allison, 1999) and HEI’s are well suited to the task (Gordon & Jack, 2010).

4. Methodology

4.1 Semi-structured interviews

A series of seven semi-structured interviews were conducted over a period of two weeks. The sample of individuals was based on (1) convenience and ease of access (2) expertise in the field and (3) willingness to contribute time to the research. Miles and Huberman (1994) note that with-in case samples are frequently “nested”, that is, groups within in a group (they use the example of classes within a school). This approach was used to select the interviewees described below, albeit on a very limited basis due to time and budget constraints. Each of the participants was selected to represent a particular area of expertise or practice within the broad class of “economic development”. Miles and Huberman (1994) also note that “many qualitative studies involve single cases, with few people involved.”
Each interview lasted approximately 60 minutes, with the shortest being 50 minutes and the longest 80 minutes. Five of the interviews were conducted in person and two (KR and SV – see below) by telephone. All interviews were digitally recorded. Note that contrary to normal interview methodology, due to budget constraints the interviews were not transcribed⁴.

A list of prepared open-ended questions was used, with branching questions planned for as needed. Each interview began with an explanation of the nature of the research and the confidential nature of the interviewee’s responses. All participants were informed that a pseudonym (see below) would be used to identify them in the paper. Each interview opened with the identical question: “Assume an informed third party, such as a local business reporter, were to ask you to describe your general impression of the contribution HEIs make to local economic development, how would you respond?” This was intended to establish a context in which to explore themes or experiences unique to that participant.

The semi-structured interview methodology was selected for this study for three reasons.

First, the flexibility allowed for extracting the “unexpected”. As noted earlier in this article there are gaps in the extant literature and consequently, developing highly targeted, specific questions was counter-productive. Semi-structured interviews employing open-ended questions have been demonstrated to elicit “stories” and to reveal the unforeseen (Bicknell, et al, 2010)

Second, interviews have proven useful in research regarding entrepreneurs (Johansson, 2004) and in research focused on both the ED and HEI environments (McAdam & Marlow, 2008).

Finally, the method encourages revealing what Keane & Allison (1999) characterize as the “analytical framework to explore qualitatively the role of higher education institutions”. In the case of this research, that role is not explicit and the interviews support finding unexpected connections.

4.2 Participants

⁴ Should I opt to continue this research for publication I will have the interviews transcribed.
In the interests of confidentiality and anonymity each of the participants was assigned coded initials. A brief profile of each is listed below.

PC: Male, early 60’s, white. President of a semi-rural county economic development council with two universities in the immediate area. PC has more than 40 years of economic development experience in several regions of the U.S.

DC: Male, early 60’s, white. Director of a small town chamber of commerce in the vicinity of a small, private university with an active school of business. DC has extensive experience in the tourism industry and several years of experience in development.

KR: Female, mid 30’s, white. Development officer for an economic development council. KR has several years of experience in commercial banking and lending.

DT: Male, late 50’s, white. Dean of a school of business at a private university (IACBE and SACS accredited). In addition to extensive experience in academia, DT served for 25 years in a variety of senior corporate roles.

SV: Male, mid 60’s, white. President of an economic development council near Silicon Valley. SV has served in similar capacities for over 40 years in several regions of the U.S.

SB: Female, 40’s, African-American. SB is senior consultant for a branch of the Small Business Development Center. She has approximately 20 years of experience in similar roles.

TE: Male, 50’s, white. TE is a senior manager for a major utility and has extensive experience in volunteer capacities in economic development and chambers of commerce.

5.0 Discussion

As all of the participants are in some manner associated with entrepreneurship or business development, it comes as no surprise that all were quite expressive regarding their opinions on the interview questions. Further, as the design of the questions intended, they often took the discussions in unexpected directions. Rather than providing data in a structured format specific to the research questions, the interviews revealed two broad groups of themes noted above in the literature review. The first, and more dominant, is function and incorporates the more concrete and tangible activities and characteristics the interviewees perceived to be
important. The second, presence, are those less tangible factors which might be characterized as being the cultural hub or source of credibility for the immediate community.

Not surprisingly, the functional issues dominated the responses and were considered to have far more impact on ED than did the less tangible presence issues. A consistent theme was the extent to which the functional issues resulted in short term financial gains or organizational success for start-ups and others in the ED process. Participant PC described those in the start-up or entrepreneurial track as very pragmatic – they viewed the HEI as a pool of resources they could access to fast track their success. Consequently, they would perceive the value of the HEI through the practical lens of access to consulting, physical facilities and resources such as incubators.

However, most of the participants acknowledged the importance of the presence factors. In many cases, the HEI simply “being there” was considered a vital factor in encouraging a firm to start a new enterprise or to locate an expansion in the community. Two of the participants (TE and DC) described the importance of quality of life issues, which in their perception were considerably augmented by the presence of the HEI. TE particularly noted what might be considered the “spouse” factor – the executives in the firm gave weight to their spouses’ preferences in selecting where to site the firm and that having a HEI in the community was viewed positively.

While the responses to the interview questions were not linear in nature and did not chronologically align specifically with the research questions, in the interest of clarity they are clustered below according to the research issues.

R1: How do the stakeholders involved in the defined service area perceive the impact the HEI makes on localized economic development?

In all seven cases, the overall perception was positive and all seven believed that the majority of stakeholders shared that perception. Beyond the expected comments regarding the overall positive impression, three themes dominated.

First, although it was not the case with all HEIs in their experience, all participants believed that HEIs should assume a leadership role in local ED. In general, all participants not
only held this perception but believed that most other stakeholders did as well. As elaborated below, the participants noted that not all institutions do this particularly well. SV related that one well known university’s school of business went out of its way to avoid this role, intentionally avoiding interaction with the community. This contrasts dramatically with SV’s current education partner which does take an enthusiastic lead role in local development. SV notes the resulting perception on the part of all stakeholders is markedly different and attributes the difference to the HEI’s culture and leadership, rather than funding or resources.

Second, HEI’s are viewed as the source for much of the innovation driving economic development. PC characterized this as both direct and indirect. Directly, schools foster innovation through faculty research, student projects and by supporting incubators. Indirectly, the schools encourage innovation simply by being a force in the community, what might be thought of as “spillover” (this is the author’s term – not that of the interviewee).

Third, HEIs are seen as the source of not only today’s workforce development but the source of attracting and retaining trained workers in the near future. The issue of retention was of particular concern to two of the participants due to their positions in semi-rural areas. Both TE and DC work in ED related positions in a small town in what remains a largely rural county, despite its rapid growth. Both expressed the belief that stakeholders viewed the local university (small and private, but with a strong business school) as a factor in developing local talent and, perhaps more importantly, encouraging that talent to remain in the community. TE related an anecdote in which he asked attendees at a county governance meeting how many of their children planned on careers in the immediate area – “two raised their hand”. He continued that the local HEI served as a source for graduates to develop businesses and grow the community, thus allowing it (not to mention parents) to retain local talent.

R2: What differences are there in perception between classes of stakeholders?

Although generally positive, the interviewees believed the rationale for the positive perceptions to be different among classes of stakeholders. The notable exception was the response to questions regarding the perception of the average citizen, (i.e. Joe and Jane Taxpayer). Participants largely believed this group was both unaware and largely indifferent. PC described it as “they don’t know or care beyond the football team”.
Younger stakeholders, those just starting their enterprise, viewed the HEI in more personal terms than did more seasoned managers. DT described it in terms of their college experience – the young entrepreneurs stilled viewed the faculty, and their resources, as a source of expertise and guidance. Conversely, as described by Participant SB, more experienced managers viewed the HEI’s most important role as the source of workforce development. All participants believed interns and entry level employees were perceived as a particularly valuable contribution to ED. Participant TE believes government officials and chamber officials share this view, “…brain drain is a huge problem in rural counties. Young people simply don’t stay…”

Another striking distinction noted by the participants was how they believed the various groups of stakeholders viewed common activities in which the HEI engaged. When asked about both traditional academic research (i.e., that which might be generated for journal publication) as well as traditional liberal arts education, all the participants identified differences in stakeholder groups. PC described younger entrepreneurs, government officials and ordinary taxpayers as holding little regard for either academic research in business schools or for the humanities. Conversely, he believed that more senior managers viewed both more positively saying “C-level managers see the long term benefits of theoretical research” and that in his view these same managers valued the benefits of critical thinking and communication skills the humanities provide.

R3: What differences are there in the perception of the impact made by specific activities in which the HEI engages?

As already discussed, the tangible overt activities were consistently perceived as being more valuable and as having the greater impact. This comes as no surprise and is supported by the literature. Incubators (McAdam & Marlow, 2008), student involvement (O’Connor et al, 2011), small business centers (Gordon & Jack, 2010; Weinstein et al, 1992) and faculty engagement all were believed by the participants to promote positive perceptions by all stakeholders involved in local ED. Student engagement received a good deal of attention. KR described her organization’s intern experience as “one of the best things that the university provided”, an attitude echoed by DC and SV, both of whom not only have interns but believe stakeholders in the ED community perceive them as a valued HEI provided resource.
Similarly, faculty engagement and involvement in the local business community was perceived as very valuable and a critical contributing factor to how the HEI was perceived. Faculty members were characterized as putting a human face on the HEI. PC noted “how much difference just one project can make”.

The impact of incubators was described as having the greatest influence on perceived value, although it is noted that one was just launched in the community in which the interviews were conducted which likely biased the participants’ attitudes. However, this enthusiasm is consistent with that of SV, located 3000 miles from the community in question and with the literature (McAdam & Marlow, 2008). DC, one of the founders of the new incubator described it as “not being possible without the university” and noted that all levels of stakeholders, including the usually skeptical county commission, perceived the university’s impact on the start-up positively.

R4: What differentiates an effective HEI from one which is less effective?

Both as a contribution to the literature and to actionable managerial implications, no other outcome of this research is as important as how the participants described the perceptions of effective HEIs as opposed to those that are less so. While this distinction is seemingly intuitively obvious, the overwhelming response to this line of questions was surprising.

As discussed in the literature, making the transition from traditional academia to engagement with the local community is often not easy for faculty as higher education promotion systems are simply not oriented towards community involvement (Bacdayan, 2002). Faculty may see such involvement as counter to “pure academics” and tainted by commercial motivations (Blewitt, 2010). This is regrettable as the interviews revealed that what this paper identifies as “community commitment” was, by far, the most frequently and strongly posited factor in HEI impact. The literature bears this out – Keane and Allison (1999) describe the outcome of HEI involvement as the creation of “intermediary organizations such as technology transfer and regional development offices”, both remarkably similar to the incubators and small business development centers that ranked high in perceived benefits to the community during the interviews.
Participants consistently ranked the degree to which HEI's are committed to their communities and local economic development as the single most important factor in their perceived value. Typical comments include:

PC – “Some universities are simply more engaged than others and the difference is the leadership and culture. Some simply are and others aren’t”

DT – “It is either part of your DNA or it isn’t”

DC – “It is the old town vs. gown conflict. Universities have to be more town.”

SV – “Some universities think inside the gates and other think outside.”

SB – “Is the university integrated with the community?”

6.0 Conclusions

While limited in scope, this research suggests the impact of HEIs on economic development is significant, and in fact, in many cases HEIs may the driving factor determining the success of local initiatives. The most consistent theme revealed in the interviews was that of “engagement” or “integration”, suggesting that the greater the degree of involvement between the HEI and local ED actor the greater the degree of impact on localized ED and the more positive the view of the institution. This was perceived to be true even when projects were less than perfectly successful as institutions were given credit for “effort”. Further, a consistent extension of this theme was that of leadership within the institution. HEI leaders viewed as encouraging this engagement were perceived as having a “vision” for their institution and the community. In turn, this lead to a perception of graduates being more likely to be successful interns or employees.

While the mere presence of a HEI positively influenced start-ups and firm relocations, both were more likely if the HEI had formalized processes for encouraging these activities, such as incubators, workforce development and student consulting organizations. The success of these organizations were perceived as direct outcomes of an “external” view of the HEI and its mission, which in turn, resulted from leadership focused on practical outcomes. These outcomes included more opportunities for students, participation by the business community in the university, potential for funding and a more positive perception of the university as a whole.
6.1 Managerial implications

The research suggests, assuming the perceptions of their communities matter, that university administrators commit resources to active engagement in local business and economic development. Also clear is the notion that university administrators must adopt an external view of their institution, looking as one interviewee described it as “beyond the gates”. Incubators, student interaction with the community and faculty consulting are strongly preferred as methods of achieving this engagement. Further, the research suggests that the benefits of such engagement go well beyond intangible factors such as perceptions of the school and community relations. More tangible benefits include student placements for jobs and internships and motivating the business community to reciprocate with involvement in the business school, in turn providing access to donors and an external pool of talent.

6.2 Limitations and future research

The sample size was quite small, and while this is not uncommon in this type of research, additional interviews would be an obvious extension of the project. The diversity of the sample is also a limitation and expanding the number of women and minorities might provide additional insights, as would including additional participants from academia. The focus of the research is quite narrow. Future extensions of the research might include mixed methodology incorporating quantitative surveys of ED participants, students and faculty as well as longitudinal studies comparing the success of participating vs. non-participating firms.

References


INNOVATION AND INSPIRATION FOR ENGAGING DOCTORAL COHORTS: OVERCOMING STUDENT ATTRITION DUE TO NEGATIVE SYNERGY

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Abstract

As online education becomes more prevalent, a number of colleges and universities have begun to offer online doctoral programs. However, while the opportunities for earning doctoral degrees are expanding, the nationwide attrition rate among doctoral candidates is between 40-50% (Ampaw & Jaeger, 2012; Bair & Haworth, 1999; Church, 2009; Cohen, 2011; Di Pierro, 2007), and the withdrawal rates for online students may be even higher (Rovai, 2002). The reasons these students attrite are varied; however, studies show that innovation in the program design, along with timely support and intervention by the university’s staff and faculty do enhance doctoral student engagement and retention. Thus, in an effort to meet their students’ needs, many institutions have implemented student cohorts for their online doctoral programs. Cohorts are designed to encourage academic success, group learning, and student engagement. However, if these groups are unable to create or maintain rapport, cohesion, and synergy, they may negatively impact the students’ ability to achieve their academic goals. To address these issues, this paper characterizes the specific needs of doctoral students, reveals some of the issues that affect doctoral student attrition, and discusses the dynamics of doctoral instruction in online programs. Then, based on the Jackson and Mathews (2009) Negative Synergy Group Activity Model, the paper presents a variety of technological resources that faculty can utilize in order to reduce student apprehension, create and maintain synergy, and encourage retention among doctoral students studying online.

In 2003, a special commission of one of the leading accrediting organizations for business schools—the Association to Advance Collegiate Schools of Business (AACSB)—warned that by 2013, this country would experience a shortage of doctoral-qualified business faculty, which would lead to an “inevitable erosion in the quality of business education and research” (AACSB International, 2013, p. 6). To address this crisis, the commission offered several recommendations, one of which included utilizing information technology to “foster innovation in Ph.D. delivery” (p. 9). The commission suggested that using technology to deliver course
content would “expand the breadth and quality of program offerings...” (p. 9), with the potential of lowering the cost of the degree, reducing attrition, and shortening time to degree.

Many institutions met this challenge by developing online doctoral programs. Online learning and distance education are becoming so prevalent, the majority of universities today now offer online courses in some format. A 2011 study conducted by the Pew Research Center surveyed more than 1,000 presidents of colleges and universities, and more than 2,000 adults across the country. Seventy-seven percent of these presidents reported that their institutions offer online courses, and 46% of the adults who earned degrees in the past 10 years reported that they have taken an online course (Parker, Lenhart & Moore, 2011). Recognizing the significance of online programs to higher education, U.S. News and World Report recently released its first rankings for online education programs, which included 196 bachelor’s and 523 master’s degree programs; the rankings considered programs with at least 80% of course content available online (Sheehy, 2012). As online doctoral programs are increasing, they will inevitably be considered in the rankings.

Nevertheless, while the opportunities for earning doctoral degrees are expanding, the nationwide attrition rate among doctoral candidates is between 40-50% (Ampaw & Jaeger, 2012; Bair & Haworth, 1999; Church, 2009; Cohen, 2011; Di Pierro, 2007), and the withdrawal rates for online students may be even higher (Rovai, 2002). The reasons these students attrite are varied; however, studies show that innovation in the program design, along with timely support and intervention by the university’s staff and faculty do enhance doctoral student engagement and retention. Thus, in an effort to meet their students’ needs, many institutions have implemented student cohorts for their online doctoral programs. Cohorts are designed to encourage academic success, group learning, and student engagement. However, if these groups are unable to create or maintain rapport, cohesion, and synergy, they may negatively impact the students’ ability to achieve their academic goals. Research shows that effective communication, mentoring, coaching and advising from the students’ faculty positively impact doctoral student retention and success.

To address these issues, this paper characterizes the specific needs of doctoral students, reveals some of the issues that affect doctoral student attrition, and discusses the dynamics of doctoral instruction in online programs. Then, based on the Jackson and Mathews (2009)
Negative Synergy Group Activity Model, the paper presents a variety of technological resources that faculty can utilize in order to reduce student apprehension, create and maintain synergy, and encourage retention among doctoral students studying online.

**Characterizing the Needs of Doctoral Students**

Doctoral degree work is—as stated by Hadjioannou, Shelton, Fu, & Dhanarattigannon (2007)—“distinctively different” (para. 3) from other academic pursuits. First, for doctoral work, there is a shift in focus from merely understanding academic truths to contributing to the body of knowledge. Additionally, undergraduate students tend to focus on course completion, one course at a time; doctoral students must demonstrate the ability to analyze and synthesize information for a larger purpose. Hadjioannou, et. al (2007) adds that successfully completing doctoral programs requires “the development of a more academically mature type of thinking that...creates fresh connections and ideas” (para. 3). Students must develop and hone a unique skill set that includes “in-depth discipline-specific knowledge” (Karl & Peluchette, 2013, p. 89), superior writing proficiency, and effective teaching skills.

Given the challenges of doctoral work, the reasons why so many candidates fail to complete their degrees are varied, and the list can be extensive. Some explanations include:

- Lack of personal motivation or dedication
- Lack of peer and family support
- Insufficient financial support
- Feelings of inadequacy, burnout, or stress
- Work demands
- Transitions in the student’s personal life
- Household or family responsibilities
- Fear (of success, of failure, of the unknown...)
- Lack of support from faculty advisors (Bargar & Mayo-Chamberlain, 1983; Hadjioannou, Shelton, Fu, & Dhanarattigannon, 2007; Jacks, 1983; Ramos, 1994).

Similarly, studies investigating student attrition and retention show that a variety of influences can impact a student’s decision to persist in her doctoral pursuits; certainly, some of these influences are personal for each student. For example, students are more likely to persist
when they have adequate monetary support through personal finances, grants, or scholarships. Nevertheless, research also shows that doctoral student retention is impacted by factors related to the university in which the student is enrolled. Students are more likely to complete the degree when they are involved in university programs and activities, satisfied with the degree program, have the opportunity to interact and engage with other students, and when they experience effective faculty advising (Ampaw & Jaeger, 2012; Bair & Haworth, 1999; Kruppa & Meda, 2005).

**Doctoral Cohorts and Online Learning**

Studies show that student-to-student interaction and engagement positively impact doctoral student retention (Ampaw & Jaeger, 2012; Bair & Haworth, 1999). When these students have the opportunity to study, conduct research, or even socialize with one another, this interaction tends to relieve some of the feelings of isolation, stress, and loneliness that can result from the demands of doctoral work and studying online.

As a result, the cohort model of learning is increasingly used to support doctoral programs. This model is designed to facilitate group learning and engagement among students who begin a program of study at the same time, progress through their studies while they encourage and assist one another, and then graduate at the same time (Maher, 2005). Students and faculty report that a few of the most important benefits of the cohort model are increased retention rates and better academic performance. Studies also show that cohorts: inspire mutual learning, increase student interaction with the university community, enhance group processing and leadership skills, and increase student commitment and motivation (Barnett, Basom, Yerkes, & Norris, 2000; Schott, Chernish, Dooley, & Lindner, 2003; Witte & James, 1998). Importantly, research also suggests that the cohort model encourages persistence among distance education students. According to Schott, Chernish, Dooley, & Lindner (2003), interaction among cohorts may “provide a mechanism for helping distance education students deal with isolation issues associated with being time and place bound” (para. 12).

There are some institutions, such as the University of Phoenix, Capella University and Walden University, where a student may take all of his doctoral coursework online. Other institutions offer doctoral programs where only some of the degree work is completed online.
For example, the George Washington University, the University of Maryland, the University of Florida, and Saint Leo University have incorporated a blended model, in which students complete some of their doctoral coursework online and then participate in campus residences, where they meet with faculty and other students several times each year.

While the cohort model can be beneficial for these programs, Barnett, et. al (2000) advises that there are some challenges as well. For example, because effective engagement and interaction among the students are important to their success, conflict among them can frustrate or even derail their efforts to complete their coursework. When students struggle to maintain group dynamics, such as effective communication or group cohesion, they may not be successful in completing their academic goals.

Additionally, because online students cannot physically interact, as in the traditional classroom, they often feel isolated and disconnected; group work can become arduous and overwhelming as students struggle to find a sense of community or connection with their classmates (Rovai, 2002; Schott, Chernish, Dooley, & Lindner, 2003). As a result, online students are particularly vulnerable to, as Jackson and Mathews (2009) suggest, negative synergy, a powerful force that significantly influences group learning and achievement.

**Negative Synergy & Faculty Intervention**

In the most basic sense, synergy can be described as getting more done with less (Francis & Young, 1999), or the idea that the whole is greater than the sum of its parts. Negative synergy produces a reverse effect where the sum of the subsets of a system is less than the sum of the whole. To understand and address negative synergy among learning groups, Jackson and Mathews (2009) offers the Negative Synergy Group Activity Model. This model consists of four quadrants which categorize relationships among self and groups on two dimensions—action and reaction. The four quadrants are: *How the Instructor Acts*, *How Students Feel*, *How the Instructor Feels*, and *How Students Act*. (See Figure 1.)
How the Instructor Acts is a critical component of the model because it is the only quadrant that the instructor can affect. It describes the means through which the instructor projects into the group. Projecting into or communicating information and meaning to students in an online environment is primarily done through the use of technology. If faculty are nonparticipative or disengaged—for instance in terms of feedback on assignments or in online discussion modules—students may feel isolated, ignored, and disconnected from the course, classmates, faculty and the institution. However, if, as Jackson and Mathews (2009) assert, “...the instructor is attentive, open, strong, secure, and engages in imaginative solutions to problems, then that message is sent to the group” (p. 426); students then feel more connected, engaged, and less isolated.

The inner ring of Figure 1 shows a group that is in a state of equilibrium in its processes. How the instructor feels is appropriate to how the student group has acted. The faculty’s actions are proportional to the reactions of the group. The group properly reads these external messages and reacts accordingly. Finally, the group endeavors to continue the process to successfully complete the group project or task. The second ring represents the effect of interjecting a positive relent into the process. Synergy results in a new dynamic that enhances group processes. However, the shift does not continue indefinitely since such an action is
resource constrained. Final reality serves as a buffer or limit on unbounded increases due to the synergistic effect, and that effect is beyond the scope of this paper (Jackson and Mathews, 2009).

However, there exists another possibility—that of negative synergy. If How the Instructor Acts is smug, cynical, or disengaged, she may create an unfavorable situation within the group. As mentioned earlier, in the online environment, the risk of negative synergy as a result of feelings of isolation or inattention by faculty or other students is substantially increased and often leads to student failure or attrition. The student group might react to the instructor in an unimaginative, impatient, callous, or insecure way. That reaction may be manifested through group actions that are selfish, loud, lethargic, or cruel. But negative synergy does not stop here. How the group acts may further affect how the instructor reacts, and the cycle may continue. As negative synergy sets in, group processes may spiral inward until the system decomposes into absolute failure (Jackson and Mathews, 2009).

Opportunities for negative synergy are magnified in the online environment because of the perceived disconnect between instructors and students and, indeed, within the student cohort itself. In order to prevent student attrition because of negative synergy, faculty must be proactive and innovative. Following is a discussion of the importance of early faculty intervention, and a brief description of specific technologies that faculty can utilize to counteract the downward spiral of negative synergy and student attrition.

**Technology and Faculty Intervention**

The instructor’s role is a critical aspect of the Negative Synergy Group Activity Model. Research shows that faculty have a significant impact on their students’ success, especially in the online or distance environment. Nerguizian, Mhiri, & Saad (2010) refer to faculty as “subject matter expert(s), [who] guide the group and ensure the development of its cohesion and the involvement of all members of the team” (p. 52). Importantly for this research, studies consistently show that successful completion of a doctoral program is strongly and positively correlated to the degree and quality of the relationship between students and their faculty advisors (Bair & Haworth, 1999; Bair, Haworth, & Sandfort, 2004; Bargar & Mayo-Chamberlain, 1983; Di Pierro, 2007; Jacks, 1983; Ramos, 1994). Moreover, while student affairs
and other services provided by the university are important for the undergraduate student experience, doctoral faculty are usually the “key advocates” (Bair, Haworth, & Sandfort, 2004, p. 710) for doctoral students:

Faculty members...act on behalf of their institutions, departments, and programs and often have responsibility for the development of the “whole student.” That is, they have responsibilities for doctoral student learning and development, not only in the classroom and laboratory but also in many other aspects of doctoral students’ lives... involve[ing] a general focus on and concern for graduate students’ well-being and development, as well as socialization into their professional fields of endeavor (p. 710).

Research suggests that when doctoral students enjoy a positive relationship with their faculty advisors, they are more likely to respond to the advisors’ guidance, seek assistance, ask questions, reveal their vulnerabilities, or discuss personal challenges that may be hindering their successful completion of the program.

Due to the impact that faculty can have on student persistence, this research emphasizes faculty intervention to encourage and support student success. This paper does not recommend that faculty should become mind readers who anticipate all of their students’ needs; nor does it intend to deny students the pleasure of critical thinking, reasoning through their issues, or assuming responsibility for their own success. This paper does suggest, however, that purposeful, proactive initiative by their faculty can enhance doctoral student success.

Following the Jackson and Mathews (2009) Negative Synergy Group Activity Model, this paper suggests some specific technologies that faculty can utilize to engage doctoral cohorts. Creating and maintaining cohesion and synergy in a distance or online environment can be challenging. However, there are many technological tools and resources which can be utilized to ameliorate these challenges. We suggest that the faculty project into the group through the use and implementation of these technologies to minimize negative synergy and enhance engagement and participation among the cohort. Significantly, because the Negative Synergy Group Activity Model is a communication model, it demonstrates that effective communication among the cohort is necessary. Groups working together in online or distance education
programs are sometimes limited in their communication channels. Technology should be used to expand and enhance communication protocols among the cohort.

Today colleges and universities incorporate a variety of technological resources to facilitate course content. According to the results of Pearson’s “Annual Survey of Social Media use by Higher Education Faculty”, 59% of faculty agreed that “the interactive nature of online and mobile technologies create better learning environments” (Pearson, 2013, para. 1). In the same survey of almost 8,000 faculty, 78.9% agreed that technology has increased faculty-student interaction. Nevertheless, these technologies must be managed to ensure that only the most appropriate resources are utilized in order to positively influence student learning and engagement. For the purpose of engaging online doctoral cohorts, faculty should explore those technologies which permit real-time interaction with their students. In other words, email communication may be an effective and necessary medium through which to promulgate information. However, it is not the most effective means to engage student cohorts.

Additionally, although asynchronous learning is an important advantage of online and distance education, periodic synchronous interaction is significant for doctoral student success. Technologies that permit the cohort to “see” the professor’s face and “hear” the professor’s voice should be incorporated. The following subsections present some technological resources and websites which can be utilized for synchronous communication among doctoral student cohorts and their faculty.

Interactive Video through Learning Management Systems

Learning Management Systems (LMS) such as Blackboard, eCollege, WebCT, and Moodle (Modular Object-Oriented Dynamic Learning Environment) are web-based systems which provide the means for learners and instructors to interact. In addition to providing the capability to post assignments, PowerPoint presentations, and announcements, most LMSs also consist of tools to facilitate interactive video or teleconferencing. These web-based features are used to create social interaction in a virtual classroom space. (Alden, 2011; Olsen, 2003; McBrien, Jones, & Cheng, 2009; Ward, Peters, & Shelley, 2010). Some of the more popular software for this purpose includes Centra, HorizonLive, Elluminate, and Interwise. These programs combine a variety of tools in one interface where groups can interact in real-time. Such tools include text
chat, audio, video, chat rooms, white board presentations, class polling instruments, and application sharing. This resource provides the opportunity for real-time communication and enhanced engagement between and among students and faculty.

Poll Everywhere

Poll Everywhere is an online website that students can access from their laptops, desktops or mobile devices (www.polleverywhere.com). It permits immediate real-time interaction with the class on any topic of their choice or the professor's choice. The cohort could be polled for their reactions on everything from current events, research topics, or the time and date of the next meeting. It represents a simple, but effective way to keep the group connected about topics that matter to them.

Puzzles and Games

A number of websites feature puzzles, riddles, and games, many of which are appropriate for doctoral level analysis (www.games.washingtonpost.com or www.brainteasers.com). The class could be divided into small groups or teams; each team would be asked to collaborate on a puzzle and submit a response. The first team to solve the puzzle may be rewarded the next time the class meets face-to-face; students should be asked to recommend rewards which are meaningful to them. The puzzles should not be exceedingly complicated or stressful, but they should be used to keep the students connected and engaged, even when they are off-campus, or working on individual assignments.

Social Media

Faculty should not ignore the opportunity to engage with students through social media such as FaceBook, Twitter, Skype, FaceTime or Oovoo. Social media should be seen as a viable means to engage students, first because most people already utilize this media. According to an August 2013 survey, 56% of all Americans have a profile on a social networking site (Statistic Brain, 2013). Representing the fastest growth of any age group, 55% of Americans ages 45-54 have a profile; and 22% check in several times each day (Baer, 2013). Because they are already accessing these sites, students would not need to download new software or learn new programs to connect with the class. Additionally, users can and do access these sites from mobile devices such as smart phones, iPods, and mobile tabs—at home and at work, in the
doctor’s office or the airport, while they are working out or waiting for repairs to their cars, so students can easily interact with the class whenever they have the opportunity.

Conclusion

As this paper discusses, many factors influence doctoral student attrition and persistence. Some of these variables are unique to each student and may be minimally influenced by faculty intervention. Nevertheless, many of the challenges doctoral students endure can be ameliorated by innovation in the program design, along with timely support and intervention by the university’s staff and faculty. While the cohort model can be beneficial for the success of online doctoral students, if students are unable to maintain group dynamics, such as effective communication or group cohesion, the cohorts may actually hinder their success.

Online student groups are also particularly vulnerable to negative synergy, a powerful force that significantly influences group learning and achievement. In this paper, we have recommended some online resources that can act as interventional catalysts to enhance interaction and discourage the negative synergy that may occur when online students feel disconnected from their classmates and faculty. This list of resources is not intended to be exhaustive, for certainly that are many others than can be effectively implemented. The purpose of this paper is to emphasize the significance of faculty intervention for their students’ success, and to encourage faculty creativity and innovation in instructing and engaging online students.

References


Rovai, A. (2002). Building sense of community at a distance. *International Review of Research in Open and Distance Learning, 3*(1), 1-16.


SOCIAL NETWORKS AND ECONOMIC BEHAVIOR INFLUENCING INTERNATIONAL BUSINESSES

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Abstract

“International Business can be defined as an exchange process that involves relationships between actors located in different countries.” (Seppola, 2004, p5) Today, collaboration can help businesses in an international environment to create a potential competitive advantage in the market and game theory plays a major role in analyzing strategies in the international market. Primarily, this study focuses on the collaboration in the Social Network Theory and Game Theory. With the help of the trigger strategy it is possible to create a scenario where collaboration between different agents can help to overcome the prisoner’s dilemma under certain circumstances. Connections within the firm but also ties between business networks in the global market can be analyzed with these tools.

The terminology of social networks (SN) is a commonly accepted term in today’s society. A formal definition of SN used in this study includes a number of players or individuals and their relationships to each other (Wasserman & Faust, 1994). Studying SN, one can examine not only the relationships of individuals with each other but also behavioral patterns of these. First, one has to distinguish between social media such as Facebook or LinkedIn and SN. Social media can be utilized as a platform for SN to interact. For the terminology in this study we examine SN as a group of players interacting with each other. For simplicity, we observe the behavior of individual agents instead of organizational agents to recognize different patterns of behavior. Through the analysis of SN and economic behavior it is already possible to consider different isolated aspects partially and then to connect them with each other (Gale & Kariv, 2003; Aldrich & Zimmer, 1986). With games like the Network Dilemma Game (NDG) conflict behavior between different parties can be analyzed and outcomes will become more predictable (Ule, 2008). In some SN, agents have the power to sanction others for uncooperative behavior which can lead to the exclusion of such uncooperative members for future interactions. Social capital emerges from these networks and can be very useful to trigger better cooperation between different agents. Exclusive SN can provide its members with a variety of advantages over others and is, therefore, a stimulus for engaging into cooperation. In international businesses, it is highly relevant how dense the connections between the players in this global
network are. The higher the density, the higher is the likelihood of cooperation (Jin, Girvan & Newman, 2001; Granovetter, 2005).

Social Networks

Saint Leo University can be considered as a SN with many different individuals linked to each other. This network can then be divided into many subordinated SN such as a small group of friends. SN with fewer people are considered to provide a higher density. The density of a network describes how many agents within the network are actually connected with each other through some kind of interaction. Saint Leo University is network with many agents but not everybody has a direct connection to each other while a group of four close friends has more density as every agent in this network is connected with each other. Daily interactions and the allocation of resources between individuals can be explained with different game theory models. SN theories are, therefore, often closely linked to the strategic interaction of the individuals of the network (Slikker & Van den Nouweland, 2001; Wasserman & Faust, 1994).

“International Business can be defined as an exchange process that involves relationships between actors located in different countries.” (Seppola, 2004, p5) International businesses are always interacting within a certain network structure and consist of many subsequent SN as well. According to Asendorpf und Banse (2000) it is not only relevant to analyze the relationships between the different individuals of a SN but all influential variables of a network. Every relation within a SN reveals different outcomes and meanings to the network and its members. Psychological aspects of an individual must be recorded for a complete analysis of a SN (Asendorpf & Banse, 2000). Thus, studies for networks are not limited on the network itself but also take a whole relationship matrix into account – a relation of an individual towards another depends on the individuals personality but a personality is not necessarily influenced by the status of that relation (Asendorpf & Banse, 2000). SN are influenced by many different variables and can be closely linked to social psychology as well (Robins & Kashima, 2008). Ideas, believes and values are going to be much more commiserate between member agents in a dense network thereby discouraging defective behavior in the agreement (Granovetter, 2005). The more dense the network, the less likely adverse behavior occurs (Granovetter, 2005).

Wright and Myers (2008) discuss the redundancy of information in the more dense networks and in less dense networks. Newer information is likely to be discovered but might also be meaningless. Also the idea evolved that even if all members of the game are privy to the
same information, they may not all interpret it in the same way (Wright & Myers, 2008). Based on various values or beliefs or goals, the information could be discarded by one member and used by another causing one member of the agreement to excel—adversely defecting from the agreement simply by the way the information is used and understood (Wright & Myers, 2008).

For a complete analysis of SN, it is necessary to include different sciences into the theory as it includes many interdisciplinary aspects. The economic aspect with respect to game theory needs to be analyzed to reveal different strategies and economic behavioral patterns for individuals within a SN.

**Strategies in Game Theory**

For interactions within a SN, an agent can have a set of different possible strategies. Game theory analyzes strategic interaction and optimal decision making for rational agents (Brickley, Smith & Zimmerman, 2009). A game consists of a certain set of rules with a determined amount of agents. Every agent can make moves during the game and outcomes are predicted for the strategic interaction. Potential payoffs and knowledge influence the results of a game significantly. Two important assumptions must be met in order for a true game (Dixit, 2014). First of all, all agents or players must know the rules of the game. In other words, the parameters of the situation must be known to all agents involved. Additionally, all agents need to know that everyone has the same information. This would indicate the transparency and relatively easy access to common knowledge related to the game; thereby making a true game setting (Dixit, 2014).

A dominant strategy occurs when it is optimal for an agent to choose one strategy over all other possible strategies, no matter what the other agent in this interaction does (Brickley, Smith & Zimmerman, 2009). The utility for the dominant strategy of the player is strictly higher than the other strategies. Weak dominant strategies exist when one strategy never leads to a lower payoff or utility than other possible strategies. A weak dominated strategy, in return, represents a strategy where the payoff is not more than the payoff for the dominant strategy (Holler & Illing, 2006). When dominant strategies exist, the behavior of rational individuals is very predictable as they will both choose their optimal strategy. In real life, however, strategic decisions can often not be solved by this theory when a dominant strategy does not exist. In this case, the concept of the Nash Equilibrium (NE) and Sub-game-Perfect Nash Equilibrium
(SPNE) can help to determine the outcome of strategic interactions of individuals (Holler & Illing, 2006).

**Nash Equilibrium and Prisoner's Dilemma**

A NE is determined by “a set of strategies (or actions) in which each [agent] is doing the best [he] can, given the actions of its rival” (Brickley, Smith & Zimmerman, 2009, p287). Assuming that each individual faces an egoistic and rational decision while having complete information about all possible scenarios leads to the use of the NE. Each individual in a SN would choose his best strategy under the assumption that all the other individuals would choose the strategy which will give them the best utility. One could now assume, that having everybody choose his best individual strategy should result in a maximum of joint payoffs and the NE is Pareto-efficient as none of the players can obtain better results. To prove this wrong, one should look at a very commonly known problem of the NE which is called the prisoners dilemma (Brickley, Smith & Zimmerman, 2009; Holler & Illing, 2006). The following table shows a classical example of the prisoner’s dilemma illustrating two agents who can decide whether they want to cooperate or defect the other one. If both players would cooperate with each other they will both receive a payoff of 1. If one defects and the other player chooses to cooperate the defecting player will receive a payoff of 2 while the cooperating player has to face a loss of 2. If both players defect, they will lose one unit.

In this case the NE would be (<D1>, <D2>) which means that both players would defect. They would face a loss of one unit each and are not able to attain a Pareto-efficient result. In the prisoner’s dilemma, the optimal result would be cooperation which is not possible to reach if two rational players interact under these circumstances.

Another question is how the behavior of two individuals in a network would change if they can communicate with each other before facing their final decision. Let us assume that both players would still act in a completely rational way. When talking to each other, they might come to the agreement that they will cooperate with each other to be better off. But what happens when they finally play the game after they have talked about their actions? Each player would realize he could attain more payoff by breaking the agreement. If they both face their decisions on being rational the game would still result in (<D1>, <D2>). Communication could not help to resolve this problem and it had no effect on the result of the game - the agreement made before the actual
game is called “cheap talk” (Farrell & Rabin, 1996, p114). Communication is an important aspect to create value in SN but it is not enough in order to create cooperation between rational individuals. Communication can help to solve coordination problems when, for example, two individuals have to work together on either project A or B in order to be successful. Studies have also shown that the concept of the NE works quite well in predicting behavior in simple single-move situations. On the other hand the NE does not apply that well in real life when a repeated game is played or when the situation gets more complex (Davis & Holt, 1993).

**Subgame Perfect Nash Equilibrium**

The concept of the SPNE was introduced by Reinhard Selten (1965) and can be utilized when the agents play more than one game. A SPNE can be determined through backwards induction in using an extensive form instead of a strategic form.

When looking back to the final decision nodes, one solves all the sub-games of this game and takes the results of the previous sub-game into account for the next sub-game until the whole game is solved. Each node represents a player. Here, one first has to look at node 2. Player 2 decides to take action \( R \) if player 1 decides for \( D \) and goes for action \( L \) if player 1 decides for action \( U \). Taking these results into account, player 1 would receive a payoff of 2 if he chooses \( U \) and receives 3 if he goes for \( R \). Obviously, he chooses \( D \) to get a higher payoff. So, the SPNE would result in \( (D, (L,R)) \) with the payoffs of \( (3, 2) \). One can also recognize that player 1 would have a first-mover advantage here which can help in some cases to realize higher profits.
(Brickley, Smith & Zimmerman, 2009). With the simple concept of the NE, one could have determined four different solutions; (<U>, <(L,L)>), (<U>, <(L,R)>), (<D>, <(L,R)>), and (<D>, <(R,R)>). With the SPNE we could increase the plausibility of the results significantly and could eliminate results which seem not credible. Having a look at the prisoners dilemma, the SPNE would still lead rational players to defect each other at any repetition in the game. Research has shown, however, that individuals are more likely to cooperate in a prisoners dilemma in repeated games than in a single-shot game (Cooper, DeJong, & Forsythe, 1996). The concept of the SPNE is, therefore, only limited applicable to real life situations.

The Quantal Response Equilibrium

Also, it is very likely that real-life individuals do not necessarily base their decisions on complete rational criteria. For analyzing limited rational behavior, the Quantal Response Equilibrium (QRE) can be utilized when assuming that individuals try to behave in a rational manner but do systematic mistakes (McKelvey & Palfrey, 1995). In real life it is often almost impossible for individuals to collect all necessary variables relevant for a complete rational decision. The QRE takes into account that a player gets influenced by random variables while evaluating his own utility. This randomization of variables triggers a random mistake in evaluating different alternatives and has to be included by adding into the resulting payoff formula for the player. With the help of extreme value distribution which includes a parameter of rationality determined by the Maximum-Likelihood-Procedure one can attain better results in the laboratory. But to actually create real life predictions with the QRE is quite challenging because it is often too complex to determine a parameter of rationality and to know the random variable. The QRE can be seen as a refinement of the NE and provides better results in explaining economic behavior of individuals (McKelvey & Palfrey, 1995).

Repeated Games and the Network Dilemma Game

For examining interactions of people within a SN, it is useful to analyze repeated games because it is likely that individuals of a network will have to face repeated decisions and interact with each other many times.
The network dilemma game (NDG) can be used to analyze a prisoner’s dilemma with a number of \( n \) agents and endogenous partner choice (Ule, 2008). Every agent in this game has to face two decisions. First, he has to make a linking decision, whether to connect with the other agent or not. The second choice an agent has to make is called the choice of action where he decides if he cooperates or defects. In SN the agent can often choose whether to connect with another agent within the network or not. The individuals who are willing to cooperate within a SN have an interest in excluding “Free-Riders” from their network. Free-Riders are individuals who include themselves into a project within the SN without contributing enough from their side to complete the project (Grossman & Hart, 1980). They profit from the contributions of cooperative individuals and harm them at the same time by reaching their goals. Therefore, one could argue: “It is a Prisoner’s dilemma all over again, if you don’t invest time, you won’t get any value out of it, however if you do invest the time, you still might not get the value out of it, because the lack of other people investing time.” (Mans, 2011)

However, agents in SN can be excluded from other people within the network for future activities. Other members of a dense SN can have the power to sanction free-riders by even excluding them from the entire SN. This happens when all the other members of this SN disconnect from the free-rider. Excludability of agents can be seen as an incentive to cooperate within a SN (Coleman, 1988).

Through the NDG, it is possible to reveal important information about a SN. Especially, cohesion and mutual trust is tested through such a game. If the trust and cohesion (also called social capital) within a SN is strong enough, it is possible for people within that network to overcome the prisoner’s dilemma and cooperate with each other.

With the help of the trigger strategy it is possible to explain such behavior in a rational context. Uncooperative behavior can be sanctioned by other people in the network in future activities (Abreu, Milgrom & Pearce, 1991; Holler & Illing, 2006). Agents will come to an agreement prior to the move. When the decision is one of a monetary nature it is essential to include the present value into the decision. Thus, profits have to be discounted in all future periods \( t \). The discount factor results into \( \delta = (1/1 + r)^t \), with \( r \in [0,1] \) representing the interest rate factor.

Additionally, it is significant for which probability \( \theta \in [0,1] \) the SN ends because of external environmental factors. In game theory, the probability of \( \theta \) represents the likelihood that a game ends after this period. Resulting from this extension the modified discount factor is \( \delta^t = \left(\frac{1-\theta}{1+r}\right)^t \).
Under the assumption that all agents stick to the cooperation $s^*$, Holler and Illing (2006) suggest a payoff function of $u_i(s^*) = u_i(s^*)[1 + \delta_1 + \delta_2^2 + \ldots + \delta_n^n] = u_i(s^*)\sum_{t=0}^{\infty} \delta_i^t = \frac{u_i(s^*)}{1-\delta_i}$. In case the agent does not want to cooperate, he will receive a punishment $u_i(s^c) < u_i(s^*)$ in the following periods because the other agents will refuse to cooperate with the defector. The utility an agent receives from breaking a cooperation is $u_i(r_i(s^*))$. Following this terminology breaking the agreement of a cooperation will be unprofitable for player $i$ if $u_i(r_i(s^*)) + u_i(s^c) \frac{\delta_i}{1-\delta_i} < \frac{u_i(s^*)}{1-\delta_i}$ and, therefore, the absolute value from defecting a single time is lower compared to ongoing cooperation. This formula then results (see appendix) in a discount factor of $\delta_i > \frac{u_i(r_i(s^*))-u_i(s^*)}{u_i(r_i(s^*))-u_i(s^c)}$ and proves that for infinite games $t \to \infty$ including a discount factor $\delta_i$ a cooperation can be reached with a SPNE (Holler & Illing, 2006, p139). The Folk Theorem applies if all future payoffs will not be discounted ($\delta = 1$) and result in this case to a SPNE. In case the agents are patient enough, it is possible to reach a pareto-efficient equilibrium which helps to overcome the original NE (Fudenberg & Maskin, 1986).

**Prisoner's Dilemma in Social Networks**

If an agent faces a decision based on complete rationality, he has to consider how his action will not only affect him in short-term but also in long-term view. An individual, who acts on the foundations of complete rationality always seeks to maximize his personal utility through his actions $a_i \in \{C, D\}$ and their effect on his long-term personal utility $EU_{t \to \infty}$ (Marschak, 1950). Consequences resulting from the actions of the individual must be included into his personal decision. In case that the SN or single agents of the network will execute sanctions over the uncooperative agent it might cause the agent to be excluded for future transactions and benefits from the SN as a result of uncooperative behavior. The utility lost because of missing the opportunity of future cooperations has to be included as the cost of defecting $c_d$ into the expected utility function of the individual. As a result these assumptions the expected utility function $EU_{t \to \infty} = \Pi_t(a_i = D, g_{ij} = 1) - c_d \cdot \sum_{t=1}^{\infty} \delta_i^t$ can be seen as a general decision criteria whether the individual should deny cooperation or not. If $EU_{t \to \infty} > 0$, the rational individual would decide to deny cooperation – but if $EU_{t \to \infty} < 0$ it is rational to cooperate. In the scenario where the total costs of uncooperative behavior exceed the benefits of it ($c_D *
it makes sense for an individual acting on the principle of complete rationality to cooperate in a prisoner’s dilemma. Such a scenario also creates informal long-term contracts between the members of a network. The preference of the present versus the preference of the future is also vital for the results in this case. An individual with a high preference for the present is more unlikely to cooperate than an individual with more focus on future payoffs (Frederick, Loewenstein, O’Donoghue, 2002).

Summarizing the assumption that defecting will result in sanctions against a network member by others from the SN he also has to include possible sanctions as costs for defecting into his decision. In the expected utility function of an agents the profits have to outweigh the costs of not cooperating with the other members of the SN.

**Prisoner’s Dilemma in Social Networks – Example**

This theory can be illustrated by a practical example of a SN related to international business trade. The example consists of a SN with n=3 different chief executive officers (CEOs) from India, Germany, and China. The numbers in this scenario are fictional and do not represent real figures. The figures in this example are used for the purpose of representing the theory qualitatively. Let us assume that the three CEOs from India, Germany, and China signed an agreement of cooperating on a new project. They have been working together before and want to continue their cooperation in the future as they hope to generate synergies with the knowledge of their different research and development (R&D) departments. Efficiency is likely to increase when each of the different R&D departments focuses on its core competencies and collaborates with the other department (Goyal & Moraga-González, 2001). For simplicity it is assumed that the interest rates for each firm and their CEO are the same. The interest rate factor for the CEO in Germany is r=0.08, for China r=0.04, and for India r=0.1. The probability that the SN ends because of external environmental factors equals θ = 0.05 for all three network members. Thus, we receive three modified discount factors $\delta^t_{\text{Germany}} = \left(\frac{1-\theta}{1+r}\right)^t = \left(\frac{1-0.05}{1+0.08}\right)^t = 0.88^t$, $\delta^t_{\text{China}} = 0.91^t$, and $\delta^t_{\text{India}} = 0.86^t$. All three CEOs are interacting with each other and face a linking decision $g_{ij} = 1$ to interact with the trading partner. Now, the Indian CEO realizes that his R&D department could contribute less to the project and, therefore, reduce the
costs significantly. This would require China and Germany to contribute more into the project as they have a common interest to successfully complete the project. However, the exact same situation occurs for the Chinese and German CEO.

Initially, all three CEOs agreed on contributing the same investments into the project to complete it successfully. The Indian firm could save $1 million by investing less into the project and would still be able to successfully complete it as the CEOs from China and Germany would be forced to invest more into their R&D program to complete the project if they do not want to face significant higher losses by excluding the Indian firm entirely from the project. In short term view the Indian company would gain a competitive advantage within its market as they can invest the $1 million into other projects which generate an additional income of $2 million. Thus, with breaking the cooperation, the CEO from India would be able to increase his firm’s revenue by $2 million. Breaking the agreement would also hurt the German and Chinese CEOs and their companies as they would have to invest $1 million each to make up for the uncooporative behavior of the Indian CEO. Also, the CEOs would seriously struggle within their firm as they would have to explain the losses to their shareholders. In return, the other network members (Germany and China) could sanction the Indian CEO by excluding them on future projects. As soon as the Indian CEO defects with his partners, it is very likely that they will refuse to cooperate with him as well and deny cooperation for all future transactions. It might be possible that they will renegotiate a contract in the future but it will be difficult to regain the trust of the other SN members as he has broken it already once. Assuming that the CEO will be excluded for all future interactions from the network, he will face an annual loss of $2 million in all subsequent years. Using the expected utility function, and putting in the time preference of the CEO from India with the discount factor, we would have the following result: 

\[ EU_{t \to \infty} = \pi_{India}(a_{India} = D, g_{IndiaGermanyChina} = 1) - c_D \sum_{t=1}^{\infty} \delta_{India}^t = 2 \times 10^6 - 2 \times 10^6 \times 0.86^t = \] 

\[ 2 \times 10^6 - 2 \times 10^6 \times 6.14 = -10.29 \times 10^6 \] 

So, here \( EU_{t \to \infty} < 0 \) which means that it would be in the best interest for the Indian CEO and his firm to not break the agreement. Now, one might argue that it could be possible for the Indian firm to reestablish a new CEO within the SN once they have replaced the current CEO after some years. Assuming that they can establish the firm within five years into the SN, one would have to reassess the situation with the help of expected utility: 

\[ EU_{t \to \infty} = \pi_{India}(a_{India} = D, g_{IndiaGermanyChina} = 1) - c_D \sum_{t=1}^{5} \delta_{India}^t = 7 \times 10^9 - 2 \times 10^9 \times 0.86^t = \] 

\[ 7 \times 10^9 - 2 \times 10^9 \times 3.25 = -4.51 \times 10^6 < 0 \] 

If the contract was broken only for five years, it would mean that the firm would still be
better of with cooperating. However, it is hard to regain trust of the network members once the contract is broken and the likelihood that the contract with the same conditions and agreements will be established again when it failed already once is very low. Breaking the agreement would exclude the Indian firm from the network for future transactions which is neither desirable for the firm, nor for the CEO who wants to establish a record of success for himself. On the other hand, having the example result in a expected utility which is greater than zero \( EU_{t\to\infty} > 0 \) would demonstrate that the SN is not valuable enough for the CEO to continue the cooperation.

Another example for cooperation in international relations between different governments could look as follows. The example also consists of a network with \( n=3 \) different countries, the USA, Germany, and Japan. The numbers in this scenario are fictional and do not represent real figures. The figures in this example are used for the purpose of representing the theory qualitatively. In this example, the USA, Germany, and Japan signed a trading agreement. This trading agreement allows them to trade with each other without any restrictions on taxes, customs, or other trade barriers. Increasing the overall welfare in these three countries can be achieved by lowering trade barriers and increasing economic integration (Anderson & Van Wincoop, 2001). The interest rate factor for Germany is \( r=0.08 \), for Japan \( r=0.05 \), and for USA \( r=0.1 \). The probability that the network ends because of external environmental factors equals \( \theta = 0.15 \) for all three network members. Thus, we receive three modified discount factors

\[
\delta_{Germany}^t = \left(\frac{1-\theta}{1+r}\right)^t = \left(\frac{1-0.15}{1+0.08}\right)^t = 0.79^t, \quad \delta_{Japan}^t = 0.81^t, \quad \text{and} \quad \delta_{USA}^t = 0.77^t.
\]

All three countries are interacting with each other and face a linking decision \( g_{ij} = 1 \) to interact with the trading partner. As the US car industry struggled, some politicians argued that the USA has to protect their car industry better by imposing customs and higher taxes on traded cars from overseas including Germany and Japan. Putting these political measures into place would increase the revenues of American car manufacturers by approximately $7 billion in short term view as they gain a competitive advantage within the US market compared to Japanese and German car manufacturers. With these measures, the USA would break the trading agreement with Germany and Japan.

Breaking the agreement would also hurt the German and Japanese economy as they would lose significant sales revenue and shares in the US market. Germany and Japan could sanction the USA with imposing higher taxes and customs on products from the USA by excluding them...
from the trading agreement. American car manufacturers such as General Motors have significant high sales in the Global Market which also includes the German and Japanese market (2013 GM Global Sales, 2014). As soon as the USA defects with Germany and Japan, it is likely that they will refuse to cooperate with the USA as well and impose higher taxes and customs for American cars in their country the following years. It might be possible that they will renegotiate a contract in the future but it will be hard for the USA to regain the trust to obey the agreement if they have broken it already once. The American car manufacturers will lose $3 billion annual revenue in subsequent years in the German and Japanese market as a consequence of higher taxes and customs. The overall annual loss for the USA in breaking the agreement would be $5 billion as the agreement contains also industries outside the car market. Using the expected utility function, and putting in the time preference of the USA with the discount factor, we would have the following result for the American car manufacturers: 

$$EU_{t \to \infty} = \Pi_{USA}(a_{USA} = D, g_{USA|GermanyJapan} = 1) - c_f \cdot \sum_{t=1}^{\infty} \delta_{USA}^t = \sum_{t=1}^{\infty} 0.77^t \cdot 7 \times 10^9 - 3 \times 10^9 \times 3.35 = -3.04 \times 10^9$$

So, here $$EU_{t \to \infty} < 0$$ which means that it would be in the best interest for the USA and its car manufacturers to not break the agreement. Now, one might argue that it could be possible for the USA to renegotiate a similar contract after some years. Assuming that the United States can establish a new contract after four years, one would have to reassess the situation for the American car industry with the help of expected utility: 

$$EU_{t \to \infty} = \Pi_{USA}(a_{USA} = D, g_{USA|GermanyJapan} = 1) - c_f \cdot \sum_{t=1}^{4} \delta_{USA}^t = 7 \times 10^9 - 3 \times 10^9 \sum_{t=1}^{4} 0.77^t \cdot 7 \times 10^9 - 3 \times 10^9 \cdot 2.17 = 48 \times 10^7 > 0$$

If the contract was broken only for four years, it would mean that American car manufacturers would be better off with breaking the agreement. But would it be beneficial for the overall US economy? For assessing this, one has to include the overall annual loss for the American economy:

$$EU_{t \to \infty} = \Pi_{USA}(a_{USA} = D, g_{USA|GermanyJapan} = 1) - c_f \cdot \sum_{t=1}^{4} \delta_{USA}^t = 7 \times 10^9 - 5 \times 10^9 \sum_{t=1}^{4} 0.77^t \cdot 7 \times 10^9 - 5 \times 10^9 \cdot 2.17 = -3.85 \times 10^9 < 0$$

In this case, it benefits the American car industry but not the overall economy of the USA. Breaking the agreement would isolate the USA from the German and Japanese market and, therefore, exclude them from the network.
Real Life Strategies in a Network Dilemma Game

Within a SN it is possible that a player discriminates other players with his actions. Unilateral and mutual relationships can exist as well as the formation of different coalitions (Ule, 2008). Members of such a SN will most likely evaluate each other because of past actions when playing the NDG and can earn or loose trust among the others (Mui, 2002). Every agent in a NDG has a broad variety of strategies to choose from. When playing a prisoner's dilemma repeatedly, there are certain strategies which reveal a behavioral pattern of the agent. Such strategies include always defecting cooperation, always cooperating, random cooperation with a certain probability, the grim strategy, and the tit for tat strategy (Davis, 2007).

*Always defect:* This strategy delivers the outcome of a SPNE in the prisoner's dilemma. The goal of this strategy is to be always better of compared to the other player.

*Always cooperate:* The agent cooperates without any restrictions. Thus, the agent can be exploited easily by other uncooperative players within the network. Compared directly to the other agents of the network the cooperative player will be never better off.

*Random cooperation:* The agent cooperates with a constant probability of 50%. Denying cooperation occurs with the inverse probability of 50%.

*Periodically defect:* A periodically reoccurring strategy such as (C, C, D) would be one possible strategy. The agent reveals a behavioral pattern which shows mostly cooperation with occasional uncooperative behavior with the hope that the other agent might still be willing to cooperate. A more aggressive strategy of periodically defecting would be (D, D, C).

*Grim strategy:* The grim strategy suggests that the player cooperates in the prisoner's dilemma as long as the other agent cooperates. After the other agent defects for the first time, cooperation will be avoided by the player in all subsequent games.

*Tit for tat strategy:* The agent cooperates in the beginning and chooses always the preceding action of the other agent for the following actions.
Suspicious tit for tat strategy: The agent defects in the beginning and chooses the preceding action of the other agent for the following actions.

In the real world, there is a great variety of different strategies or sets of strategies when the game is played repeatedly, however, the strategies mentioned here are some of the most reoccurring ones.

Axelrod (1984) compared in his publication “The Evolution of Cooperation” many of the standard strategies for the repeated prisoner’s dilemma game via computer-simulation and came to the conclusion that the tit for tat strategy resulted in the highest overall payoffs. First, they tried to optimize the tit for tat strategy and afterwards, they compared the tit for tat strategy with 62 other strategies developed through programming competitions. But in the end, the tit for tat strategy resulted in the highest payoffs (Axelrod, 1984).

Strategies for the Network Dilemma Game

Reflecting this on the NDG with multiple participants of a SN, one has to adapt some changes. Additionally to the choice of cooperation, the agent also has to choose whether to connect with the other one or not. If a prisoner’s dilemma is played by more than two players which is likely in a SN, then uncooperative behavior harms not only the other player but the whole group. Without the possibility to exclude free-riders from the game chances are high that cooperation breaks down soon. Thus, it is essential for the functionality of the SN that agents do not punish uncooperative behavior with defecting in the next turn. Excluding free-riders by not connecting with them on the next turn of the game could be a credible sanction in the NDG. The tit for tat strategy is more of an “out-for-tat strategy” (Ule, 2008, p127) in this case.

Conclusion

Concluding these aspects, one must say that SN have a major impact on the decision making of individuals in todays society. Many decisions made in such networks have a major impact on the reallocation of resources in businesses on national and international basis. At the same time, they are also affected by a set of many variables. Such variables can include personal values and beliefs. People living by the core value of responsible stewardship will always include that variable into their strategic decision making and influence other members in their SN with their decisions. As there is so many different variables influencing an individuals decision, it is hard to
predict the actual behavior of the agents. The variables which are necessary to predict individual behavior consist of a personal set of values which is also influenced by a variety of different cultures in international businesses. Still, economic tools and models, like the NE, QRE, NDG, or the concept of expected utility linked to strategies in a SN can be very useful as they help to increase the understanding of economic behavior in SN and help to understand why cooperation takes place or not.

Appendix

Identification of the discount factor for infinitely repeated games $t \to \infty$

\[
u_i(r_i(s^*)) + u_i(s^c) \frac{\delta_i}{1 - \delta_i} < \frac{u_i(s^*)}{1 - \delta_i} \iff u_i(r_i(s^*)) = u_i(s^c) \delta_i < u_i(s^*) \iff u_i(r_i(s^*)) - u_i(s^c) \delta_i < u_i(s^*) \iff u_i(r_i(s^*)) - u_i(s^c) \delta_i < u_i(s^*) \]

References


Abstract

Cloud and mobile computing have been the most popular innovations in information technology in recent years. But with this popularity, they also bring in many security concerns that were not existent before they were invented. To ensure proper functioning in a trustworthy environment, it is very important that everyone using these technologies, in particular, organizational information systems, be cognizant of the security issues related to these technologies. In this paper, we survey these issues and present a careful analysis of the details and also remedies to counter the issues where appropriate. We believe that our report will be a useful guide for everyone wishing to implement cloud and mobile technologies securely.

Introduction

Cloud and mobile computing have revolutionized the world of computing over the last few years, both for individuals and organizations. That is a huge shift from the era before that was based on data and computation on isolated machines or on networked systems, but in fixed locations.

Cloud computing is a technology where the data and applications (or apps) were stored in a third party server. Hosting data and apps at a remote location has advantages such as less burden of maintenance and efficient back-ups. Mobile computing is giving access to information on mobile devices such as laptops, cell phones and other wireless devices. The ability to access information from any location is obviously advantageous and has gained tremendous popularity among users.

However, as useful and convenient these technologies are, their implementation is quite complicated and intricate. This brings in many security concerns that were not existent before. For instance, storing data on cloud storage requires secure transmission so that it cannot be learnt or tampered in transit. Similarly, mobile devices need to be authenticated properly before they are allowed to connect to a network, to prevent illegitimate access by malicious devices.

These security issues concern both individuals and organizations that use cloud and mobile computing technologies. Needless to say though, organizations are likely to suffer a lot more losses than individuals. Nevertheless, it is very important for everyone to understand the issues to be best prepared in countering them and maintain a trusted computing environment.
In this paper, we survey these issues and present a detailed, organized analysis into the various aspects. We also suggest remedies and countermeasures where appropriate. It would be useful for everyone to understand these issues and be mindful of the threats to their data as well as the techniques to defend against the treats.

**Organization.** The rest of the paper is organized as follows. In Sections 2 and 3, we discuss the security issues in cloud and mobile computing respectively. Section 3 is larger since mobile computing has more issues than cloud computing: In Section 3.1.1 we present the vulnerabilities and threats to mobile computing. In Section 3.1.2 we discuss countermeasures against the threats, and in Section 3.1.3 we present a survey of architectural improvements for security in some popular mobile devices. We sum up with a Conclusion.

Security issues in cloud computing

Cloud computing provides a cost effective means of management and accessibility of data storage, resource sharing and the mobility of doing business beyond the physical limitations of one location. However, the tradeoff for this service is giving up various levels of control to the Cloud provider that can present security issues. This is so since Cloud computing adds more points of entry and more interconnections complexity (Hashizume, Rosado, Fernández-Medina, & Fernandez, 2013). The three types of Cloud providers are describe in figure 1: Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS). Subscribers of the latter service is achieved by outsourcing their storage, hardware and software resources to the provider face the highest security challenges. In fact, according to Huth and Cebula (2011) “the information housed on the cloud is often seen as valuable to individuals with malicious intent”.

These challenges are identified as being both technical and legal. In the technical realm, the issues range from operational trust modes, resource sharing, and digital forensics. In the IaaS provider-client situation the provider has access to all of the consumer’s operation and data in the cloud environment (Hay, Nance, & Bishop, 2011, p. 2). One way to deal with this is the use of encrypted communication channels to cloud storage by the client. However, this is only effective if the client is encrypting and decrypting the data before and after moving to and from the cloud. If the client requires using the data within the cloud, the provider will have the decryption key and therefore access to the data.

Further, even if this is not the case, the provider can infer information by carefully observing the data stream and storage devices that they control. In fact, the malicious use of homomorphic encryption where computations are made on encrypted data can glean useful information from the data without the input data being exposed. The fact that clouds operate on a WAN that is more dynamic and complicated than a traditional company’s internal LAN increases the locations where data flow can be infiltrated or re-routed for malevolent means. Hashizume et al. (2013) suggest the use of strong encryptions algorithms such as those used by the Advanced Encryption Standard. They also suggest Secure Socket Layer (SSL) to protect data in transit. Andrei (2009) recommends that integrity of transmissions can be improved by the use of SSL and or a Transport Layer Security (TLS) to ensure that the sessions are not being altered by a man in the middle attack. The use of a Secure Internet Protocol (IPsec) can also be used to secure the network. By using SSL, TLS and IPsec a provider can guarantee confidentiality of data usage between authenticated users and the cloud.
Resource sharing is another area of concern. Vulnerabilities arise where different and often competitor corporations share the same storage and hosting resources as data leakage may occur. One way to alleviate this is to allocate physical components to a single consumer but this decreases the flexibility and elasticity usage. One solution suggested by Winkler (2011) is to ensure that no two competing corporations or clients with conflicts of interest use the same physical resources. This can be done with the aid of a Virtual Machine Monitor (VMM) to isolate virtual machines and reduce the risk of security vulnerabilities (Hashizume, Rosado, Fernández-Medina, & Fernandez, 2013).

Other countermeasures to leakage include the breakdown of sensitive data into significant fragments and scatter them across different sites. This technique is known as Fragmentation-redundancy-scattering (FRS) (Wylie, et al., 2001). Another way to protect data from manipulation is the use of web application firewall that inspects all traffic for specific threats.

An alternative countermeasure is the use of virtual network security as proposed by Wu, Ding, Winer and Yao (2010). This network is composed of a routing layer, a firewall and shared networks to prevent virtual machines from sniffing and packet spoofing. This measure is useful in wireless networks where malicious hackers can monitor the airways to intercept packets.

Security is not only an issue in terms of malicious attackers. Natural disasters and power outages also provide real threats to a system. This is generally covered in disaster recovery and business continuity policies and plans. Most cloud providers mitigate this threat by replicating identical systems at different geographical locations. This duplicity of resources enables continuity of service to clients. Further, the use of physical protection means such as fire suppression and back-up power generators (among others) can protect data centers from being adversely affected.

Digital Forensics is another area that is evolving to be effective in the dynamic nature of the cloud. A major challenge is that the impermanent nature of the use of resources for a short period of time after which the client no longer needs the cloud resources which are passed on to other clients. Any trace of the original processing event is lost and virtually impossible to trace. These challenges even occur in more lasting client relationships where data migrates or where the virtual disk file is written too many areas storage devices to enable flexibility of the cloud. Hence historical artifacts are difficult to find and may no longer associated with (their) virtual hosts (Hay, Nance, & Bishop, 2011, p. 5).

The migration of data and resources complicates the legal issues as well since they are not fixed to one jurisdiction. In fact, resources located in different jurisdictions may have more than one legal obligation, and may even have conflicting rules about security and data protection. Additionally, the complexity increases when global legislation is considered since the data flow, retention, and privacy issues vary dramatically from the state to the national, and ultimately the international levels where the physical resources of cloud providers are often located (Pearson, 2012).
One solution is to have cloud providers make migration decisions based on the requirements of clients in addition to the availability of the resources they offer. Such requirements would include data privacy, segregation and multi-tenancy that is based on non-conflict interest criteria. Although this would limit the flexibility of providers, it alleviates legal issues for consumers (Hay, Nance, & Bishop, 2011).

Additionally, Hashizume et al. (2013) suggest the need for data developers to be educated in the legal implications of data storage to prevent privacy and security challenges. Apart from education, best practices would suggest that cloud providers use background checks in their hiring policies and human resources relations. According to Andrei (2009), “most thefts occur when users with authorized access do not handle data appropriately” (p. 2). Stricter hiring policies should affect the hiring rate of would-be hackers who will be given privileged access to clients' data and resources and who could potentially wreck more havoc than external attackers.

Ultimately, there must be a multipronged approach that includes both technical and legal techniques to encompasses the security issues that plague the use of cloud computing. Cloud providers and clients as well as third party providers must all share responsibility and be educated not only about the benefits, but also about the dangers of using this convenient and cost effective means of computing. Only then can informed decision-making lead to the based use of the Cloud with integrity that protects all the stakeholders involved.

Security in Mobile Devices

Numerous articles and market research have been reporting that the Personal Computer (PC) era is coming to an end. Their conclusions were attributed to the steady increasing in the usage and market penetration of the tablets and smartphones (mobile devices) (Rogowsky, 2013; Malone, 2011). Indeed, the usage of mobile devices is eclipsing that of personal computers in different times of the day and across multiple demographics (Berelowitz, 2013; Ofcom, 2013), even though their inception was as late as 2007.

As the adoption of mobile devices grows, the interests in malicious activities on these mobile devices also increase, since they are directly proportional. Mobile devices not only hold as much personal information and processing power as personal computers, but they also provide an easier platform for monetary access to attackers. A case in point, a malware app can send text messages to premium-rate numbers. Because the usage is directly connected to the operator's billing systems, attackers can collect money without much efforts.

Attacks on mobile devices can target the following assets: private information, system resources, and apps. Private information includes address book, call history, location information, schedule, cache files, saved passwords, emails, and apps’ private data. System resources include CPU, memory, storage, camera, and communication modules (wireless networks). Apps are the applications that users install on their device either by downloading them from the provider’s market place, the Internet browser, or an external storage. If one of these assets is compromised, malicious activities can be carried out on the mobile devices.
Attackers can get into these assets by communicating with the devices via Bluetooth/Wi-Fi/NFC, carrier services, external storage, power supply, or tethering as specified in Figure 1. If one of these assets is not secured, a mobile device’s assets could be subjected to malicious attacks. There have been numerous major attacks via these external communications. In 2012, a drive-by malicious code called Troj/Iframe-HX was injected into compromised websites. This code examined the source of the mobile device visiting the affected website. If the source is from an Android platform, a malware app (Update.apk) will be sent to the mobile device. This app acts as a proxy to steal data from devices connected to corporate networks. Another app that can bypass antivirus apps is FinFisher. It is a spyware that monitors and captures data on mobile devices. The most recent exploit is on the iPhone smartphones via the flaws in the transfer protocol of the USB charger. This exploit allows an attacker to inject arbitrary codes without requiring the phones to be jailbroken and without user interaction.

Figure 2: Mobile devices and external communications

3.1 Vulnerabilities and Threats in/to mobile devices

Attackers can mount attacks on a platform that is either less secured, less monitored, or popular. The Android platform has the advantage of openness. It allows its operating system to be installed on multiple mobile device vendors. Anyone with knowledge and expertise can build their own version of Android such as Amazon Kindle. It also allows users to install apps from multiple sources. The direct result of this openness is the extraordinary adoption rate in the mobile world. However, it also allows its door wide-open for malicious attacks (Sbichen, 2013). In contrast, Apple closes their iOS platform to outsiders with the philosophy that it would provide a better experience if it can develop software and hardware themselves. Apple’s app
approval process is also stricter than Android’s and the security architecture design is a blend of hardware and software. The combination of these features protects iOS platform better than other platforms. This section will explore the vulnerabilities and threats in mobile devices in general and follows the layout structure in (Jeon, Kim, Lee, & Won, 2011).

3.1.1 Vulnerabilities:

In order to attack successfully, an attacker must find the vulnerabilities in mobile devices. Mobile device vulnerabilities can be listed in the following categories:

Software design and execution flaws:

Same as on PC, flaws/errors found in the software (Operating Systems, apps) would be susceptible to attacks. These attacks can be carried out in many forms such as type safety, arbitrary code execution.

Incompatibility

The incompatibility of software can expose the weakness to outsiders that otherwise would not be discovered.

User unawareness

Installing apps that pose as being from legitimate sources.

Installing apps by a third party that the owner is not aware of, for example, give a child the phone to play with.

Requesting from apps or phone features (Bluetooth devices...) to change configuration and setting that the owners do not completely understand the consequences.

Connecting to an untrusted network.

Being sniffed, spoofed, or eavesdropped of information while communicating over wireless networks.

Connecting to external devices or entities that can inject attack codes into the device.

3.1.2 Threats

Mobile devices provide easier targets as compared to PC for attackers because there are many ways to get into the system. Below are the threats that could pose security issues to mobile devices:

Malwares, viruses, phishing:

Stealing or exposing personal data.
Slowing down the system, draining battery, and affecting the usability.

Collecting money from subscribed services (by sending text messages to a premium-rate number).

Wireless Networks
Denying services by blocking the network.

Collecting private information from insured networks by sniffing, spoofing, or eavesdropping.

Exploiting code
Gaining partial or full control of mobile devices by attacking the weakness in the operating system or apps.

Legitimatize bad sources
Doing something that is not described what it is supposed to do, for example, language keyboard apps can collect keystrokes and passwords.

3.2 Security measures against attacks

The most obvious and intuitive ways to improve security on mobile devices are antivirus software and spam filters. These measures can prevent attacks from the external sources such as malware. Antivirus software can scan apps to report what type of resources these apps will be using before they are even downloaded. Many times users download software without looking at the fine print of resource permissions, which tells what type of resources the app wants to use such as address book, SMS, Wi-Fi.

However, antivirus software and spam filters cannot protect systems from internal sources such as user unawareness or loss of device. In order to be protected from internal sources, system-level design should be considered and evaluated. Below is a list of security measures that can be implemented in mobile devices:

Antivirus: Prevents viruses from external sources sneaking through apps, the webs, PC tethering, message attachments, communication devices (Bluetooth, WIFI).

Firewall: Blocks external hacking into the system.

Permission-based Access Control: Provides enforcements on how apps can access system resources

Authentication: Provides protection to access the device (fingerprints, access codes)
Spam Filter: Filters out spam and blocks apps that has unauthorized access to MMS, SMS, emails, and phone calls.

Certification: Screens apps before approval

System Updates: Updates to patch system weaknesses

Remote Access Control:
Prevents unauthorized access to the system in case of loss.

Allows remote configuration settings.

3.3 Security measures on popular mobile device platforms

Mobile device market currently have four main platforms: Android, iOS, Windows Phone, and Blackberry. The two most popular platforms are Android and iOS. These two platforms command a market share of 94.7% in the most recent data (Sbichen, 2013). They are popular due to one of these factors: ease of use, responsiveness, openness, or a wide selection of apps. According to (F-Secure, 2012), Android platform accounted more that 79% of all mobile malware in 2012 due to its openness and easy approval process. The next sections will explore the security implementation of these two platforms.

3.3.1 Android

Android platform was developed by Android Inc., which had the backing of Google. Google eventually bought the platform and has developed it internally. Android is an open platform, which is free to mobile device makers.

Android implemented a multi-layered security design to allow developers to easily work with and to provide flexibility for security controls (Google, 2013). Android development team also created a security program to provide oversight and respond to security threats to the platform. The program has four key components: design review, penetration testing and code review, open source and community review, and incident response. These components enable the platform to have a vigorous ecosystem of applications and devices.

3.3.2 Android Security Architecture

Android aims to secure its platform by protecting user data and system resources, and providing application isolation. Application isolation refers to confining an app within its working space so that it would not be able to interfere with other apps’ space. In order to achieve this type of security, Android adopts the following measures: Robust security for the Operating System (OS), Mandatory application sandbox, secured inter-process communication, application signing, and application-defined user-granted permissions.
As mentioned earlier, Android employed a layered approach for its OS. Each higher layer assumes that the lower layers are secured and Application Sandbox is applied to all the components in the layers above the Linux Kernel. Figure 2 (Google, 2013) shows the architecture of the Android platform.

3.3.3 iOS

iOS is a platform for Apple devices (iPhones, iPads, and iPods). It was first unveiled in 2007 and became popular instantly, mostly due to the fact that iPhone was the first full-featured phone with supporting apps downloading straight from an online market place.

Apple designed iOS security based on industry-standard secure design principles with additional security features to enhance the OS in general. iOS is based on layered approach to protect its components. The security model's main goal is to protect information while still maintaining mobile use, third-party apps, and syncing. It is trying to make security technology and features as transparent as possible. Some key features such as device encryption, are not configurable. Some optional features are set to be enabled by default.

iOS Security Architecture

iOS protects its system through architectural design, encryption and data protection, network security, and device access (Apple, 2013). Figure 3 depicts the iOS security architecture. It employs hardware and software approaches.

System architecture design: enables the validation of activities across all layers of the device. Each step from boot-up to third-party app activities is monitored and protected. Security features are enforced at run-time. System architecture design enforces the following activities: secure boot chain (ensuring the security of the OS), system software personalization (prevent jailbreaks), app code signing (allowing only signed apps to run), and runtime process security (apps are sandboxed).

Encryption and data protection: protects user data. It uses layers of integrated hardware and software technologies to provide security. Hardware security features a dedicated AES 256 crypto engine and SHA-1. Software security is called File Data Protection. It protects the data whenever data needs to be accessed. Data protection also supports passcodes to get in the system. It allows for 4-digit passcodes, either numeric or alphanumeric. System can slow down the process time of the passcodes to prevent brute force attacks. Other security features are implemented such as classes, keychain data protection, and keybags.
Network security: secures data coming in or going out of the systems. The current technological age is called “The Internet of Things”. It means everything is connected and communicates with one another. iOS supports Secure Socket Layer (SSL), Transport Layer Security (TLS), and Datagram Transport Layer Security (DTLS). System apps such as Safari, Calendar, and Mail use these security features to communicate with network services. iOS also supports Virtual Private Networks (VPN), Wi-Fi, and Bluetooth.

Device Access: supports flexible security policies and configurations to simplify deployments and to meet requirements in cooperate environments. Passcode protection forces users to enter a passcode before using the device. Configuration enforcement allows configuration settings to be distributed to iOS devices. This enforcement stays with the profile: if the configuration profile is deleted, all the settings will be removed. Mobile Device Management (MDM) allows wireless configuring and updating settings, monitor compliance with corporate policies, and remotely wipe or lock managed devices.
3.3.4 Other approaches to protect mobile devices

In fairness, mobile devices are more secure than their counterpart PCs. This is due to the lessons learned from the PC-era. They are better designed to prevent malicious attacks from permission and access controls to security architecture. According to (CTIA, 2013), mobile malware infection rates are less than 2 percent in the U.S. However, the number of malware apps has increased about 185% in 2012 (Kash, 2012). Figure 4 shows mobile malware apps for month-to-month in 2012. This number has triggered the government to call for a stronger safeguard for mobile security.

Due to the increasing number of threats to mobile platform, security safeguards must always improve and evolve to deal with the current and unforeseeable threats. Liebergeld et al. (Steffen Liebergeld, 2013) proposed a virtualization system where all the communication interfaces can be monitored. The authors stated that the operating systems of a platform should be on its own virtualized space. A separate virtualized space will monitor all the traffic going out or coming in. This method will allow mobile platforms to be protected from malwares.
Figure 4: Increasing number of malware apps. Source (Juniper, 2013)

In another spectrum, the authors in (Kathy Au, 2011) propose that a more defined and clear permission model should be able to protect mobile platforms from permission exploitations by app developers. It also helps the users obtain clearer permission request before downloading and installing an app. An over-declaration of permissions would lead to a rejection of an app or exploitations by developers.

We would like to point out that security of mobile platforms would also improve if end-users have a better knowledge on how to use mobile devices safely. Simple knowledge would help significantly, such as avoiding clicking on suspicious links, installing apps from untrusted sources, being careful about signing up for a service after receiving a message asking to sign up, or just being vigilant about the activities and information stored on the mobile device itself.

Conclusion

In this paper, we have presented a survey of security issues in cloud and mobile computing. We have explained the details of the various vulnerabilities, threats and countermeasures for these technologies to be used in a trustworthy environment.

We believe that security concerns related to cloud computing are more relevant and important for organizations than individuals. On the other hand, mobile device security is mostly a concern for individuals. There is also a big difference in ensuring security for cloud and mobile computing technologies. With cloud computing, individuals or organizations do not have much control in securing the data, but only in selecting the most trustworthy option: Much of the security issues surrounding cloud computing have to be dealt by cloud providers themselves. In
contrast, users have significant control over their mobile devices, in order to ensure security. We hope that our detailed analysis of the most popular mobile devices, in particular, their design and options for security would be a useful guide to users both when deciding to acquire one or when maintaining their existing devices.

Bibliography


GENERATING CLICKS: DISPLAY ADVERTISING WITHIN SOCIAL MEDIA

Ronda Mariani, DBA

ABSTRACT

This research study developed a comprehensive social community prototype and tested a variety of display advertising scenarios to determine which scenario motivated a social media user to click. Empirical research based upon 503 users of social media led to the development of several independent variables, which were identified in the study as display advertising scenarios. The display advertising scenarios tested in the study were video, animation, engagement, and brand familiarity, as well as the size and location of the display advertising within each social media prototype web page. Data collected identified which display advertisement scenarios motivated a social media user to click on display advertisements within the social media environment.

Basis of the Study

The uniqueness and versatility of the internet has contributed to the continual rapid growth of emerging technologies, bringing the consumer closer to their brands (Ducoffe, 1996). For advertisers and marketers, it has become critical “to examine the factors that influence how consumers process advertising on the web” (Cho, 1999, p. 45).

Although there are many other forms of advertising that are found on the web, display ads are the most prevalent (Plummer, Rappaport, Hall, and Baracci, 2007; Cho, 2001). Display advertisements include many styles and designs, from interactive to static displays. While display advertisements are placed in almost any venue on the internet, there continues to be an ongoing debate about their effectiveness (Cho, 2003).

Social networking sites have begun to dominate the web traffic and have become host environments for consumers worldwide to connect. However, advertisers face challenges as how to employ these social networks in their marketing plans and motivate a consumer to click through on a display advertisement and make a purchase decision.

This research study addressed social media users click through decisions within a social community prototype (SCP), designed by the researcher. This SCP allowed users to interact within the online environment while tracking the user’s display advertising clicking decisions. An analysis of the data was conducted which identified the types of display advertisements preferred by the sample population of 503 consumers within social media environments. This study categorized display advertisement clicks within a theoretical framework.
Research Problem and its Significance

Social Influence Marketing (SIM) is turning the marketing arena upside down and is a critical issue for advertisers in identifying the most effective method to utilize in marketing to their customers (Singh, 2009). The most common method of reaching consumers in a social media environment has been through display/banner advertising. Successful online marketers must identify the type of display advertisement that is best suited to attract their consumers and motivate a click. This study researches the problem of how to develop effective display advertising that will motivate consumers to click. Many researchers explore “consumer-related and contextual-factors, and neglect to consider another stream of significant factors: advertiser control factors, such as, design factors: color and imagery, message related factors: catch phrase or tag line, and source related factors: who the brand is” (Cho, 2003, p. 202) as well as display ad size and location (Sigel, Braun, and Sena, 2008). In addition, the study analyzed consumers click through preferences within a social media environment and researched the factors which motivated consumers to click on display advertising. Various display advertising scenarios were introduced to consumers within the SCP environment, to emulate a simulation of current social media community web sites.

Social Media Marketing

The online social media arena is the new innovative fascination for marketers. Social media respectively refers to “online communities, such as Facebook, Twitter, LinkedIn, and MySpace, which are participatory, conversational, and fluid. These communities enable members to produce, publish, control, critique, rank, and interact with online content” (Tuten, 2008, p.20). Online social communities have digitally empowered consumers and have changed the advertising game for marketers (Kuo, 2009). These online social communities most importantly allow the client to engage directly with their target audience and receive feedback from that audience (Peterson, 2009). This interaction creates value innovation for brands and an opportunity to develop and build brand trust.

Display/Banner Advertising and Banner Blindness

When consumers participate within a social media environment, the users attention is “divided between editorial content and advertising” and due to this division, it is becoming increasingly impossible to “capture visitor attention” (Chtourou and Abide, 2010, p. 108). Display advertising, also known as banner advertising, or the “short promotional message occupying some portion of a web page (Putrevu, 2003, p. 45) can be seen in a variety of forms, such as text links, imagery, animation, classifieds, or sponsorships (Cho, 2003). Capturing the allure of consumers within these social media environments continues to be a challenge for online advertisers.

Display ads have varied levels of interactivity, styles and designs and are placed in many venues on the internet, such as e-commerce sites, internet portals, and social media sites. Many advertisers struggle to achieve the desired profitability from the online ads and advertisers
believe banner blindness (Cho, 2003) may be a factor. The premise behind display advertising is to allow marketers to present the “right message in front of the right customer at the right moment” (Morrissey, 2010, p. 10). Marketers have been searching for the “Holy Grail of a Metric” (Fisher, 2009, p. 190) to learn more about their online advertising investments. A poll by Marketing Sherpa (Fisher, 2009) indicates marketers resist adoption of social media since they struggle to reap the desired financial rewards. Brands spend more on display advertising than almost any other form of non-traditional advertising (Sigel, Braun, and Sena, 2008). However, Cho’s (2003) concept of banner blindness was supported by a study conducted in April 2009 by McPheeters & Co. and Conde Nast (Marsh, 2009) which found that web users did not see 63% of display ads. As Social media has become a powerful medium for online socializing, the 2008 Cone Business in Social Media Study found that 85% of Americans using it believe a company should be available for interaction on the site (Swanson, 2009) and since these users are seeking entertainment with brands (Ko, Cho, and Roberts, 2005), it can be assumed that a certain amount of user and brand trust play a role in engagement.

Trust

Ha (2004) and Vaidyanathan and Aggarwal’s (2000) research regarding the importance of brand familiarity and trust on the internet is inherent to this research study. Vaidyanathan and Aggarwal’s (2000) research proved that when a familiar brand was marketed with a not-so-familiar brand, it increased the promotion for the not-so-familiar brand. There was a sense of familiarization and trust with the not-so-familiar brand when coupled with the well-known brand. Ha’s (2004) research led to the development of a model diagram which presented and demonstrated that standardized parameters will build brand trust on the internet. Research findings suggest a correlation between trust and advertising credibility and posit that ad trust “incorporates behavioral intent: willingness to rely on, not actual behavior: relying on behavior” (Soh, Reid, and King, 2009, p.86). “Trust in the online context implies: the consumer’s willingness to be vulnerable to the company and belief that the firm will fulfill its promises and will not exploit that vulnerability for its benefit” (Martin, S., & Camarero C., 2008, p. 549). Social communities provide environments a continuous exchange of information and many opportunities for vulnerability. Users of social communities may already have a sense of trust in their online environment to embrace this vulnerability each time they participate.

Engagement

Social media “has provided the motive opportunity, and means for advertisers to engage consumers in a more open and honest way” (Nielsen, 2009, p. 13). Social communities make this honest interaction possible between advertiser and user. Currently online display advertising strategies are based on the consumer push model (Autry, 2008). Display advertising is pushed based on the behavior of consumers and their interactions within the online environment, meaning advertisers present display ads based on the user’s interaction within the social community. Research reveals that most users engage because of two motivating factors: first, the needs and wants, which users identify in themselves and the community in which they are
participating; and, second, the rewards and gratifications, which the user is likely to receive because of their participation (Bruns, 2009). This may indicate that successful social media display advertising will require users to participate or engage directly with the display advertising, and in return receive some sense of gratification or reward. There are many types of display advertising formats. This can complicate advertisers’ display advertisement decisions (Rosenkrans, 2009). Rich media display advertising may be one way of accomplishing ads that are more engaging. Rosenkrans (2009) found that rich media ads gained more user interest, engagement, and user interactivity.

Size and Location of Display Ads

Adding to the attributes of rich media, advertisers need to understand display ad size and location. The authors Sigel, Braun, and Sena, (2008) found that display ad creative was only one part of the puzzle, the other half is specification, display ad and location (p. 338), which is supported by research data which revealed that display ads located at the top or left side of a web page received more attention than other locations (Eyetrack Ill, 2003).

There has been much conflicting data regarding the size of display ads. Li and Bukovac (1999), and Robinson, Wysocka, and Chris (2007), found that larger display ads were very promising when attracting internet users and motivating a click. Yet, Dreze ad Husserr (2003) found conflicting evidence as to whether size actually played a role in motivating a click.

Success in social media advertising means overcoming obstacles. Whatever the formula, for good social media advertising, rich media, size or location, may be some of “the ingredients which could form the future of best practices for interactive advertising” (Nielsen, 2009, p. 13).

Research Question

Social media communities and marketers need to understand how consumers think, and what types of advertising motivate consumers to click on display advertising within social media environments. Are consumer clicks based upon brand familiarity, brand trust, engagement, size or location of a display advertisement? The research problem in this study focused on social media users motivation to click and which advertising motivators worked best in a prototype of a social media environment. The question was the following: RQ1: What motivates social media users to click on display advertisements in the social media environment?

Hypothesis

H0a: There is no significant relationship between display engagement advertisement and clicking on the social community display advertisement.

H0b: There is no significant relationship between the size of a display advertisement and clicking on the social community display advertisement.
H0c: There is no significant relationship between the location of the display advertisement and clicking on the social community display advertisement.

H1d: There is a significant relationship between brand familiarity display advertisements and clicking on the social community display advertisement.

H0e: There is no significant relationship between the display advertisement scenario and the social media users’ motivation to click on a display advertisement within a social media community.

Population and Sample

The population targeted for this study consisted of 503 social media users who were at least 18 years of age and who used social media in some form at least once per week.

Limitations and Delimitations

For the purpose of this study, display advertisements were selected from the web and some were uniquely developed. The display advertisements were limited to four display sizes (Interactive Advertising Bureau (IAB) 2010) and their placement was limited to four locations within the social community prototype (SCP). The participants were limited to 503 weekly social media users over the age of 18, and the study was conducted over a two month time period. An additional delimitation may have been brand familiarity and limiting the number of variables to be tracked.

Overview and Methodology

This study examined different types of display advertising scenarios, including media type, size, and location. This study identified consumer motivations to click on display advertisements within social media environments. The model of this study was based on research conducted by Cho (1999, 2003), referring to the term “banner blindness” (p. 204), Ha (2004) research concerning “brand familiarity” (p. 329), Chtourou and Abida (2010) findings on the effectiveness of animation in display advertising, and Sigel, Braun, and Sena (2008) findings on display advertisement size and location. The methodology used to determine motivator factors were the following: media type or display advertisement scenario, brand familiarity, size, and location; then determining which of these factors’ verb tense were more prevalent when motivating a social media user to click on a display advertisement in a social community.

Research Design

The method used in this study was advertising analysis using the following variables:

Engagement: video, gaming, and animation (Chtourou and Abida, 2010)

Brand familiarity (Ha, 2004)
Size of a display advertisement (Sigel, Braun, and Sena, 2008)

Location of the display advertisement (Sigel, Braun, and Sena, 2008)

Relationship between display advertisement scenario and clicks on display advertisements (Cho, 2003).

The research design for this study was based upon the development of a six-page prototype of a social community web site where display ads were limited to four sizes and locations on the prototype.

Wide Skyscraper 160x600 - Left side
Leader Board 728x90 – Top
Medium Rectangle 250x250 – Right top side
Vertical Rectangle 240x400 – Right bottom side

Participants

Participants were able to freely and anonymously click on the wall announcement opened by the researcher, which directed them to the home page of the SCP. The home page or first page of the web site displayed directions and disclosed information related to the study.

Prototype Format

The SCP contained the following display ad scenarios:

Video Display Advertisements
Animation Display Advertisements
Engagement Display Advertisements
Brand Familiarity Display Advertisements
Assortment Display Advertisements

Participants proceeded through each web page and clicked on only one display ad on each page. The data was then tallied up using site analytics.

Instrumentation

Stringer (2007) suggests that the purpose of analyzing key experiences is to identify “events that seem to have marked impact on the experience of major stakeholders.” Social media is such a new medium that when research can provide accurate and trustworthy results about consumers interacting in these online environments, this is welcomed among stakeholders, providing a
better understanding for future strategizing within interactive online markets. Stakeholders can ask the following questions while analyzing the data from the online survey instrument: Why did one display ad scenario outperform another? What may have motivated the participant to click on the display advertisement? What size was the display advertisement? Where was the display advertisement placed in the SCP web page? Most importantly, the instrumentation to this study may answer the top three questions marketers had: (1) what are the best tactics to use? (2) how do I measure the effectiveness of social media? and (3) where do I start? (Stelzner, 2009).

Data Collection and Analysis

Clicks from users were collected by a content management system embedded in the SCP. The content management system collected each display advertisement click by participants, and saved the data to an administration page. Statistical analysis was conducted using PSW statistical software which analyzed several independent variables, represented by the display advertisement scenarios: size, brand familiarity, location, and display advertisement scenario. In order to evaluate which ad display scenario received more clicks, a frequency test was conducted, identifying the amount of clicks each ad display scenario received. To test the Hypotheses, a main chi-square analysis was conducted along with a post hoc test for chi-square analyses, which involved pair wise comparisons throughout all pages. The model used for the post hoc test is the Bonferroni correction.

Table 1 presents the sample distribution of the effects of display advertisement type on the number of clicks for each display advertisement scenario. The display advertisement scenarios represent the type of advertisement scenario participants preferred viewing within the SCP.
Table 1

*Effects of Display advertisement Type on Number of Clicks for Each Scenario*

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Number of Clicks for Display Advertisement Type</th>
<th>Expected Cell Count</th>
<th>Total $\chi^2$ (3)</th>
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<td>125.75</td>
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<td></td>
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<td>503</td>
</tr>
<tr>
<td></td>
<td>Medium Rectangle Top Right</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vertical Rectangle Bottom Right</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Video</td>
<td>Video</td>
<td>33 (6.6%)</td>
<td>230.45***</td>
</tr>
<tr>
<td></td>
<td>Animation</td>
<td>130 (25.8%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>86 (17.1%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>124 (24.7%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>163 (32.4%)</td>
<td></td>
</tr>
<tr>
<td>Animation</td>
<td>Animation</td>
<td>130 (25.8%)</td>
<td>23.77***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>86 (17.1%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>124 (24.7%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>163 (32.4%)</td>
<td></td>
</tr>
<tr>
<td>Engagement</td>
<td>Engagement</td>
<td>176 (35.0%)</td>
<td>28.51**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>121 (24.1%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>104 (20.7%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102 (20.3%)</td>
<td></td>
</tr>
<tr>
<td>Brand Familiarity</td>
<td>Brand Familiarity</td>
<td>110 (21.9%)</td>
<td>244.17***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>52 (10.3%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>68 (13.5%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>273 (54.3%)</td>
<td></td>
</tr>
<tr>
<td>Assorted</td>
<td>Assorted</td>
<td>66 (13.1%)</td>
<td>124.380***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>61 (12.1%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>196 (39.0%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>180 (35.8%)</td>
<td></td>
</tr>
<tr>
<td>All Scenarios Combined</td>
<td>All Scenarios Combined</td>
<td>449 (22.3%)</td>
<td>21.53***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>488 (24.3%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>486 (24.2%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>589 (29.3%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>503 (503.00)</td>
<td>21.53***</td>
</tr>
</tbody>
</table>
Research Findings

Hypothesis H0a

Research question one addressed: what motivates social media users to click on display advertisements in the social media environment?

Hypothesis H0a predicted that there is no significant relationship between engagement and the social media users' motivation to click on a display advertisement within a social media community. To test Hypotheses H0a, a post hoc test for chi-square analyses was conducted which involved pair wise comparisons between display advertisements located on page one, two, and three, of the SCP. Thus, each display advertisement is compared to each other display advertisement. The model used for the post hoc test is the Bonferroni correction, which was utilized to attempt to control for the Type II error.

Page One Video

The following main chi-square analysis examines whether the frequencies of the clicks differ from what would be expected by chance. Table 2 examines whether the frequencies of the clicks for the different display advertisements within page one were different from chance.

Table 2

Examining Frequencies of the Clicks for the Different Display Advertisement Scenarios within Page One Video

<table>
<thead>
<tr>
<th></th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 WIDE SKYSCRAPER LEFT</td>
<td>33</td>
<td>125.8</td>
<td>-92.8</td>
</tr>
<tr>
<td>2 LEADER BOARD TOP</td>
<td>229</td>
<td>125.8</td>
<td>103.3</td>
</tr>
<tr>
<td>3 MEDIUM RECTANGLE TOP RIGHT</td>
<td>190</td>
<td>125.8</td>
<td>64.3</td>
</tr>
<tr>
<td>4 VERTICAL RECTANGLE BOTTOM RIGHT</td>
<td>51</td>
<td>125.8</td>
<td>-74.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>503</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Observed N column values represent the number of clicks each display advertisement received on page one. The Expected N column values in this column represent the number of clicks for each display advertisement on each page expected by chance. Each page had 503 clicks. By chance, each display advertisement would be expected to have 503/4 or 125.75 clicks. A one-sample chi-square analysis was conducted to examine the effects of display advertisement
scenario type on number of clicks for page one, video display advertisement scenarios. Frequencies, percents and chi-square values are reported in Table 1.

Table 3

<table>
<thead>
<tr>
<th>Display advertisement</th>
<th>Chi-Square(a)</th>
<th>df</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>230.447</td>
<td>3</td>
<td>.000</td>
</tr>
</tbody>
</table>

As reported in Table 3, the chi-square test demonstrated a statistical difference between display advertisements placed within page one video of the social media prototype, \( \chi^2 (3) = 230.44, p = .000 \), suggesting page one video display advertisement scenarios did not receive a similar number of clicks. This value is displayed as .000. The p-value was \(< .001\), less than .05, which proves the finding is significant. This finding means that the number of clicks each display advertisement received for page one, video display advertisement scenarios, differed from what would be expected due to chance. The main chi square analysis conducted indicates that the clicks differed from what would be expected due to chance, but does not stipulate exactly which display advertisements differed from which other display advertisements. To know exactly where the differences lie, post hoc tests were necessary. Figure 4 reveals the percent of clicks due to chance that each display advertisement scenario received on page one video. Leader board top received the most amount of clicks, therefore is statistically significant, suggesting leader board top display advertisement motivated a social media user to click.
Figure 4. Percent of clicks each video display advertisement received within page one.

Page Two Animation

The following main chi-square analysis examines whether the frequencies of the clicks differ from what would be expected by chance. Table 4 examined whether the frequencies of the clicks for the different display advertisements within page two were different from chance.

Table 4

Examining Frequencies of the Clicks for the Different Display Advertisement Scenarios within Page Two Animation

<table>
<thead>
<tr>
<th>Video Display Advertisements</th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide Skyscraper Left</td>
<td>130</td>
<td>125.8</td>
<td>4.3</td>
</tr>
<tr>
<td>Leader Board Top</td>
<td>86</td>
<td>125.8</td>
<td>-39.8</td>
</tr>
<tr>
<td>Medium Rectangle Top Right</td>
<td>124</td>
<td>125.8</td>
<td>-1.8</td>
</tr>
<tr>
<td>Vertical Rectangle Bottom Right</td>
<td>163</td>
<td>125.8</td>
<td>37.3</td>
</tr>
</tbody>
</table>

The Observed N column values represent the number of clicks each display advertisement received on page two. The Expected N column values in this column represent the number of clicks for each display advertisement on each page expected by chance. Each page had 503
clicks. By chance, each display advertisement would be expected to have $503/4$ or 125.75 clicks. A one-sample chi-square analysis was conducted to examine the effects of display advertisement type on number of clicks for page two, animation display advertisement scenarios. Frequencies, percents and chi-square values are reported in Table 1.

Table 5

**Page Two, Animation Display Advertisement Scenarios**

<table>
<thead>
<tr>
<th>Display Advertisement</th>
<th>Chi-Square (a)</th>
<th>df</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>23.767</td>
<td>3</td>
<td>.000</td>
</tr>
</tbody>
</table>

As reported in the Table 5, the chi-square test demonstrates a statistical difference between display advertisements placed within page two animation of the social media prototype, $\chi^2 (3) = 23.76, p = .000$, suggesting page two animation display advertisement scenarios did not receive a similar number of clicks. This value is displayed as .000. The p-value was < .001, less than .05, which proves the finding is significant. This finding means that the number of clicks each display advertisement received for page two, animation display advertisement scenarios, differed from what would be expected due to chance. The main chi square analysis conducted indicates that the clicks differed from what would be expected due to chance, but does not stipulate exactly which display advertisements differed from which other display advertisements. To know exactly where the differences lie, post hoc tests were necessary. Figure 5 reveals the percent of clicks due to chance that each display advertisement scenario received on page two, animation. Vertical rectangle bottom right received the most amount of clicks, therefore is statistically significant, suggesting vertical rectangle bottom right display advertisement motivated a social media user to click.
Figure 5. Percent of clicks each animation display advertisement received within page two.

Page Three Engagement

The following main chi-square analysis examined whether the frequencies of the clicks differ from what would be expected by chance. Table 6 examines whether the frequencies of the clicks for the different display advertisements within page three, engagement, were different from chance.

Table 6

Examining Frequencies of the Clicks for the Different Display Advertisement Scenarios within Page Three Engagement

<table>
<thead>
<tr>
<th></th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 WIDE SKYSCRAPER LEFT</td>
<td>176</td>
<td>125.8</td>
<td>50.3</td>
</tr>
<tr>
<td>2 LEADER BOARD TOP</td>
<td>121</td>
<td>125.8</td>
<td>-4.8</td>
</tr>
<tr>
<td>3 MEDIUM RECTANGLE TOP RIGHT</td>
<td>104</td>
<td>125.8</td>
<td>-21.8</td>
</tr>
<tr>
<td>4 VERTICAL RECTANGLE BOTTOM RIGHT</td>
<td>102</td>
<td>125.8</td>
<td>-23.8</td>
</tr>
<tr>
<td>Total</td>
<td>503</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Observed N column values represent the number of clicks each display advertisement received on page one. The Expected N column values in this column represent the number of clicks for each display advertisement on each page. By chance, each display advertisement would be expected to have 503/4 or 125.75 clicks. A one-sample chi-square analysis was conducted to examine the effects of display advertisement type on number of clicks for page three, engagement display advertisement scenarios. Frequencies, percents and chi-square values are reported in Table 1.

Table 7

*Page Three, Engagement Display Advertisement Scenarios*

<table>
<thead>
<tr>
<th>Display Advertisement</th>
<th>Chi-Square(a)</th>
<th>df</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28.507</td>
<td>3</td>
<td>.000</td>
</tr>
</tbody>
</table>

As reported in Table 7, the chi-square test demonstrates a statistical difference between display advertisements placed within page three engagement of the social media prototype, \( p = .000 \), suggesting page three engagement display advertisement scenarios did not receive a similar number of clicks. This value is displayed as .000. The p-value was < .001, less than .05, which proves the finding is significant. This finding means that the number of clicks each display advertisement received for page three, engagement display advertisement scenarios, differed from what would be expected due to chance. The main chi square analysis conducted indicated that the clicks differed from what would be expected due to chance, but does not stipulate exactly which display advertisements differed from which other display advertisements. To know exactly where the differences lie, post hoc tests were necessary. Figure 6 reveals the percent of clicks due to chance that each display advertisement scenario received on page three, engagement. Wide skyscraper left received the most amount of clicks, therefore is statistically significant, wide skyscraper left display advertisement motivated a social media user to click.
Size and Location

Hypotheses H0b and H0c

Hypotheses H0b and H0c predicted that there is no significant relationship between the size and location of a display advertisement and clicking on the social community display advertisement. To test Hypotheses H0b and H0c a post hoc test for chi-square analyses was conducted which involved pair wise comparisons between video display advertisements located on page one: video, two: animation, three: engagement, and four: brand familiarity of the social media prototype web site. Thus, each display advertisement scenario is compared to each other display advertisement scenario. The model used for the post hoc test is the Bonferroni correction.

Wide Skyscraper Left

The following main chi-square analysis examined whether the frequencies of the clicks differ from what would be expected by chance. Table 8 examined whether the frequencies of the clicks for the different display advertisements within pages one, two, three, and four were different from chance.
Table 8

Examining Frequencies of the Clicks for Wide Skyscraper Left Display Advertisement Scenarios within Pages One, Two, Three, and Four

<table>
<thead>
<tr>
<th>Display Advertisement</th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIDEO</td>
<td>33</td>
<td>112.3</td>
<td>-79.3</td>
</tr>
<tr>
<td>ANIMATION</td>
<td>130</td>
<td>112.3</td>
<td>17.8</td>
</tr>
<tr>
<td>ENGAGEMENT</td>
<td>176</td>
<td>112.3</td>
<td>63.8</td>
</tr>
<tr>
<td>BRAND FAMILIARITY</td>
<td>110</td>
<td>112.3</td>
<td>-2.3</td>
</tr>
<tr>
<td>Total</td>
<td>449</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Observed N column values represent the number of clicks each display advertisement received, while the Expected N column represents the number of clicks for each display advertisement on each page expected by chance. A one-sample chi-square analysis was conducted to examine the effects of display advertisement scenario type on number of clicks for pages one, two, three, and four display advertisement scenarios.

Table 9

Page One, Two, Three, and Four, Wide Skyscraper Left Display Advertisement Scenarios

<table>
<thead>
<tr>
<th>Display Advertisement</th>
<th>Chi-Square(a)</th>
<th>df</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>95.009</td>
<td>3</td>
<td>.000</td>
</tr>
</tbody>
</table>

As reported in Table 9, the chi-square test demonstrates a statistical difference between wide skyscraper left display advertisements placed within pages one, two, three, and four of the social media prototype, \( p = .000 \), suggesting pages one, two, three, and four wide skyscraper left
display advertisement scenarios did not receive a similar number of clicks across pages. The p-value was < .001, less than .05, which proves the finding is significant. This finding means that the number of clicks each wide skyscraper left display advertisement received for pages one, two, three, and four differed from what would be expected due to chance. While the main chi square analysis conducted indicates that the clicks differed from what would be expected due to chance, it does not stipulate which display advertisements differed significantly. Therefore, post hoc tests are necessary. Figure 7 reveals the percent of clicks due to chance that each wide skyscraper left display advertisement scenario received across pages. Wide skyscraper left display advertisement received the most amount of clicks when viewed within the engagement page, therefore is statistically significant, suggesting wide skyscraper left display advertisement, when used with an engagement scenario, motivated a social media user to click.

![Wide Skyscraper Left](image)

**Figure 7.** Percent of clicks each wide skyscraper left display advertisement received across pages.

**Leader Board Top**

The following main chi-square analysis examines whether the frequencies of the clicks differ from what would be expected by chance. Table 10 examines whether the frequencies of the clicks for the different display advertisements within pages one, two, three, and four were different from chance.
Table 10

*Examining Frequencies of the Clicks for Leader Board Top Display Advertisement Scenarios within Pages One, Two, Three, and Four*

<table>
<thead>
<tr>
<th></th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 VIDEO</td>
<td>229</td>
<td>122.0</td>
<td>107.0</td>
</tr>
<tr>
<td>2 ANIMATION</td>
<td>86</td>
<td>122.0</td>
<td>-36.0</td>
</tr>
<tr>
<td>3 ENGAGEMENT</td>
<td>121</td>
<td>122.0</td>
<td>-1.0</td>
</tr>
<tr>
<td>4 BRAND FAMILIARITY</td>
<td>52</td>
<td>122.0</td>
<td>-70.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>488</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Observed N column value represents the number of clicks each display advertisement received. The Expected N column values in this column represent the number of clicks for each display advertisement on each page expected by chance. Each page had 503 clicks. By chance, each display advertisement would be expected to have 503/4 or 125.75 clicks. A one-sample chi-square analysis was conducted to examine the effects of display advertisement scenario type on number of clicks for pages one, two, three, and four display advertisement scenarios. Frequencies, percents and chi-square values are reported in Table 1.

Table 11

*Page One, Two, Three, and Four, Leader Board Top Display Advertisement Scenarios*

<table>
<thead>
<tr>
<th>Display Advertisement</th>
<th>Chi-Square(a)</th>
<th>df</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>144.639</td>
<td>3</td>
<td>.000</td>
</tr>
</tbody>
</table>
As reported in Table 11, the chi-square test demonstrates a statistical difference between leader board top display advertisements placed within pages one, two, three, and four of the social media prototype, \( \chi^2 (3) = 144.63, p = .000 \), suggesting pages one, two, three, and four leader board top display advertisement scenarios did not receive a similar number of clicks across pages. This value is displayed as .000. The p-value was < .001, less than .05, which proves the finding is significant. This finding means that the number of clicks each leader board top display advertisement received for pages one, two, three, and four differed from what would be expected due to chance. The main chi square analysis conducted indicates that the clicks differed from what would be expected due to chance, but does not stipulate exactly which display advertisements differed from which other display advertisements. To know exactly where the differences lie, post hoc tests are necessary. Figure 8 reveals the percent of clicks due to chance that each leader board top display advertisement scenario received across pages. Leader board top display advertisement received the most amount of clicks across pages, therefore is statistically significant, suggesting leader board top display advertisement, when used with a video scenario, motivated a social media user to click.

\[ \text{Figure 8. Percent of clicks each leader board top display advertisement received across pages.} \]

\[ \text{Medium Rectangle Top Right} \]

The following main chi-square analysis examines whether the frequencies of the clicks differ from what would be expected by chance. Table 12 examines whether the frequencies of the clicks for the different display advertisements within pages one, two, three, and four were different from chance.
Table 12

Examining Frequencies of the Clicks for Medium Rectangle Top Right Display Advertisement Scenarios within Pages One, Two, Three, and Four

<table>
<thead>
<tr>
<th>Displays Advertisement</th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 VIDEO</td>
<td>190</td>
<td>121.5</td>
<td>68.5</td>
</tr>
<tr>
<td>2 ANIMATION</td>
<td>124</td>
<td>121.5</td>
<td>2.5</td>
</tr>
<tr>
<td>3 ENGAGEMENT</td>
<td>104</td>
<td>121.5</td>
<td>-17.5</td>
</tr>
<tr>
<td>4 BRAND FAMILIARITY</td>
<td>68</td>
<td>121.5</td>
<td>-53.5</td>
</tr>
<tr>
<td>Total</td>
<td>486</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Observed N column value represents the number of clicks each display advertisement received. The Expected N column values in this column represent the number of clicks for each display advertisement on each page expected by chance. Each page had 503 clicks. By chance, each display advertisement would be expected to have 503/4 or 125.75 clicks. A one-sample chi-square analysis was conducted to examine the effects of display advertisement scenario type on number of clicks for pages one, two, three, and four display advertisement scenarios. Frequencies, percents and chi-square values are reported in Table 1.

Table 13

Page One, Two, Three, and Four, Medium Rectangle Top Right Display Advertisement Scenarios

<table>
<thead>
<tr>
<th>Displays Advertisement</th>
<th>Chi-Square(a)</th>
<th>df</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>64.749</td>
<td>3</td>
<td>.000</td>
</tr>
</tbody>
</table>
As reported in Table 13, the chi-square test demonstrates a statistical difference between medium rectangle top right display advertisements placed within pages one, two, three, and four of the social media prototype, $\chi^2 (3) = 64.74, p = .000$, suggesting pages one, two, three, and four medium rectangle top right display advertisement scenarios did not receive a similar number of clicks across pages. This value is displayed as .000. The p-value was < .001, less than .05, which proves the finding is significant. This finding means that the number of clicks each medium rectangle top right display advertisement received for pages one, two, three, and four differed from what would be expected due to chance. The main chi square analysis conducted indicates that the clicks differed from what would be expected due to chance, but does not stipulate exactly which display advertisements differed from which other display advertisements. To know exactly where the differences lie, post hoc tests are necessary. Figure 9 reveals the percent of clicks due to chance that medium rectangle top right display advertisement scenario received across pages. Medium rectangle top right display advertisement received the most amount of clicks across pages, therefore is statistically significant, suggesting medium rectangle top right display advertisement, when combined with video, motivated a social media user to click.

Medium Rectangle Top Right

![Pie Chart]

Figure 9. Percent of clicks each medium rectangle top right display advertisement received across pages.

Vertical Rectangle Bottom Right

The following main chi-square analysis examines whether the frequencies of the clicks differ from what would be expected by chance. Table 14 examines whether the frequencies of the clicks for the different display advertisements within pages one, two, three, and four were different from chance.
Table 14

Examining Frequencies of the Clicks for Vertical Rectangle Bottom Right Display Advertisement Scenarios within Pages One, Two, Three, and Four

<table>
<thead>
<tr>
<th>Display Advertisement</th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIDEO</td>
<td>51</td>
<td>147.3</td>
<td>-96.3</td>
</tr>
<tr>
<td>ANIMATION</td>
<td>163</td>
<td>147.3</td>
<td>15.8</td>
</tr>
<tr>
<td>ENGAGEMENT</td>
<td>102</td>
<td>147.3</td>
<td>-45.3</td>
</tr>
<tr>
<td>BRAND FAMILIARITY</td>
<td>273</td>
<td>147.3</td>
<td>125.8</td>
</tr>
<tr>
<td>Total</td>
<td>589</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Observed N column value represents the number of clicks each display advertisement received. The Expected N column values in this column represent the number of clicks for each display advertisement on each page expected by chance. Each page had 503 clicks. By chance, each display advertisement would be expected to have 503/4 or 125.75 clicks. A one-sample chi-square analysis was conducted to examine the effects of display advertisement scenario type on number of clicks for pages one, two, three, and four display advertisement scenarios. Frequencies, percents and chi-square values are reported in Table 1.

Table 15

Page One, Two, Three, and Four, Vertical Rectangle Bottom Right Display Advertisement Scenarios

<table>
<thead>
<tr>
<th>Display Advertisement</th>
<th>Chi-Square(a)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>185.893</td>
</tr>
<tr>
<td>df</td>
<td>3</td>
</tr>
<tr>
<td>Asymp. Sig.</td>
<td>.000</td>
</tr>
</tbody>
</table>
As reported in Table 15, the chi-square test demonstrates a statistical difference between vertical rectangle bottom right display advertisements placed within pages one, two, three, and four of the social media prototype, $\chi^2 (3) = 185.89, p = .000$, suggesting pages one, two, three, and four vertical rectangle bottom right display advertisement scenarios did not receive a similar number of clicks across pages. This value is displayed as .000. The p-value was < .001, less than .05, which proves the finding is significant. This finding means that the number of clicks each vertical rectangle bottom right display advertisement received for pages one, two, three, and four differed from what would be expected due to chance. The main chi square analysis conducted indicates that the clicks differed from what would be expected due to chance, but does not stipulate exactly which display advertisements differed from which other display advertisements. To know exactly where the differences lie, post hoc tests are necessary. Figure 10 reveals the percent of clicks due to chance that vertical rectangle bottom right display advertisement scenario received across pages. Vertical rectangle bottom right display advertisement received the most amount of clicks across pages, therefore is statistically significant, suggesting vertical rectangle bottom right display advertisement, when combined with brand familiarity, motivated a social media user to click.

![Figure 10. Percent of clicks each vertical rectangle bottom right display advertisement received across pages.](image)

**Figure 10.** Percent of clicks each vertical rectangle bottom right display advertisement received across pages.

**Hypothesis H1d:**

**Page Four Brand Familiarity**

Hypothesis H1d predicted that there is a significant relationship between brand familiarity display advertisements and the social media users' motivation to click on a display advertisement within a social media community. To test Hypothesis H1d, a post hoc test for chi-square analyses was conducted which involved pair wise comparisons between brand
familiarity display advertisements located on page four of the social media prototype web site. Thus, each display advertisement is compared to each other display advertisement. The model used for the post hoc test is the Bonferroni correction.

The following main chi-square analysis examines whether the frequencies of the clicks differ from what would be expected by chance. Table 16 examines whether the frequencies of the clicks for the different display advertisements within page four were different from chance.

Table 16

<table>
<thead>
<tr>
<th>Brand Familiarity</th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIDE SKYSCRAPER LEFT</td>
<td>110</td>
<td>125.8</td>
<td>-15.8</td>
</tr>
<tr>
<td>LEADER BOARD TOP</td>
<td>52</td>
<td>125.8</td>
<td>-73.8</td>
</tr>
<tr>
<td>MEDIUM RECTANGLE TOP RIGHT</td>
<td>68</td>
<td>125.8</td>
<td>-57.8</td>
</tr>
<tr>
<td>VERTICAL RECTANGLE BOTTOM RIGHT</td>
<td>273</td>
<td>125.8</td>
<td>147.3</td>
</tr>
<tr>
<td>Total</td>
<td>503</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Observed N column values represent the number of clicks each display advertisement received on page one. The Expected N column values in this column represent the number of clicks for each display advertisement on each page expected by chance. Each page had 503 clicks. By chance, each display advertisement would be expected to have 503/4 or 125.75 clicks. A one-sample chi-square analysis was conducted to examine the effects of display advertisement scenario type on number of clicks for page four, brand familiarity display advertisement scenarios. Frequencies, percents and chi-square values are reported in Table 1.
As reported in Table 17, the chi-square test demonstrates a statistical difference between display advertisements placed within page four brand familiarity of the social media prototype, $\chi^2 (3) = 244.17, p = .000$, suggesting page four brand familiarity display advertisement scenarios did not receive a similar number of clicks. This value is displayed as .000. The p-value was < .001, less than .05, which proves the finding is significant. This finding means that the number of clicks each display advertisement received for page four, brand familiarity display advertisement scenarios, differed from what would be expected due to chance. The main chi square analysis conducted indicates that the clicks differed from what would be expected due to chance, but does not stipulate exactly which display advertisements differed from which other display advertisements. To know exactly where the differences lie, post hoc tests are necessary. Figure 11 reveals the percent of clicks due to chance that each display advertisement scenario received on page four, brand familiarity. Vertical rectangle bottom right, which was the name brand display advertisement, received the most amount of clicks, therefore is statistically significant, suggesting vertical rectangle bottom right display advertisement motivated a social media user to click.

### Table 17

**Page Four, Brand Familiarity Display Advertisement Scenarios**

<table>
<thead>
<tr>
<th>Display Advertisement</th>
<th>Chi-Square (a)</th>
<th>df</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>244.173</td>
<td>3</td>
<td>.000</td>
</tr>
</tbody>
</table>

As reported in Table 17, the chi-square test demonstrates a statistical difference between display advertisements placed within page four brand familiarity of the social media prototype, $\chi^2 (3) = 244.17, p = .000$, suggesting page four brand familiarity display advertisement scenarios did not receive a similar number of clicks. This value is displayed as .000. The p-value was < .001, less than .05, which proves the finding is significant. This finding means that the number of clicks each display advertisement received for page four, brand familiarity display advertisement scenarios, differed from what would be expected due to chance. The main chi square analysis conducted indicates that the clicks differed from what would be expected due to chance, but does not stipulate exactly which display advertisements differed from which other display advertisements. To know exactly where the differences lie, post hoc tests are necessary. Figure 11 reveals the percent of clicks due to chance that each display advertisement scenario received on page four, brand familiarity. Vertical rectangle bottom right, which was the name brand display advertisement, received the most amount of clicks, therefore is statistically significant, suggesting vertical rectangle bottom right display advertisement motivated a social media user to click.
Hypothesis H0e- Multiple Scenarios

Hypothesis H0e predicted that there is no significant relationship between the display advertisement scenario and the social media user's motivation to click on a display advertisement within a social media community. To test Hypothesis H0e, a post hoc test for chi-square analyses was conducted which involved pair wise comparisons between multiple scenario display advertisements located on page five of the social media prototype web site. Thus, each display advertisement is compared to each other display advertisement. The model used for the post hoc test is the Bonferroni correction.

The following main chi-square analysis examines whether the frequencies of the clicks differ from what would be expected by chance. Table18 examines whether the frequencies of the clicks for the different display advertisements within page five were different from chance.
Table 18

*Examining Frequencies of the Clicks for the Different Display Advertisement Scenarios within Page Five Multiple Scenarios*

<table>
<thead>
<tr>
<th>Scenario Description</th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ENGAGEMENT - WIDE SKYSCRAPER LEFT</td>
<td>66</td>
<td>125.8</td>
<td>-59.8</td>
</tr>
<tr>
<td>2 ANIMATION - LEADER BOARD TOP</td>
<td>61</td>
<td>125.8</td>
<td>-64.8</td>
</tr>
<tr>
<td>3 VIDEO - MEDIUM RECTANGLE TOP RIGHT</td>
<td>196</td>
<td>125.8</td>
<td>70.3</td>
</tr>
<tr>
<td>4 BRAND FAMILIARITY - VERTICAL RECTANGLE BOTTOM RIGHT</td>
<td>180</td>
<td>125.8</td>
<td>54.3</td>
</tr>
<tr>
<td>Total</td>
<td>503</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Observed N column values represents the number of clicks each display advertisement received on page one. The Expected N column values in this column represent the number of clicks for each display advertisement on each page expected by chance. Each page had 503 clicks. By chance, each display advertisement would be expected to have 503/4 or 125.75 clicks. A one-sample chi-square analysis was conducted to examine the effects of display advertisement scenario type on number of clicks for page five, multiple display advertisement scenarios. Frequencies, percents and chi-square values are reported in Table 1.
As reported in Table 19, the chi-square test demonstrates a statistical difference between display advertisements placed within page four brand familiarity of the social media prototype, $\chi^2 (3) = 124.38$, $p = .000$, suggesting page five multiple display advertisement scenarios did not receive a similar number of clicks. This value is displayed as .000. The p-value was < .001, less than .05, which proves the finding is significant. This finding means that the number of clicks each display advertisement received for page five, multiple display advertisement scenarios, differed from what would be expected due to chance. The main chi square analysis conducted indicates that the clicks differed from what would be expected due to chance, but does not stipulate exactly which display advertisement differed from which other display advertisement. To know exactly where the differences lie, post hoc tests are necessary. Figure 12 reveals the percent of clicks due to chance that each display advertisement scenario received on page five, multiple scenarios. Medium rectangle top right which was the brand video advertisement, received the most amount of clicks, therefore is statistically significant, suggesting medium rectangle top right display advertisement motivated a social media user to click.
Summary

This study investigated what type of display advertisement scenario motivated a social media user to click on a display advertisement. Table 20 summarizes the results of this study. In response to Research Question One, the motivating factors behind social media users to click on display advertisements in the social media environment were ascertained through factor analyses. In testing each hypotheses: H0a, H0b, H0c, and H0e, the main effects of display advertisement scenario was not confirmed, therefore this study rejects the null hypotheses, suggesting display advertisement, size, location, (Sigel, Braun, and Sena, 2008) and scenario, (Chtourou and Abida, 2010) all play a significant role in motivating a social media user to click on a display advertisement within a social media environment. In testing hypothesis H1a, the main effects of display advertisement scenario was once again confirmed; therefore, this study supports the alternative hypothesis, suggesting display advertisement, brand familiarity (Ha, 2004), played a significant role in motivating a social media user to click on a display advertisement within a social media environment.

Figure 12. Percent of clicks each multiple display advertisement received within page five.
Table 20

Summary of Test Results for Research Question and Hypotheses

<table>
<thead>
<tr>
<th>Research question and hypotheses</th>
<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H0a: There is no significant relationship between display engagement advertisement and clicking on the social community display advertisement.</td>
<td>not supported</td>
</tr>
<tr>
<td>H0b: There is no significant relationship between the size of a display advertisement and clicking on the social community display advertisement.</td>
<td>not supported</td>
</tr>
<tr>
<td>H0c: There is no significant relationship between the location of the display advertisement and clicking on the social community display advertisement.</td>
<td>not supported</td>
</tr>
<tr>
<td>H1d: There is a significant relationship between brand familiarity display advertisements and clicking on the social community display advertisement.</td>
<td>supported</td>
</tr>
<tr>
<td>H0e: There is no significant relationship between the display advertisement scenario and the social media users motivation to click on a display advertisement within a social media community.</td>
<td>not supported</td>
</tr>
</tbody>
</table>

Conclusions and Implications

This study provides insight to how display advertising may be approached within social media environments. Stringer (2007) offers the suggestion of the 5 W’s: why, what, who, where, and when. Stakeholders can ask the following question while analyzing the data from this study: Why did participants click on a specified display advertisement? What motivated the participant to click on the display advertisement? Who clicked? Where is the location of the display advertisement? When was the decision made to click? Although not all of the questions can be answered from one study due to its own limitations of development, it certainly can be the foundation to pursuing future research, to find the answers to the remaining unknown questions.

Although this study confirmed once again the importance of brand familiarity (Ha, 2004) in advertising, even within social media environments, it also demonstrated the importance of
other creative online factors (Plummer, Rappaport, Hall, and Barocci, 2007): display advertisement size, location, and scenario, which should be considered when developing an online advertising campaign within social media environments.

Interactive advertising is considered very valuable to businesses (Andreasen and Kotler, 2008), and every online environment should be considered, understanding social media and, most importantly, that social media is critical to the success of an online advertising campaign. Online social communities most importantly allow businesses to engage directly with their target audience and receive feedback from their audience (Peterson, 2009). This interaction creates value innovation for brands and an opportunity to develop and build brand trust.

References


Bruns, A. (2009). *Social media: Tools for user-generated content, social drivers behind growing consumer participation in user-led content generation, volume 2, User engagement strategies*. Eveleigh NSW, Australia: Smart Services CRC.


THE STANDARD AUDIT REPORT: TWO APPROACHES TO ENHANCEMENTS

John P. McAllister, Ph.D., CPA (jmcallis@unf.edu)
Professor of Accounting, University of North Florida

The United States’ Public Company Accounting Oversight Board (PCAOB) and the International Auditing and Assurance Standards Board (IAASB) have made proposals that, if adopted as expected, would result in significant changes in the standard audit report (SAR). In both cases, the deadline for comments (November of 2013) has passed and final pronouncements are expected before June of 2014.

The primary purpose of this paper is to report the common particulars of these two “enhancements” and to identify and analyze important areas in which uncommon suggestions were made.

For close to 75 years the SAR has provided critical assurances to capital providers as they assess the financial performance and position of companies. However, the 2007-2008 world-wide financial meltdown was followed by calls for enhanced communications in the SAR that would benefit readers. In most jurisdictions around the world, the SAR is limited to expressing a “pass-fail” judgment as to the fairness of the financial statements in accordance with specified accounting and reporting standards.

In response to this apparent dissatisfaction with the status quo, the PCAOB and the IAASB issued “requests for comments” concerning several areas for change. There seems to have been minimal collaboration between the two groups - surprising given recent efforts to converge US and International accounting and auditing practices. Many responses were received by the two groups and – after deliberations – the current “final” conclusions were reached.

Note: the PCAOB is a private-sector, non-profit corporation created by the Sarbanes-Oxley Act to regulate the auditors of public companies in the U.S. The IAASB is an independent standard-setting body whose purpose is to set high-quality international standards for auditing services and to facilitate the convergence of international and national standards.
GLOBAL IMPACT OF ELEARNING DOCTOR OF BUSINESS ADMINISTRATION PROGRAMS

Dr. Lorrie McGovern

Joshua Adams

Global business—as commercial boarders slowly erode during our current internet age, businesses will and have started to adjust strategies to meet ever increasing competitive markets both physical and in the e-age of business. The shift in global strategies will require new, young and fresh perspectives on business. To meet the increasing demand in changes, global organizations will need viewpoints from different parts of the globe. These new perspectives will be met by investment in higher education. As boarders disappear, e-learning Doctoral Business Administration programs can provide greater flexibility, yet provide the knowledge and proper skills to prepare learners for meeting demands in a competitive global market.
FASB AND IASB REVENUE RECOGNITION PROJECT

Ann Meaders

Revenue recognition is the formal process of reporting a transaction or event in a company's financial statements. However, realizing revenue is the process of actually converting the claim to cash. Revenues should be realized upon the completion of the most crucial task in the earning process (Schroeder, Clark, & Cathey, 2011). However the timing of when to realize or recognize the earnings of revenues differs not only between industries but on a global scale.

A joint project between the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) was created in an effort to facilitate the development of high quality global financial reporting standards to increase comparability of financial statements across borders and between companies and industries. The new revenue recognition guidance between FASB and IASB will have pervasive changes in some industries with a greater industry-specific guidance for some. The current draft the boards are developing has a release date of 2014 and an effective date of 2017. There are similarities and differences for this condensed standard.

This paper focuses on a review of the current revenue recognition processes of both the FASB and IASB. It then moves to a review of the proposed joint project for a new revenue recognition process between both organizations. Similarities and differences will be identified and discussed.
SOCIETAL ALIGNMENT OF INTERNATIONAL MEDICAL TOURISM: IMPACTS, SOCIAL MEDIA AND CULTURAL DIFFERENCES

Diane Monahan, Sheri Bias, Galo Alava

International Medical Tourism could be defined as the movement of patients through borders looking for medical care. The traditional model was generally done where patients traveled from less developed countries to major medical centers in highly developed countries looking for state of the art treatments or technology that were not available in their native countries. This has changed lately since patients are moving from developed countries searching to medical care at a lower price, avoid long waiting periods for elective procedures, or because treatments were not available for regulatory reasons, like genetic disorders.

Travelers are considering elective procedures and some complex specialized surgeries. Usual procedures include: joint replacement, dental surgery, cosmetic surgery, cardiac surgery, transplant surgery, and even alternative treatments, convalescent care and burial services.

More than 50 countries have recognized international medical tourism as a national industry.

There are many factors contributing to the attractiveness of international medical tourism: rising costs of health care, long waiting times for certain surgical procedures, easiness and affordability of international travel, and advances in technology and standards of care in developing countries.

Issues that travelers have to deal with when traveling abroad for medical care: accreditation of facilities and personnel, pricing, cultural differences, risks, legal liabilities, ethical issues, insurance coverage, and employer-sponsored health care abroad.

Our presentation will offer insights on an international and innovative industry and how it is evolving taking in consideration the effect of social media.
MANAGING INTERNATIONAL PRODUCT DEVELOPMENT: HOW TO COORDINATE DISPERSED PROJECT TEAMS EFFECTIVELY?

Britta Muller

Abstract
Multinational companies (MNCs) increasingly use internationally staffed product development projects to deliver innovative products that suit global market requirements. Such globally dispersed project teams in product development must be effectively coordinated in order to both maximize development output and maintain development efficiency (Boutellier et al., 2008).

While international management scholars have broadly studied MNC knowledge flows, the specific coordination mechanisms required to manage knowledge-intensive MNC product development projects have been largely neglected (Foss et al., 2010, Michailova & Mustaffa, 2011). This paper seeks to assess the effectiveness of different types of coordination for international product development projects.

In order to integrate the globally dispersed knowledge of individuals and individual units, MNCs apply coordination mechanisms (Martinez & Jarillo, 1989) which can be categorized into four types (Harzing, 1999): hierarchical coordination (based on organizational hierarchies), bureaucratic-formalized coordination (e.g., based on standardized procedures), output-related coordination (rewarding desired behavior) and socialization (based on personal interactions generating trust). Each of these four types of coordination has been studied individually in the context of international product development (e.g., Birkinshaw, 2002, De Clerq et al., 2011). A holistic analysis of the comparative performance of four types of coordination for international product development projects is lacking, however.

The objective of this research paper is therefore to identify the extent to which each of the four types of coordination is associated with performance in international product development projects. Based on a thorough literature review, hypotheses are developed to test the direct and mediated association of each type of coordination with project performance. To control for important external influence factors such as industry and host company country, the study focuses on German-based MNCs in the industrial market.
An empiric survey was conducted with managers of international product development projects working for the 100 largest German-based industrial MNCs. 120 of the 476 approached project managers returned useable questionnaires, equaling a response rate of 25%. Chi square tests confirmed the representativeness of the sample based on the industry affiliation and R&D intensity of the respondents’ companies. The survey was designed to avoid common method bias by creating proximal distance between the endogenous and the exogenous variables, and neutral item wording. A post-hoc test for common method bias using a marker variable indicated the absence of common method bias.

Partial-least-squares structural equation modeling (PLS-SEM) was applied as a statistical method to test the association between each type of coordination with project performance. PLS-SEM was selected due to its abilities to a) measure relationships between latent variables (knowledge exchange, project performance), and b) deal with the achieved sample size. Mediating variables identified by previous research (distance, knowledge exchange) where incorporated in the model. After testing the hypotheses in the full data set, the sample was split into two subsets to test the impact of industry velocity as a moderating variable, with one subset consisting of companies from rather mature industries with low R&D intensity, and the other subset consisting of companies from high-velocity industries with high R&D intensity.

The model contributes significantly to explaining the variance in project performance ($R^2 = 0.42$). Reward-based coordination was found to have a high and significant total effect both on knowledge exchange and overall performance in international development projects based on its strong association with employee motivation. While socialization-based coordination had the largest influence on knowledge exchange in the project team, its total effect on overall project performance was not significant. Bureaucratic-formalized coordination via standardized product development processes was insignificantly associated with overall project performance but strongly associated with adherence to the project schedule as an important individual facet of project performance. The relationship between hierarchical coordination mechanisms and performance was not significant. The analysis of industry subsets revealed that socialization-based coordination played a more important role in high-velocity industries than in mature industries.

The results shed light on the varying effectiveness of the four types of coordination for international product development projects. While the findings of previous studies contradicted
each other regarding the effectiveness of output-based rewards (e.g., Gupta & Govindarajan 2000, Fey & Furu 2008), this study clearly identified incentives as the coordination mechanism most strongly associated with product development performance based on its strong positive impact on employee motivation. The study confirmed previous research findings on socialization as a strong coordination mechanism for international knowledge exchange (e.g., Gupta & Govindarajan 2000) but highlighted that socialization is not a significant driver for project performance. Researchers of international product development previously stated that bureaucratic-formalized coordination has no or even a negative impact on development performance (Rundquist 2012, Im et al. 2013). Taking a more differentiated view, this study concludes that, while bureaucratic-formalized coordination has only a small direct impact on overall product development performance, it significantly supports the adherence to project schedule as one facet of project performance in product development.

The implications of these research results are highly relevant for MNC managers dealing with international product development projects: Based on the research findings, they can allocate their coordination efforts to the types of coordination that have the highest impact in the context of their projects.

References


THE RISE AND FALL OF THE “BRAND” OF EUROPE: WHAT IT MEANS FOR EUROPE AND FOR POLITICAL BRANDING

John Pantzalis
David Felsen

The introduction of the euro as a currency in 1999 and of euro bank notes in 2002 marked the apex of the process of European integration. It was an achievement that was hailed by many as a path towards greater stability, harmony, and growth. The European Union would surely continue along a path that would lead to greater political union and the creation of a ‘United States of Europe’. What is true is that following the failure in the mid-2000s to agreement upon a European Constitution, the onset of the financial crisis in 2008, and the growth of national and regional challenges and anti-immigrant sentiment, European integration has not only come to a halt, but the very ‘brand’ of Europe is losing its appeal. This goal of this paper is fourfold. It will trace the rise of the brand of Europe in the last 20th and early 21st centuries. It will then look at the different branding challenges that Europe faced at the start of the 21st century. Thirdly, the paper asks whether the brand can be rescued and the implications for the European Union. Finally, the paper offers takeaways on political branding more generally that can be useful lessons learned for scholars of political branding.
“SOFT POWER” AND COUNTRY MYTHOLOGY: 
THE MARKETING OF NATIONAL NARRATIVES

John Pantzalis & Marco Rimanelli

As the world is gradually moving to a more diverse and fractured multilateral power distribution internationally, the concept of “soft” power becomes more relevant. Existing and aspiring major powers are trying to leverage their ability to project power and pursue their national goals by cultivating and marketing national narratives that will generate soft power abroad and unite their populations domestically. In this essay we explore the different myths and stories of national identity that are being promoted by the United States, European Union, NATO, China, Brazil, India and Russia. We look at how they are designed to support each country’s global and local goals and how they are promoted both domestically and internationally. Finally we provide an evaluation as to the likelihood that these national narratives can succeed in their goals given the cultural and technological changes in the 21st Century.
OUTSOURCING IN CENTRAL AMERICA

Marcella Monique Paul

Fernando Lopez

This paper analyzes the impact of outsourcing in Central America, as an engine for economic development in the countries receiving the outsourced jobs, as well as the working conditions being imposed on the workers, where oftentimes unions are avoided, the labor regulations are weak, or simply the local governments do not enforce the existing laws. While outsourcing offers a clear economic incentive for multinational companies to reduce costs, increase operating margins, and having flexible capacity to respond quickly to changing market conditions, governments should participate more actively in the process, helping to reduce the domestic impact in the United States for the jobs being outsourced, as well as ensuring that overseas companies are offering fair wages to their workers, and complying with the local regulations.
BIG DATA THEORY

Bryan Reagan

In the last few years Big Data has become a hot topic in the Business Community since it promises to deliver actionable Business Intelligence for many areas at many levels. In this sense Big Data is already revolutionary. What is less well known is that it also is evolutionary since many of its intellectual roots go back to ancient Athens and its converging enabling technologies, such as databases, networks, and distributed processing have been developing since the 1970s. This presentation traces the development of Big Data and also surveys existing applications.
GLOBALIZATION: AN EXPATRIATE’S EXPERIENCE AND AWARENESS OF BUSINESS CULTURE AND CUSTOMS IN CHINA. VOL. II

V. Joy Rose

Abstract

Abstract: This is a scholarly research paper on Globalization: An Expatriate’s Experience and Awareness of Business Culture and Customs in China. Vol. II. Paper will examine cultural aspects of doing business in China, as well as characterizations of globalization and strategies for cultural awareness. The purpose of this research paper is to share an expatriate’s experience and awareness of business culture and customs in China while teaching at a renowned Chinese University. The material presented will compare and contrast these customs with American customs. We will examine etiquette, business practices, face, and a general overview of China’s business climate. Cultural awareness will be discussed as it applies to consumer preferences, and the pros and cons of globalization to China. The viewpoints are on experience, observation, and research in a combined effort to reflect the nature and culture of China as a whole. Lastly, the finding of this paper will help to prepare Americans either traveling or teaching overseas, and will allow the reader to form his or her own perception and draw conclusions from an individual perspective.

Globalization is characterized by the production of goods and services on an international level, and how it embraces international exchange of cultural ideals, thoughts and motivations of proposed goods and services. In this paper, the researchers explored important processes that are necessary to establish and/or extend a business in a foreign country. This includes knowledge of the culture, the resources and various marketing strategies. Methods and data used to conduct such research included World Wide Web searches and printed texts, peer reviewed journals, and scholastic publications. The research results indicated that there are a plethora of benefits to be achieved by companies, and their consumers, who globalize their business to include increased variety, visibility and profits. Globalization is also beneficial in the manner that it promotes economic growth and strengthens cross cultural relationships.
Introduction

China, one of the most isolated countries in the world before the 1970’s, has become a major player in international affairs; as a leading exporter, and a much more influential voice on regional security matters. Yet even with the rapid economic growth and increased influence that China has achieved over the past several decades, it maintains an ambivalent attitude towards many key aspects of international law and architecture of global order (The Peoples, 2014, p. 2).

China was one of 30 governments seeking accession to the World Trade Organization in 2000. Like many of the countries applying for WTO membership, China was in the process of implementing economic reforms and transforming its economy into one which was more market-based. China’s accession process to the WTO was guided by a Working Party whose membership consists of all interested WTO member governments. Initially, the Working Party on China’s status was established under GATT in 1987 and concerned only China’s trade regime for goods. In 1995, it was converted to a WTO Working Party and its scope was broadened to include trade in services, new rules on non-tariff measures and rules relating to intellectual property rights (Hachigian, 2009, pp. 1-72). China’s entry into the WTO in 2001 did increase American exporting, but has had a dramatic effect on U.S. workers and the domestic economy. Even though the U.S. trade deficit is continually rising, there is a surge in American exports to China and overall these exports are up nearly 50 percent in value since 2008 (Richburg, 2012, p. 1).

China plays a vital role in the American economy. We import a wide array of goods and products from China, as well as produce and manufacture there as well. America also exports to China just not on the same scale as we import. According to the United States Department of Commerce and the U.S. International Trade Commission (ITC), America’s imports from China during 2001 through 2011 increased from $102.3 to $399.3 billion. Total U.S. exports of goods to China between 2000 and 2011 rose from 542 percent ($16.2 billion) to $103.9 billion (Richburg, 2012, p. 2).

The perception that transacting business in China is challenging is partly true, yet not conclusive. As with creating a business here in the United States, it takes hard work, dedication, and determination to get a business up and running. You must realize that there will be critical differences in customs and norms; important elements in creating a healthy business
venture in a foreign country. You must take into account a diverse educational and professional background, regional differences, and distinct personalities (Hachigian, 2009, pp. 54-61).

Therefore, when conducting business in China it is best that the parties learn the culture and beliefs and establish contacts that can assist and act as intermediaries. One should consider a joint venture to establish a relationship pertinent to the business world.

**Pros and Cons of globalization to China**

There are pros and cons of selecting to do business in China. Some pros are cheap labor, an abundance of workers, and a growing popularity for Western goods. A growing Chinese middle class has made American car exports to China huge, over $1.5 billion from South Carolina’s BMW manufacturing plants. Airplane exports rose too, behind soybeans which is America’s second largest export. In 2011, China bought $6.4 billion aircraft and aircraft parts from America (most originating in Washington State from Boeing Company). American companies in Washington exported $3.8 billion “in agricultural products and $450 million in computers and electronics to China in 2011” (Baden, 2012, p. 27).

Do not assume it will be smooth sailing when it comes to conducting business. Doing business in China demands a game winning strategy. You will need to know your consumers’ wants and needs among other vital important information. A study shows that China’s 1.34 billion shoppers’ habits vary by region. China’s southern region prefers liquid soap compared to the northern region which prefers bar soap (Richburg, 2012, p. 3).

There is clearly a growing untapped market in China to be captured, but do not forget the cons. Even though the regulatory environment of China is becoming more relaxed, it still remains massive and complex “a constantly evolving amalgam of hyper-localized cultures” (Hayes, 2013, p. 53). China’s media landscape is an example of this, with over 3,000 television channels yet few have national reach (Hayes, 2013, p. 53). Other cultural barriers include language, and legal ramifications. Selling products or services to the Chinese may already be a challenge, but protecting one’s intellectual property rights is even more challenging.

Once a product or design is copied inside China, it is next to impossible to beat the Chinese on price because it is always cheaper there. So the best way to deal with competition and infringement of IPR is to “build a strong brand name or image and other things that are more
difficult to copy such as customer service” (Wiedenbrugge, 2012, p. 33). Moreover, doing business in China means learning about IPR (Intellectual Property Rights), taxation, regulations, legislation, enforcement of law, and how this impacts current and future business activities (Wiedenbrugge, 2012, p. 30).

What is culture awareness?

With globalization initiatives, cultural awareness should be the first thing to examine within ourselves. We should think about how we are living in America, also known as the American melting pot, because it has allowed and adapted to the numerous cultures settling upon her shores. Many different cultural backgrounds have migrated to the United States, which is a democracy promoting capitalism. Since America has a large middle class where people can achieve wealth and status by virtue of their own industriousness, the democracy is based on Judeo-Christian heritage, where life, liberty and the pursuit of happiness (or property) are the legacy of all Americans (Rohm, 2010, p. 1). In America, people are challenged in understanding another person’s point of view since the American culture encourages individualism, whereas group cultures encourage a collectivity attitude where people are more adept at determining another person’s perspective (Harms, 2007, p. 1). Such is the case with China, a collectivist culture where personal relationships form the basis of social and business interactions (Cavender, 2009, p. 37).

Ethnocentrism is thinking that one’s own beliefs, values and ways of life are superior to and more desirable than the lifestyle of other people. (Cultural, 2013, p. 1). Others have defined it as making false assumptions about other people’s ways, based on our own experienced which is limited. Thus, the assumptions we make about others’ experience “can involve false negative judgments, reflected in the common definition of ethnocentrism” (Sah, 2007, p. 2). This all leads to misunderstanding others and the bias (ethnocentrism) can cause serious problems such as racism (when one race thinks it is superior to another race), and ethnic cleansing (in third world countries). However, it can be avoided by developing our learning skills, and learning from those people we are bias about. We also need to be aware of the fact that we are being ethnocentric and catch ourselves – by watching the reactions from others. As we watch, we see reactions that tell us we may be assuming things and that our assumptions are incorrect and not working (Sah, 2007, p. 3). If we are aware of our own culture, we will be sensitive and aware of
Ethnocentricity can undermine international business projects. If a company wants to position itself globally, it needs a global mindset, and not just an American mindset. Many companies have not realized that you have to take into consideration all of the cultures of a country, not just the business side of a company. People that work for American companies do not forget about their national cultures, and businesses that desires a global partner and a smooth flowing business, need to educate themselves on the cultural needs of their overseas employees.

Cultural awareness also entails personal communication, social structures, manners, customs, values, attitudes, and education. Violation of cultural norms results in penalties that range from mild social disapproval to banishment from the group. So if one is to be successful in global business transactions, it is expected that he or she is cognizant of as many cultural aspects as possible in that country. Then too, cultures are not static. They typically evolve and change slowly over time. “Marketing managers and business professionals must understand both the existing cultural values and the emerging cultural values of the societies they serve” (Hawkins, 2006, p. 43).

Global Business Strategies

The dynamics of culture needs to be identified to show how the growth and development change the aspect of social relations within different countries (Johnston, 2013, pp. 301).

Awareness of business practices is vital for companies to embrace which encompasses several objectives when conducting a global business. It’s important to become educated and well versed in a global markets. “The globalization of markets is important to international business because of the benefits it offers companies” (Wild, 2011, p. 6). Successful companies are in business to make money and must look at several factors before starting a company on foreign soil.

One of the first things that must be done when starting the process of establishing a company in a foreign country is to figure out how to reduce their marketing costs. Marketing costs can be reduced in a few different ways. One simple, cost-saving marketing activity is to change the labeling language on packaging to that of the spoken language in the country that the product is
being sold in. While teaching in China, I experienced this while grocery shopping which was called “going to the market.” I purchased some laundry detergent (Tide) because I as an expatriate recognized the packaging. Packages and advertising must capture attention and convey meaning. Utilize stimulus characteristics such as bright colors, animated cartoons, and capture attention in a culturally appropriate manner. If the target market is interested in a traditional brand, or product category, attention will not constitute much of a problem. Once they are exposed to the message, they will most likely attend to it. Place the name of the product or company in the headline (if an ad) and be sure that what you print will not be negatively interpreted in that particular foreign consumer market (Hawkins, 2006, pp. 314-315).

Another way to reduce the marketing costs is to use voice-overs in the television ads that have already been run in the United States. Voice-overs are a lot less costly than paying for an entirely new ad and can be completed in a short time period. The benefit to a company running the ad is that they only pay for one new ad and then pay a fee to have voice-overs added in any language where the product will be marketed and sold. While in China, I experienced this when I purchased laundry detergent or dishwashing liquid. I would recognize the branding; thus inducing a sale for the advertisement.

Creating new market opportunities is another factor in the globalization of markets. Researching areas where a product can be used and make a profit is vital to successfully starting a business abroad. Once an area becomes oversaturated by a product or service, that same product or service may be able to create a new market in another country (Stottinger, 2001, p. 16).

Establishing a consistent income flow is vital to a company remaining in business on foreign land. If a company sells a seasonal product it is extremely critical that a market be created in another region of the world where that product will continue to sell when it’s the off-season in the U.S. Research is vital to know where a seasonal product can be marketed and sold and create a steady flow of revenue for a company involved in international business.

When establishing a business in a foreign country, it is important to take that country’s customs and beliefs into account when marketing and producing a product there. For example, commercial ads that are run on U.S. television with women in bikinis will be frowned upon in countries like Saudi Arabia, where that type of outfit on a woman is considered taboo in public
Beef products are not bought and sold in India because cows are considered sacred there (Rashid, 2008, p. 913). The Big Mac is not served in India, but an alternative product replaces it on the menu to honor the customs of the country and to satisfy the dietary wants and needs of fast-food customers (Big Mac, 2013). While in Zhuhai, China, I would often visit McDonalds and Kentucky fried chicken. I observed that the meat did not taste like the States meet, although was good. They had fries and soft drinks similar to the states.

Globalization of production is another key to dispersing goods or services in foreign countries. Accessing employees at a lower cost than those stateside is a major reason that companies decide to get into the global market. If a worker can be hired in another country at a fraction of what it would cost to hire someone to perform the same job or service in the U.S. it makes good fiscal sense to go global. The amount of expenditures for labor costs is greatly reduced and the bottom line is increased, which is what stockholders and company leadership.

“Companies also produce goods and services abroad to benefit from technical know-how. Film Roman, e.g., www.filmroman.com, produces the TV series The Simpsons, but it provides key poses and step-by-step frame directions to AKOM Production Company in Seoul, South Korea” (Wild, 2011, p. 8). The collaboration of technical knowledge by the companies in the two different countries produces a product that millions of people have enjoyed for many years. The advantage to working together with people that are experts in certain areas is that it increases the overall quality of a good or service and the consumer benefits from it.

Accessing resources that are not available in the company’s home country is another important factor for the globalization of production. A company may produce and distribute spring drinking water but are headquartered in Hungary. The water source is not nearly as abundant in Hungary as it is in Australia so it makes sense for the Hungarian company to try to purchase the rights to the natural resources in a country like Australia where the water supply is plentiful.

They are many behavior practices that affect business as we know it today. With the process of globalization and international business the behavior practices can make or break the whole process. There are a few steps I will discuss that every company should adhere to.

- Labor Conditions and Human Rights
• Fair Trade Practices
• Care about The Environment

Labor condition and human rights are a very important if not the most important step in global business practices. A customer can tell a lot from a company by how they treat the people that work for them. If a company treats their employee’s bad then how do you think they would treat a customer? Believe it or not this question is pondered when a customer is debating on buying a product. With the news, internet and other social media outlets no news goes undiscovered. They are many stories about workers being mistreated by supervisors that work for large companies. One of the stories involves Nike. In a factory in Vietnam, twelve of fifty six female employee fainted because there supervisors made them made them run around the factory as punishment for wearing no regulation shoes. Nike confirmed the report and suspended the supervisor responsible. (Wild, 2011, p. 9). Nike had received bad publicity by the actions of one its supervisors. If they had not a program of labor rights and human rights the situation would have been much worse on their part.

Fair trade practices are an integral aspect of business integrity. Even undeveloped countries that host international business enterprises are attractive locations because they are receptive to businesses that are socially responsive to their needs. Starbucks, for example, has worked hard to operate in a socially responsible manner by trying to ease the plight of citizens in poor coffee-producing countries around the globe. They have improved the lives of thousands of children by building schools, and numerous health clinics for healing the sick, and modern coffee processing facilities. This has not only improved the reputation of the coffee-producing country, but also that of Starbucks (Johnston, 2013, pp. 319-322).

Advantages and Disadvantages of Outsourcing

The environment factor is an important aspect …here in the states we have EPA and many other regulators that monitor and enforce this action on how to correctly do business without affecting the environment. A less established country may not have these levels in place. (Wild, 2011, p. 9). Although it may be cheaper to do business as the host country, it may not be the best idea. Outsourcing has always been in the spot light but I feel it crippled the American economy in major ways. I think an advantage of hosting a business overseas would have an impact employees being specialized to the company. They know the systems, customers, and culture of
the environment. They will also have direct authority for training, rewarding and replacing staff (Johnston, 2013, p.113). You have a voice and authority with operational controls such as changes in products, people, training and services (Johnston, 2013, p.113). This allows for more control over legalities, as they are handled privately in-house, and the company does not incur hidden fees, such as those incurred with outsourcing.

Some disadvantages of outsourcing would be a loss control of how processes are mandated. They may not have to pay overhead at home base, but may overseas depending on the set up of the operation. Also the possibility of losing the relationships that was previously built. Although, overseas companies go to great lengths to mimic the American culture and the products for which they serve. For instance, in the movie “Outsourced” the American guy was sent to India to teach them how to sell American products. The language strategy was to perfect Western dialects; to sound like Americans. This was done to give the illusion of being in America to fool the customers into thinking that the products were being sold in-house.

Customs, and Business

Before a company can be deemed successful, the development of strategies has to be created with culture, customs and business practices in mind. Religious practices are a big factor in strategic management. For those employers who practice Islam as a religion, their fasting requirements during Ramadan, for an extended period of time, could explain the lack of energy. Management should recognize and expect this from people in countries primarily located in the Middle East. (Rashid, 2008). Other strategies utilized with overcoming cultural differences consist of the power of education. Management should make a conscious effort in educating and adapting to the new culture. This could be done in the form of homework, interviews, surveys and any other information gaining strategy that would emphasize the do’s and don’ts rules of the host country. This way a viable attempt to gain knowledge of values and customs are started.

While in China, I had to adapt to the Chinese culture by understanding their behavior patterns. I observed how the Chinese residents act and related to each other. I engaged in many activities which allowed for more observations and acclamation into the culture. Some other ideas would be to listen to the music that is popular in the country. If you like sports, watch and learn the sports that is popular in the country.

Cultural Adaptability
Although, there are many barriers that can challenge globalization efforts, the two main ones are understanding the language and understanding the customs. (Stottinger, 2001, p. 17). The customs can consist of religions, business practices and manners. Chinese want to establish a positive personal relationship before making a business deal. They have a cultural standard of face-saving, which focuses on saving a person’s status in interpersonal relations. If this status is damaged or disrespected personal or other peoples’ misbehavior, this implies shame and disgrace (Stottinger, 2001, p. 17). As a teacher in China, I learned first-hand that foreign business associates appreciate it when others take the time to learn their language and acclimate themselves into their world. They feel as most feel that being able to effectively communicate is an essential skill. This also shows a sign of genuine interest towards them. Surely, business transactions within a new country bring a list of challenges. The fact of going to the unknown and bringing different business practices together is a risk if both parties are not open minded. Every business that is going global experiences this.

I learned that in dealing with Chinese people, China and the U.S. have a different business culture which is a result of different history and practices. Change is viewed as disruptive in China, while it is viewed as the end result in America. The importance of relationship in China relates to four social groups: relatives, schoolmates, personal friends, and the indirect relationship among all three groups. “The importance of quanxi (connection),” (China, 2013) is paramount, as opposed to American individualism for personal achievement. Individualism is not singled out, so I was careful when instructing students and when addressing and conversing with academic peers, and other communications. The cultural literacy approach can be learned through researching the country you are entering, and then applying this knowledge when developing the relationship before actually entering the country. In order to function effectively in global business, the manager also needs to be flexible and have the ability and desire to alter personal behavior when working with people from other cultures (Wild, 2011, p. 8). This methodology will ensure a company’s success in overcoming cultural differences in any country in the world.

Conclusion

Success in transacting business in China can be achieved if you apply yourself, and do your research. Be culturally sensitive and avoid ethnocentrism. Don’t be afraid to ask questions, and strive for excellence in gathering data and applying it.
There are key issues to ensure a good start in your business venture in China. They are as follows:

- Know the symbols that are offensive to Chinese people
- Avoid hard selling because Chinese value relationship building and harmony
- Be patient and flexible and anticipate the long-game
- Decisions are made by the group head and may take longer
- Drinking and smoking is acceptable, but it is not polite to be drunk in public
- Take many business cards with you, and be sure to give one to each person in the group


Remember, there is less competition in a collective group culture than an individualistic culture, simply because the group has its power structure high up and everyone else follows the rules. So never lose sight of this when doing business with China, and do not allow extreme competitiveness (innate in our American culture) to lead to complications and bad feelings.

Bibliography


CULTURAL INFLUENCES ON IT IMPLEMENTATION: A PROPOSED THREE COUNTRY STUDY

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Abstract

Advantages and disadvantages associated with innovations in technology weigh heavily in the implementation decision. The choice to adopt and accept a new technology occurs when advantages offset the risks and disadvantages (Obeidat & Turgay, 2013). Such advantages can include Davis’ Technology Acceptance Model’s (TAM) constructs of perceived ease of use, perceived usefulness (improvements in job performance in the organization), and behavioral intention which can translate to a desire to implement a technology based on its usefulness and simplicity (Davis, 1989; McCoy, Everard, & Jones, 2005).

In recent years, researchers have used Davis’ (TAM) model as a practical archetype to understand implementation and forecast acceptance of information systems (IS) particularly in North America (Davis, 1989; Davis, 1993; Ebrahimi, Singh, & Tabrizi, 2010; McCoy, et al., 2005; Straub, Keil, & Brenner, 1997). However, a review of literature indicates a need to expand the technology acceptance model (TAM) and its applicability to other cultures in light of globalization trends (Straub, et al., 1997; McCoy, et al., 2005).

In order to predict the acceptance of IT implementation it is important for managers to gain an understanding of key cultural differences that are present in national as well as international environments. This study will extend McCoy et al.’s (2005) work and will encompass research specifically focused on cultural influences on IT implementation of cloud technology across three countries: China, Saudi Arabia, and the United States.

The research hypothesis is that the six culture dimensions composed of masculinity/femininity, individualism/collectivism, uncertainty avoidance, power distance identified in the IBM Study by Hofstede (1980) and the two new dimensions developed from Bond’s Chinese Value Survey
(long term orientation), and (indulgence vs. restraint) developed from the work of Minkov, will have a moderating effect on the TAM constructs. Particular attention will be paid to Individualism vs. Collectivism, based upon comments by Hofstede, Hofstede, and Minkov, (2010, pps. 123-124). Users’ acceptance and intention to use cloud technology will be considered as it relates the cultural values. Survey methodology will include Davis’ (1989) instruments and Hofstede's VSM 08 Culture Values Survey instrument. The study seeks to increase the body of knowledge regarding how cultural difference may affect IT implementation, report outcome of the statistical analysis, as well as provide suggestions for future research and guidance to practitioners.

**Keywords:** Technology Acceptance Model, Cultural Dimensions, IT implementation, Cloud Computing

**References**


FOREIGN CURRENCY EXCHANGE FORECASTING USING ARTIFICIAL NEURAL NETWORKS

Thomas Seiler & Lynn Wilson

The computer, computer management software and computer simulation have long been tools in business for handling labor-intensive organizational functions, improving productivity and forecasting business outcomes under various conditions (Wysocky and Young, 1990; Turban, 1990; Trippi and Turban, 1993; Ryman, 1983).

Cognitive psychologists and computer scientist investigating the brain and the functions of the brain have posited a model of the brain know as artificial neural networks (ANN). (Carpender and Grossberg, 1987) Psychologists reasoned that and elemental building block of the brain is the neuron, which acts as a reactive device stimulated by the inputs presented to it. (Caudill and Butler, 1991) The inputs to the neuron and the neurons themselves are interconnected with weighted connections know as synapse. (Caudill and Butler, 1991)

The interconnections of neurons by synapse are known as neural networks. An out-of-brain simulation of this network, whether mechanical, electrical, is known as an artificial neural network (ANN). A computer simulation of this network is known as a simulated artificial neural network (SANN).

Carpenter and Grossberg (1987) reasoned that a properly trained SANN can recognize patterns in sets of input and output data presented to it. Once trained, the network can determine an estimation of from the data present to it. The strength of SANNs is that it can make reasonable good estimates of output patterns from input patterns never used in its training. Thus the SANN has the possibility of forecasting future patterns of data from new data presented to it.

The new output pattern is, in the next epoch, is compared to the actual event when it occurs and corrections are made to the interconnecting synapse to account for any error prior to making the next forecast. This methodology is known as backpropagation training algorithm. (Rumelhart, Hinton, and Williams, 1986 and Werbos, 1974)

In this paper the author has trained a two layer SANN to forecast foreign currency exchange for the following currencies against the US Dollar ($), Canadian Dollar ($), British Pound (£) Sterling and the Japanese’s YEN (¥).
This network was initially trained with 30 years of economic data from the US Federal Reserve and the Internal Bank of Reconstruction and Development (World Bank). The following variables were used as input:

a. Exchange Rates between each currency in 30, 60 and 90 day intervals
b. Purchasing Power Parity (PPP)
c. Interest Rates Internal to each Nation
d. Trade Balance for each country with the other

The results of the forecasts post the 30 years of training will be presented in 30 day, 60 day, and 90 day intervals as well as a statistical analysis demonstrating confidence levels of the forecasts.

References


INTERNET CAPABILITIES IN AFRICA—THE LAST FRONTIER!

Pete Simmons  
Djeri Memene

Africa is developing at a rapid pace—however there are still many opportunities and challenges for Internet business there. Discover, through this presentation, what a survey study of Togo, Africa’s Internet Capabilities revealed—where are they as relates to Internet Capabilities, what have they accomplished and what still needs to be done in this part of the world? Other parts of Africa will also be examined as relates to their Internet Capabilities, along with a discussion of China’s role (a major player) in this effort thus far. Recommendations for doing business in this part of the world are stressed; including transparency in business transactions, greater awareness of the other party’s interests, and a higher emphasis on ethical considerations—so that mutually productive long-term success can be achieved. A “world view” is emphasized in this presentation about the Internet business opportunities in Africa.
U.S. RECRUITMENT OF FOREIGN REGISTERED NURSES

Benjamin Smith & Jean Gerges
Saint Leo University

The United States (U.S.) has a deficit of doctors and professional (or registered) nurses. Arguably, the nurse component, given that nurses provide the majority of patient care, is the most critical part of the deficiency. The nursing deficit, termed the nursing shortage, exists on three major factors. Nursing colleges are falling behind the healthcare need because of insufficient numbers of qualified faculty. Thus, nursing institutions are not graduating enough nursing candidates. Additionally, the aging population requires increasing levels of care, and nurses are leaving the profession in response to unfavorable working conditions. Some research suggests foreign nurses are a solution to the shortage. Foreign nurses fill the void and increase the cultural diversity in American facilities. However, foreign nurses face language and American cultural barriers. Furthermore, critics of foreign nurse recruitment claim nurses from foreign countries train to inferior standards. Moreover, detractors warn that the lack of proper education and cultural adjustment complications make foreign nurses a health risk to American patients. Lastly, since hiring foreign nurses depletes human resources in less developed countries, the United States faces an ethical and moral issue relative to foreign nurse recruiting.

Keywords: United States, nursing shortage, faculty, aging population, working conditions, foreign, cultural diversity, language, barriers, education, health risk, less developed countries
INTERNATIONAL SOCIAL ENTREPRENEURSHIPS:
LINKING BUSINESS PRINCIPLES TO SOCIAL PROBLEMS

Nancy Wood & Susan Kinsella

Developed back in the 1960’s, Social Entrepreneurships have become a popular method of combining business practices with current social problems to create innovative solutions with sustainable and replicable results. Both profit and non-profit organizations are finding this model appealing as they mold together business principles with non-profit thinking (Dees, 1998). While a business entrepreneur might create a completely new industry, a social entrepreneur develops innovative solutions to social problems and then implements them on a large scale in a practical fashion (Bornstein, 2007; Certo & Miller, 2008).

Today's MBA programs are producing not just captains of industry, but also crusaders for social change and improvement. Any business program teaching skills needs to train their graduates to serve both companies and society (Kinsella & Wood, 2014). This means equipping would-be entrepreneurs with an understanding of multiple bottom lines and equipping would-be corporate professionals with intrapreneurial vision to connect business interests to social value (Peredo & McLean, 2006). Steeped in both social and business principles, MBA programs across the world have created highly practical programs to provide this new breed of MBAs the ability to navigate the complex environment and create opportunities of sustainability.

In our conference presentation and paper, we will provide the history of social entrepreneurs with examples of successful organizations and the change they created. We will define the concept of social entrepreneurship and explain how it differs from either the traditional for-profit business corporation or the non-profit human services agency. Finally, this conference presentation and paper will discuss the various MBA programs incorporating social benefit content and necessary skills to engage in successful issue-advocacy, problem-solving innovation, and project development.
References


