Volume 4, Number 2 ISSN 2576-2699

International Conference Proceedings

July 27 – July 31, 2020

Editor
Dr. Jeff Mankin, Lipscomb University

Table of Contents

Table of Contents

TOXIC LEADERSHIP AND FOLLOWERSHIP TYPOLOGIES: A PARTIAL REPLICATION STUDY WITH SCALE REFINEMENT

Mark Bell, Wayland Baptist University

ABSTRACT

The goals of this research were two-fold. First, a partial replication was completed on a study that measured the impact of toxic leadership on follower effectiveness. Only one variable, level of education, differentiated the sample groups. In the replication study, the toxic leader dimension of narcissism was found to affect the follower's active engagement and independent, critical thinking whereas the toxic leader dimension of self-promotion was found to affect the follower's active engagement in the original study. Second, much emphasis was placed on scale refinement analyses with the Toxic Leadership Scale (TLS) and the Followership Styles Questionnaire (FSQ). Several iterations of reliability analysis and factor analysis were conducted on both instruments. The results of the scale refinement effort include finding toxic leadership as a unidimensional construct of the five individual, yet highly correlated, dimensions of abusive supervision, authoritarian leadership, narcissism, unpredictability, and self-promotion. A third followership behavior dimension, labeled enthusiastic commitment, was found along with the original two dimensions of active engagement and independent, critical thinking. Those findings led to presentation of two modified instruments--the TLS-1 and the FSQ-3. The TLS-1 measures the one dimensional toxic leader construct (a = .94). The FSQ-3 measures the three dimensions, active engagement (a = .90), enthusiastic commitment (a = .79), and independent, critical thinking (a = .75), of followership.

Keywords: toxic leadership, followership, survey instrument, replication, factor analysis

ASSESSING THE GLOBAL MINDSET OF ACCOUNTING EDUCATORS

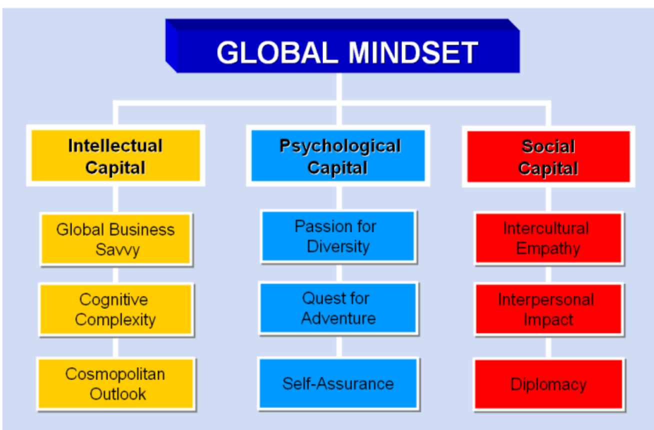
Jill Christopher, Ohio Northern University
Danielle Foster, Ohio Northern University
Perry Haan, Tiffin University

ABSTRACT

In the world's diverse workplace, the need for managers who see the multi-faceted global big picture and who can influence others unlike themselves is growing as more companies of all sizes find themselves situated internationally or interacting with customers, suppliers, or other parties in cultures different from their own. There is a distinct shortage of talent in this area that employers seek to address. Faculty in business schools can help by encouraging the development of the desire in their students to work with others from different cultures. Not enough graduates with this desire are entering the workforce to satiate this demand. Part of the reason for the shortfall may be educators' reluctance to encourage the development of this kind of mindset in their students.

The Najafi Global Mindset Institute (NGMI) at the Thunderbird School of Global Management, Arizona State University defines the Global Mindset as the ability of individuals to influence others unlike themselves (Javidan & Bowen, 2013). Since 2004, the NGMI has conducted research aimed at identifying what it terms "capitals" – the personal attributes that contribute to an individual's effectiveness at working with people in other parts of the world (Thunderbird School of Global Management). The NGMI diagrams the qualities that comprise the Global Mindset in terms of three capitals, each of which having three proficiencies or "competencies". Figure 1 visualizes these Global Mindset components.

Figure 1
The Three Capitals of Thunderbird's Global Mindset (Javidan & Walker, 2013)



Two organizations directed business educators – in this case, accounting educators – to initiate the process of developing in students growth mindset competencies such as those included in the Global Mindset. These organizations include the Association to Advance Collegiate Schools of Business (AACSB) (2011) and a joint venture between the American Institute of Certified Public Accountants (AICPA), and the American Accounting Association (AAA) (Pathways Commission, 2012).

A problem arises, though, when accounting educators are not familiar with the Global Mindset concept, the strong or weak points of their own Global Mindset, or how to teach the Global Mindset concept to students. The AACSB's Globalization of Management Education report (2011) identifies these issues as possible reasons for the disinterestedness of business faculty in teaching students about globalization. Another reason why accounting educators may not place greater emphasis on the importance of students' having a Global Mindset is that this way of thinking is, to many people, not intuitive (Robb & Odell, 2015).

The goal of this research was to assess the global mindset of accounting faculty members across the United States. The NGMI's Global Mindset Inventory self assessment was used to identify accounting educators' areas of strength and weakness compared to others in the workforce. The NGMI administered its GMI self-assessment tool, a psychometric instrument that has been scientifically designed to produce valid, reliable results. Participants received a customized report showing their individual readiness in all 35 Global Mindset capabilities and how their competency and capital scores compare to the Institute's grand mean scores for all participants. Participant reports also included an individual development-planning section. Common strengths and weaknesses in the Global Mindset of accounting faculty were identified and compared to strengths and weaknesses in the overall population of business people who have taken the GMI, as well as in the population of professional accountants who have taken the GMI.

Armed with the information provided in the GMI participant report, accounting educators may be inspired to grow their Global Mindset in capitals or competencies where they are weak. Participating in the GMI survey and using the tools described in the book, Developing Your Global Mindset *(Javidan & Walker, 2013), will provide accounting educators with a wealth of ideas for encouraging their students to develop a Global Mindset.*

The research survey sample was drawn from the population that consists of accounting faculty members in the United States listed in the online Hasselback Directory of Accounting Faculty (http://www.hasselback.org/) which is supported by the American Accounting Association. There are over 5,000 faculty members in the directory for which email addresses are available, representing schools from all 50 states plus Washington DC. Faculty email addresses were collected by visiting the Hasselback Directory's entry for each U.S. school and retrieving the email addresses for all faculty members listed for that school. The email addresses were given to the NGMI, which administered the survey, provided results to survey participants, and compiled the resulting survey data. The survey instrument given to accounting faculty consisted of all 76 of the GMI questions, plus some additional demographic questions specific to accounting faculty.

Statistical analysis of the capital and competency data indicates that accounting faculty members' weakest capital is their psychological capital, followed by social capital and then *intellectual capital (for which no significant difference was observed). Although significant differences were observed in eight of the nine competencies, four competencies emerged as the weakest areas for accounting faculty. The psychological capital competency, Quest for Adventure, scored the highest t-score of all nine competencies, indicating the area of greatest weakness, followed by the social capital competency, Interpersonal Impact, the psychological capital competency, Passion for Diversity, and the social capital competency of Intercultural Empathy.*

According to Drumgo (2017), developing psychological capital involves "changing your thought process, breaking down biases, and beginning to change your old way of thinking", so is more difficult to grasp than social or intellectual capital; nevertheless, Javidan and Walker (2013) provide many suggestions for starting the psychological capital development process. We will review some of the suggestions that Javidan and Walker make for developing each competency, in addition to describing personal experiences in developing Global Mindset and suggesting avenues for future research.

EVALUATION OF THE APPLICATION OF DOUBLE TAXATION ON INTERNATIONAL SERVICES TRANSACTIONS FROM BRAZILIAN AIRLINES

Franco Daffos Torres, Embry Riddle Aeronautical University
Raquel Sá Brito Rojas, Embry Riddle Aeronautical University
Ricardo Araujo Kurokawa Bico, Embry Riddle Aeronautical University
Rodrigo Saldanha Marinho, Embry Riddle Aeronautical University
Leila Halawi, Embry Riddle Aeronautical University

ABSTRACT

Globalization tends to stimulate transactions between different countries by offering products and services with different quality and prices. During the negotiations, there is a tax over payment remitted abroad that involves agreements between countries. This research project aims to understand all the double taxation agreements between Brazil and foreign countries inserting them into the decision making process of hiring a service abroad. Using the Business Process Management methodology it could be seen that double taxation is not considered today on the study of hiring a service abroad, which can lead to an increase on company's costs. This project proposes a change on the process done today by including the utilization of a new tool fed with all the different types of agreements valid in Brazil to simplify the decision of the procurement team. The tool is created and available to be implemented within companies with estimated saving around USD 33MM per year.

DIGITAL DISRUPTION SOLUTION FOR AIRLINES IN BRAZIL

Camila Bisinoto Borges Borges, Embry Riddle Aeronautical University
Cristiane Lunardi Das Neves Rodrigues, Embry Riddle Aeronautical University
Daniel Dias Landroni, Embry Riddle Aeronautical University
Tatiane de Araujo Mendonça, Embry Riddle Aeronautical University
Leila Halawi, Embry Riddle Aeronautical University

ABSTRACT

Since March 2017, the cost of denied boarding began to draw the attention of all Brazilian airlines because of the Resolution 400 of the Brazilian National Civil Aviation Agency. This Resolution covers several items, but here we will focus on the penalty that the airlines need to pay for each passenger who had his boarding denied involuntarily in domestic flights. Our goal is to create a plugin that any airline could use in their self-service check-in channels and making direct communication with the passenger. It also could become a way to offer proactive accommodation options as well as monetary compensations due to itinerary or ticket schedule change.

EXOTIC STRUCTURED PRODUCTS – THE CASE OF VICTORY CERTIFICATES

Rodrigo Hernández, Radford University
Kaschia Wade, Virginia Tech

ABSTRACT

We introduce and describe a financial product referred to as Victory Certificates and show, based on option pricing theory, that the payoff of an uncapped Victory Certificate can be duplicated by the combination of a long position on the underlying asset, a short position on zero coupon bonds, and a long position in up-and-in put options on the underlying asset, while a capped Victory Certificate can be duplicated by a long position in the underlying asset, a short position on zero coupon bonds, a long position in up-and-in put options on the underlying asset, and a short position on call options on the underlying asset. We also empirically examine an uncapped Victory Certificate issued by Sal. Oppenheim jr. & Cie. KGaA that was issued in April 2005 and a capped Victory certificate issued by Commerzbank AG issued in May 2010 to investigate if the issuers made a profit in the primary market. Consistent with previous research on structured products, issuers generate considerable profit in the primary market. Finally, we simulate the sensitivities of Victory Certificates to changes in different pricing input variables and parameters used in the design of Victory Certificates.

ENGAGING GEN Z EMPLOYEES AT THE WORKPLACE

C. Christopher Lee, Central Connecticut State University
Varshini Aravamudhan, Central Connecticut State University
Tiffanie Roback, Central Connecticut State University
Hyoun Sook Lim, Central Connecticut State University

ABSTRACT

The main objective of this paper is to identify the factors that impact the engagement at workplace for Gen Z employees. The factors considered for this analysis are corporate social responsibility, leadership – transformational and transactional, work-life balance, autonomy and technology. We hypothesized that the five factors were positively related to employee engagement. A survey was sent out through Amazon Mechanical Turk in April 2020. From the responses, 218 were considered as input for analysis and Gen Z respondents accounted for about one-third of total respondents. We used correlation analysis and a multiple regression model. We found that all variables were positively correlated to employee engagement. Out of the six variables measured, transformational leadership had the highest correlation and transactional leadership had the lowest correlation. Technology, autonomy and work-life balance fell in between these two extremes. The results of the multiple regression analysis showed that transactional leadership had no influence on creating more engaged employees and transformation leadership had the highest influence on creating more engaged employees. Autonomy and work-life balance were shown to have a positive influence on employee engagement while technology and corporate social responsibility were not significant.

INTRODUCTION

Employee engagement is more than job satisfaction. When employees are engaged, they have an emotional commitment to their company. There are many factors that impact employee engagement apart from salary. It is becoming increasingly important for companies to create employee engagement especially as the newest generations enter the workforce. Companies with engaged employees has a 6% higher net profit margin (Forbes, 2012). The next set of people who will be joining the workforce is Generation Z. Gen Z is the youngest, most ethnically diverse and largest generation in American history, comprising 27% of US population (Tracking Gen Z's characteristics, n.d.). As per study by Deloitte with the Network of Executive Women, if given a choice of a boring job with high salary and an interesting job with lesser pay, Gen Z was fairly split over the choice (Gomez, Mawhinney, & Betts, 2020). Hence, it is important to identify the factors impacting Gen Z's employment at workplace so that companies can act accordingly to retain them and their skills.

As part of this study, we wondered if increased corporate social responsibility, more work-life balance, more autonomy would increase Gen Z's engagement in workforce. We also questioned if Gen Z gives importance to effective leadership for them to stay engaged in the workplace. In addition, we wondered if latest technology adoption by a company would increase Gen Z's engagement in the workforce.

Many studies have been conducted regarding employee engagement. In comparing two organizations, the organization where employees had good work-life balance, the employees also had higher employee engagement (Wasay, 2013). Gangai and Agrawal (2017) conducted a study on leadership style and employee engagement. They found that transformational leaders are more likely to create higher employee engagement. Slemp, Kern, Patrick, and Ryan (2018) found that a leadership style called Leader Autonomy Support (LAS), which supports autonomy in employees led to higher employee engagement as well as numerous other positive outcomes. Though there are various individual studies on employee engagement related to corporate social responsibility, effective leadership, corporate social responsibility, work-life balance, autonomy and technology, there are not many studies on their impact particularly for Gen Z. Although it is evident that these different factors have been studied on employee engagement, there has been very little, or no research conducted that explored the relation of all five factors on Gen Z employees. This study would fill that gap.

Therefore, this research answered the research questions by analyzing the impact of the five factors – leadership, corporate social responsibility, work-life balance, autonomy, and technology on Gen Z employee engagement. We conducted an empirical study. We developed a survey and collected the survey data via Amazon Mechanical Turk. We ran a statistical analysis of the survey data. Using the correlation analysis and multiple regression model analysis, we tested the research hypotheses. In Section 2, a review of prior studies is conducted. Section 3 presents methodology, followed by statistical results in Section 4. We discussed the results and gave managerial implications in Section 5. Finally, Section 6 concluded this study.

REFERENCES

Available upon Request

C2C E-COMMERCE: THE STATE OF ACADEMIC RESEARCH IN DISPOSING GOODS ONLINE

Rosa Lemel, Kean University

ABSTRACT

Consumer buyer behavior and the disposition of goods is a traditional area of interest in the offline marketplace, and it is only recently receiving attention with regards to the online space. C2C e-commerce is a subset of e-commerce, and is often overlooked by those who study consumer behavior. C2C e-commerce refers to consumers selling to consumers in an online environment, and it appears to be a largely ignored area of research. This paper explores the literature that has been written in the past ten years, and posits some reasons for the lack of a research stream on C2C e-commerce. The paper concludes with areas of C2C e-commerce that should be explored.

INTRODUCTION

B2B business models focus on businesses selling to other businesses, and B2C focuses on business selling to consumers. These are two long established models for conducting business, and follow traditional channels of distribution where goods flow generally vertically from the manufacturer, to middlemen and then either to retailers or to the final consumer (B2C).

Traditionally C2C refers to consumers selling their used or unwanted items to other consumers. After a consumer was finished with a book or video game, for example, they could either keep the item, get rid of it permanently, or get rid of it temporarily (Jacoby et al., 1977). Jacoby et al. (1977) developed a taxonomy for these types of disposition decisions. These disposition decisions include sub-choices, one of which is to resell the item. Used books, clothes, cell phone can all find new life with new consumers. There are many motivations for consumers to become resellers, these include (Chu and Liao, 2008) economic motives, a sense of thriftiness, environmentalism, as well as emotion and social motivations.

The classic C2C model of garage sales and flea markets has morphed into an updated version, reselling goods online, or C2C e-commerce. The expansion of the internet, and the availability of smart phones and tablets has made it easier for consumers to both buy and sell online. This has also encouraged the entrepreneurial spirit in consumers (Avgerou and Li, 2013) who find selling online a way to supplement their income and at the same time dispose of unwanted goods.

PURPOSE OF THIS PAPER

In recent years a new type of C2C e-commerce model has emerged where consumers hunt for bargains at retail stores or thrift shops and then resell this new merchandise to other consumers at a profit. This is known as “retail arbitrage” or “online arbitrage.” Online marketplaces such as eBay and Amazon are used for C2C e-commerce, as well as Facebook, Etsy, and Craigslist. With the explosive growth of B2C e-commerce in the past 20 years, C2C e-commerce has seen an explosion as well. The trade is paying attention to this new distribution channel, but has academic research paid attention to this?

Academic research in the past ten years has increased in the area of e-commerce, but not in the sub category of C2C e-commerce, even though C2C e-commerce has increased due to the availability of the online marketplaces previously mentioned.

LITERATRUE REVIEW

A meta-analysis conducted on e-commerce research 15 years ago (Wareham et al, 2005) found 17 different topics covered in academic journals, but C2C research was not listed as one of these subjects. The topic "auction" was covered, and may be considered C2C e-commerce, but C2C e-commerce encompasses more than that.

Jones and Leonard (2007) explored the question of whether C2C e-commerce warranted its own distinct research stream. They concluded that C2C was different enough from B2B and B2C to warrant its own research. Since that proposal in 2007 the arena encompassing C2C opportunities has expanded greatly. But has the research?

A search on Google or YouTube will bring up e-bay "gurus" selling courses on how individuals can market their goods to other consumers on eBay, Facebook, or Amazon. These tradesmen offer advice for a fee, and are often hucksters or scammers. Real scholarly research on C2C e-commerce strategies are almost non existent. An entire industry seems to have cropped up around C2C retail arbitrage without academic notice. There are phone apps specifically designed to help with C2C e-commerce and retail arbitrage. Some of these apps, such as Tactical Arbitrage, cost $800 a year or more for a subscription service. These apps source inventory from retail stores so that consumers can find the best prices to resell on Amazon. This is not only allowed by Amazon, it is encouraged. Amazon has set up a program called "fulfillment by Amazon" or FBA to make it easier for consumers to sell online without having a legitimate business. For a fee, Amazon will ship to the consumer, handle returns, collect sales tax, and warehouse the items until they are sold.

Leonard (2012) continued to explore this phenomenon of C2C e-commerce, but 5 years after his initial 2007 study he has still not found much research about the transactional styles and strategies used in C2C e-commerce. A study in 2017 (Yrjola et al) found that as many as between 5-10% of consumers began their search for products in the used marketplace rather than looking for new products. This result varies depending on the category and availability of the item. But this does not acknowledge C2C e-commerce that is sold as new. As recently as 2018 a study (Saarijarvi, Joensuu, Rintamaki and Yrjola) found that C2C e-commerce was still not receiving much attention in academic literature. Hagberg et al. (2016) examined online retailing and the retail-consumer interface. It posits that four elements exist online: the exchanges, the actors involved, the offerings or products, and the settings. Online retailing acts differently than brick and mortar within all of these elements, and warrants more research, according to the authors. When social media commerce is included the arena becomes amorphous and the boundaries become blurred. Social media commerce, a more recent phenomenon, offers an emotional component (Xiang *et al.*, 2016) with consumers interactions that lead to more impulse buying.

While there is little research on C2C e-commerce, most of those studies have been from the buyers' perspective as end consumers. These studies have focused on their motivations for buying, and their perceived risk buying on the internet. Guo et al (2018) examine the perceived risk of the sellers, who are themselves consumers, in selling on the internet. The perceived risk relates mostly to fraud abuse, such as returning items after using them. Wei et al (2019) investigates this further by distinguishing between the buyers and the sellers in a C2C online marketplace.

REASONS FOR LACK OF RESEARCH

Definitions of C2C transactions are ambiguous

C2C e-commerce generally assumes used consumer products sold to other consumers. Reality presents a different picture, consumers can sell new unopened items as well in the C2C marketplace. Increasingly, with retail arbitrage, consumers are taking advantage of clearance and sale items they find and flipping them in the C2C marketplace for a quick profit. One study (Yrjölä et al., 2017, p. 312) showed that there is less distinction between what is new and what is used with consumers today. According to the study even established retailers are blurring the lines by offering used and refurbished products back to consumers.

The definition of C2C was simpler before e-commerce and has been studied in an offline environment for decades (e.g., Sherry 1990; Belk, Sherry, and Wallendorf 1988). Flea markets, swap meets, garage sales, auctions and classified advertisements were the typical channels for C2C commerce. When C2C moved online it was primarily as an auction. C2C e-commerce is defined as both the buying and selling transactions that take place online (Leonard, 2011).

C2C e-commerce is a relatively new discipline

Early studies about C2C e-commerce were mostly representing online auctions (Wareham, Zheng, and Straub, 2005). As e-commerce has evolved, C2C e-commerce is understood to mean much more than auctions. There are studies that explore C2C e-commerce within the context of social media and impulse buying (Chen et al, 2016), these studies look primarily at Facebook for C2C e-commerce. What little research does exist on C2C e-commerce is mostly from the consumers' perspective (Guo et al., 2018) Little research is done about advertisement sites such as Craigslist or auction sites such as eBay that sell C2C without the social media component. These various channels have different characteristics that affect consumer behavior which can affect consumer satisfaction (Fan et al., 2012) One study showed consumer perceptions differed regarding a site's utilitarian or hedonic benefits (Abdul-Ghani, Hyde, and Marshall 2011).

C2C e-commerce is constantly evolving

In the past 10 years more online venues have emerged and evolved to allow for C2C e-commerce (Statista, 2018) including eBay, Etsy, Craigslist and Amazon. As a result much of the research about C2C e-commerce would be outdated in 2020. Not only are the platforms evolving, but consumers have evolved as well. In both Europe and the United States (Eurostat, 2016) there has been a steady increase in C2C e-commerce.

Cultural perceptions of C2C may be changing

Consumers are motivated to buy for different reasons, and as cultural perceptions change, so does the buyer behavior. Nostalga, sustainability, and the acceptability of buying used products differ with changing cultural norms. Murphy and Liao, (2013) examined the various resale types, motivations, and strategies used by consumers to sell to other consumers. Saarijärvi et al. (2018) found C2C e-commerce buyers had a positive perception of buying used products as it related to environmentalism, recycling, and lengthening the used products' life cycle. These types of motivations were not apparent decades ago and are changing as society evolves. Another motivation (Chen et al., 2017) of buying from other consumers is the perceived economic value derived.

Culture is also changing in the way consumers socialize, with social media becoming more and more relavant. According to Xiang et al. (2016), the social elements of some C2C platforms provide emotional value to consumers. Those platforms that are more local provide value in the form of trust and are replacing the traditional offline social commerce that was seen at flea markets and swap meets (Belk et al. 1988).

CONCLUSIONS AND RECOMMENDATIONS

From this review it is clear that the academic literature is lacking research in the area of C2C e-commerce. There may be little interest in researching C2C e-commerce due to low profitability and lack of interest from foundations that offer grant money. While there is research from before 2010, the internet and e-commerce has evolved since then, and many of those earlier articles are outdated. The online e-commerce platforms are friendlier and more robust than they were 10 years ago. E-bay, Facebook, and Amazon have evolved to include many new selling and buying tools. Taobao, the Chinese equivalent to Amazon has also evolved in the past 10 years and provides a platform for C2C e-commerce. There are some C2C studies using Taobao's platform, for example research (Wang et al, 2014) examining consumer loyalty and other studies (Zhang et al, 2012) that examine consumer feedback as a signal of a seller's quality. Future research can focus on the consumer as a buyer, as some studies have. There is also need to study the consumer as a seller, this is a relatively unexplored area of research. Other areas of research can trace the evolution of online shopping platforms to allow consumers to sell to other consumers, and trust and privacy issues. Amazon just announced (CNBC.Com, 2020) it will publicly list the names and addresses of third-party sellers on its Marketplace platform. Whether this will discourage C2C sellers is yet to be determined. The measure was instituted to help fight counterfeiters, which may result in collateral damage to legitimate consumer sellers.

REFERENCES

Abdul-Ghani, E., Hyde, K. F., & Marshall, R. (2011). Emic and etic interpretations of engagement with a consumer-to-consumer online auction site. *Journal of Business Research, 64*(10), 1060.

Avgerou, C. and Li, B. (2013), "Relational and institutional embeddedness of web-enabled entrepreneurial networks: case studies of entrepreneurs in China", Information Systems Journal, Vol. 23 No. 4, pp. 329-350.

Belk, R. W., Sherry,John F.,,Jr, & Wallendorf, M. (1988). A naturalistic inquiry into buyer and seller behavior at a. *Journal of Consumer Research, 14*(4), 449.

Chen, J. V., Su, B., & Widjaja, A. E. (2016). Facebook C2C social commerce: A study of online impulse buying. *Decision Support Systems, 83*, 57.

Chen, X., Huang, Q. and Davison, R.M. (2017), "Economic and social satisfaction of buyers on consumer-to-consumer platforms: the role of relational capital", International Journal of Electronic Commerce, Vol. 21 No. 2, pp. 219-248.

Chu, H. and Liao, S. (2008), "Toward a conceptual model of consumer online resale behavior: an exploratory study in Taiwan", Journal of Internet Commerce, Vol. 7 No. 2, pp. 220-252

European union: Eurostat publication - regional yearbook 2016: My region in figures. (2016, Sep 15). *Asia News Monitor*

Guo, Y., Bao, Y., Stuart, B. J., & Le-Nguyen, K. (2018). To sell or not to sell: Exploring sellers' trust and risk of chargeback fraud in cross-border electronic commerce. *Information Systems Journal, 28*(2), 359-383.

Hagberg, J., Sundstrom, M., & Egels-Zandén, N. (2016). The digitalization of retailing: An exploratory framework. *International Journal of Retail & Distribution Management, 44*(7), 694-712.

Jacoby, J. (1977). What about disposition? *Journal of Marketing (Pre-1986), 41*(000002), 22

Jones, K., & Leonard, L. N. K. (2007). Consumer-to-consumer electronic commerce: A distinct research stream. *Journal of Electronic Commerce in Organizations, 5*(4), 39-54.

Leonard, L. N. K. (2012). ATTITUDE INFLUENCERS IN C2C E-COMMERCE: BUYING AND SELLING. *The Journal of Computer Information Systems, 52*(3), 11-17.

Murphy, S. L., & Liao, S. (2013). Consumers as resellers: Exploring the entrepreneurial mind of north american consumers reselling online. *International Journal of Business and Information, 8*(2), 183-228.

Palmer, A., (2020). Amazon sellers in the U.S. will have to list their names and addresses. Published Wednesday July 8, 2020, CNBC.com https://www.cnbc.com/2020/07/08/amazon-sellers-in-the-us-will-have-to-list-their-names-and-addresses.html

Saarijärvi, H., Joensuu, J., Rintamaki, T., & Yrjölä, M. (2018). One person's trash is another person's treasure. *International Journal of Retail & Distribution Management, 46*(11), 1092-1107.

Sherry,John F.,,Jr. (1990). A sociocultural analysis of A midwestern american flea mark. *Journal of Consumer Research, 17*(1), 13.

Statista (2017), "Online platforms used for second-hand sales and purchases according to online shoppers in the United States as of June 2017, by gender", available at: www.statista.com/statistics/705229/ usa-c2c-second-hand-ecommerce-platforms-gender/ (accessed June 27, 2020).

Statista (2018), "C2C E-Commerce. Statistics and market data on C2C e-commerce", available at: www. statista.com/markets/413/topic/983/c2c-e-commerce/ (accessed June 27, 2020).

Wang, C., & Zhang, M. (2014). *Exploratory study the antecedents of C2C e-retailing service quality: Taobao.com as an example*. Piscataway: The Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Wareham,J.,Zheng,J.G.,&Straub,D. (2005).Critical themes in electronic commerce research: A meta-analysis. Journal of Information Technology, 20, 1-19.

Wei, K., Li, Y., Zha, Y., & Ma, J. (2019). Trust, risk and transaction intention in consumer-to-consumer e-marketplaces. *Industrial Management & Data Systems, 119*(2), 331-350.

Xiang, L., Zheng, X., Lee, M. K. O., & Zhao, D. (2016). Exploring consumers' impulse buying behavior on social commerce platform: The role of parasocial interaction: SSIS. *International Journal of Information Management, 36*(3), 333.

Yrjölä, M., Rintamäki, T., Saarijärvi, H., & Joensuu, J. (2017). Consumer-to-consumer e-commerce: Outcomes and implications. *The International Review of Retail, Distribution and Consumer Research, 27*(3), 300-315.

Zhang, X., Luo, J., & Li, Q. (2012). Do different reputation systems provide consistent signals of seller quality: A canonical correlation investigation of chinese C2C marketplaces. *Electronic Markets, 22*(3), 155-168.

TESTING THE CITIZEN CAIN OF MARKETING CLAIMS: JUST HOW MANY LICKS DOES IT TAKE TO REACH THE CENTER OF A TOOTSIE POP?

Michael Luthy, Bellarmine University
Patricia Carver, Bellarmine University

ABSTRACT

Commercial TV messages can endure beyond their broadcast dates. One in particular, dating back to the late 1960's / early 1970's, involves an animated commercial for Tootsie Pops and a young boy trying to find out how many licks it takes to reach the candy center. While the conclusion in the commercial was undermined, students at several educational institutions have undertaken studies to discover the true answer. These previous studies however, involved flaws in either their methodology or controls. The current paper takes up the issue and presents a more controlled study to determine an accurate average number for licks to the center as well as discuss how robust the result truly is.

INTRODUCTION

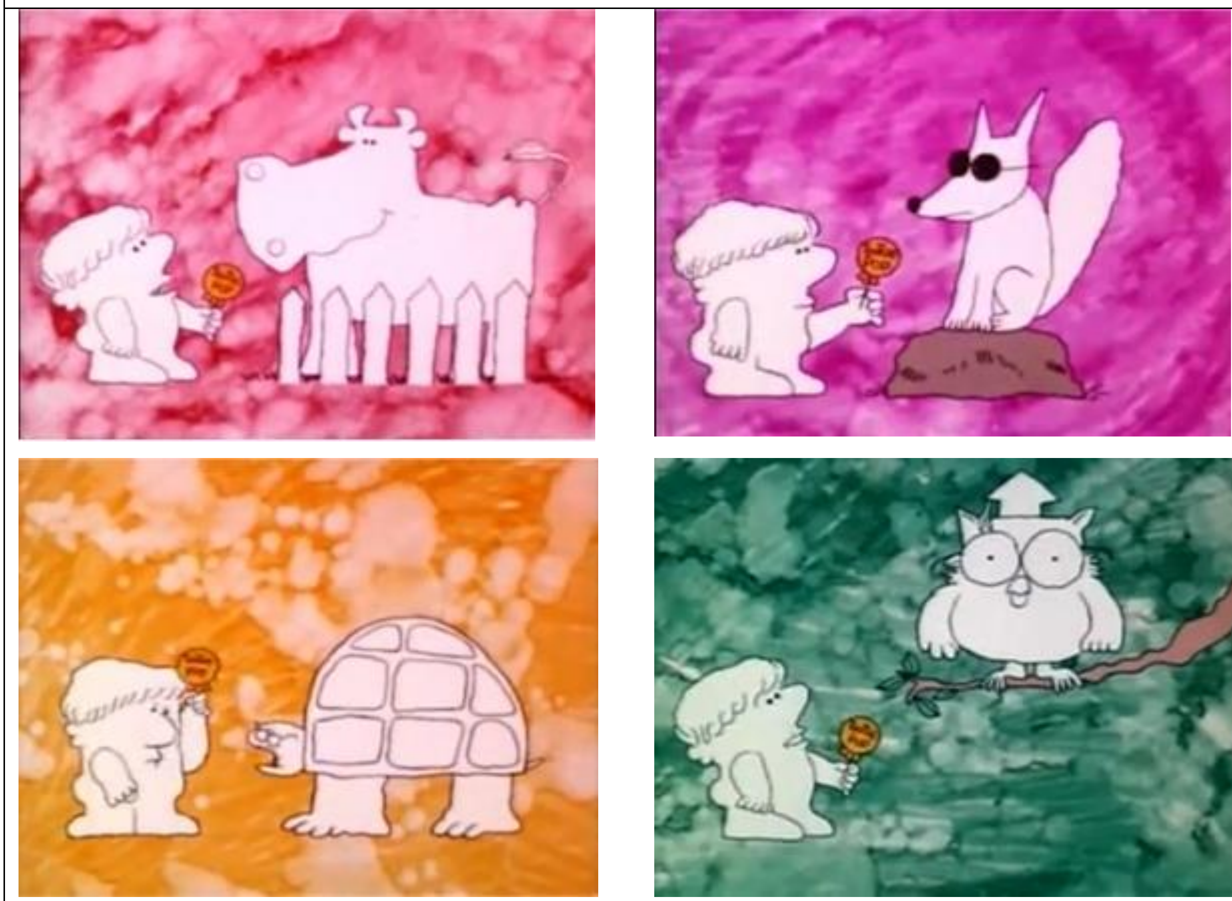
Historically, researchers have examined the volume of advertising messages directed or observed by children from very early ages through their adulthood – including the impact on their development and socialization. (John, 1999). With the more recent advent of social media platforms and the internet, the number of advertising messages people born in the last decade have been exposed to has only risen.

Among all the different media individuals are exposed to, broadcast television holds a particularly significant role for marketers – both in establishing brand preferences and loyalty to creating a foothold in consumers' mental spaces. Given the totality of messages competing for these spaces within consumers most would hypothesize that older messages would not be particularly accessible. Some commercial messages however, transcend their limited runs on television. Whether stories told through recollections of parents, dusty VCR videotapes, YouTube, or television shows that replay vintage commercials, some endure and can be recalled by people who were never exposed to the message during the commercial's original run of airings. Certain commercials are by their nature "sticky" in the minds of individuals (Health and Heath, 2007).

One such commercial was for the candy Tootsie Pop. In 1969 there was a now famous, and famously recallable, animated ad run primarily during Saturday morning television cartoons in the United States. The commercial asked the supposedly simple question, "How many licks does it take to get to the center of a Tootsie Pop." After consulting several animals for the answer (see exhibit 1) the young boy asked the wise, old owl. Giving up relatively early in his experiment the owl provided the answer "three". It was left to the commercial's voice-over announcer to state that "the world may never know" (YouTube.com, 2012).

Over the years a number of groups have attempted to answer the question that the commercial did not through empirical testing. Their respective approaches as well as their results varied substantially.

Exhibit 1
ANIMALS CONSULTED IN TELEVISION AD



Still images taken from YouTube commercial

BACKGROUND

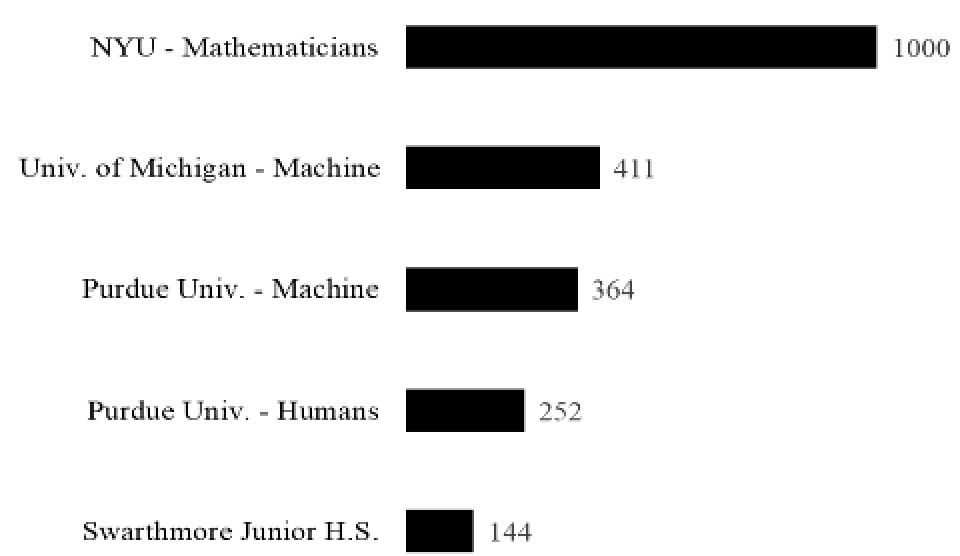
Exhibit two presents a comparison of the conclusions reached by various groups who have attempted to answer the Tootsie Pop question. At Purdue University students in the engineering college designed and build a licking machine, modelled after a human tongue. The result of their research reported that an average 364 licks was needed to reach the center (Tootsie Roll Indstries website, 2020). As a parallell test they recruited twenty volunteers to perform a non-machine version of the task and arrived at an average of 252 licks to the center. Results from the human test represented an almost 31% difference from the machine test however no explanation was provided. Further there was no discussion of gender or other variables on the human side (Tootsie Roll Industries website, 2020).

Another machine-based approach was used by a doctoral student in chemical engineering at the University of Michigan. That research, employing a customized licking machine required 411 licks to reach the center of a Tootsie Pop (Tootsie Roll Industries, 2020). Utilizing a human subject aproach, a 1996 study by students at Swarthmore Junior High School, reported an average of 144 licks, with a range of 70-222 licks needed (Tootsie Roll Industries, 2020).

Finally, mathematicians at New York University conducted an experiment to find out exactly how many licks it takes to get to the center of a Tootsie Pop (Huang, Moore, and Ristroph, 2015). Graduate student Jinzi Mac Huang and associates determined it would take approximately 1,000 licks to make it through one centimeter of candy, which is approximately half the length of one Tootsie Pop. The study was done to explore the effects of dissolving materials within a fluid flow, such as rocks in geological environments and pills for pharmaceutical applications however the authors believed that the approach could be used on any material to figure out how fluids would dissolve it. Using that model and a giant homemade ball of candy, they got to the rough estimate of 1,000 licks, though the study researchers weren't able test out the theory themselves. Unfortunately the candy they made for testing was not specified and no formula was shared with the researchers by Tootsie Pop Industries.

The overall conclusion of these various efforts is that albeit well intentioned, understanding consumer behavior requires more than building human analog machines or involving human beings without exploring the methods used to control for extraneous factors.

Exhibit 2
AVERAGE LICKS TO THE CENTER OF A TOOTSIE POP – STUDY COMPARISON



METHODOLOGY

Sample

To see if the results could be improved upon (or verified), instructors in the Business School at a medium-sized, private university in the South took on the challenge. An experiment was conducted using over 130 students. Each was given the envious task of getting to the center of a Tootsie Pop. Participants completed a survey comprised of a number of questions including their gender, time of the class, and the time they last ate. They were also asked about their eye color, hand orientation (left-dominant, right-dominant, or ambidextrous).

Method

A one-page, two-sided paper and pencil survey form was administered to all students which included a self-reported accounting sheet of the number of licks they made before reaching the center. Each student randomly selected one of three flavors of Tootsie Pops (raspberry, grape, or orange) by choosing from a brown paper bag passed around the room. These three flavors are among the ones featured in the original television commercial. While undertaking the project students were shown humorous slides of media advertisements as a low-level distraction activity while they licked the pops. This exercise was chosen because it did not take much concentration, the students could keep their minds on the task at hand. The researchers used a timer, revealing to students the time elapsed when they raised their hands signifying the conclusion of the task.

RESULTS

As can be observed in Table 1, the random drawing process yielded an approximately equal spread among the three flavors. Further, although the four sections of the class were held throughout the same day, total enrollment and the gender splits were approximately equal across all four sections.

Table 1
AVERAGE NUMBER OF LICKS AND TIME TO CENTER OF A TOOTSIE POP

			
	Grape (n=41 / 32%)	Orange (n=44 / 34%)	Raspberry (n=42 / 32%)
All subjects (n=130 / 100%) 175 licks, 14.1 minutes	198 licks 15.5 min.	148 licks 12.3 min.	181 licks 14.5 min.
Male subjects (n=64 / 49%) 187 licks / 14.3 minutes	195 licks 15.2 min.	167 licks 12.8 min.	195 licks 15.9 min.
Female subjects (n=66 / 52%) 164 licks / 13.8 minutes	199 licks 15.8 min.	138 licks 12.5 min.	160 licks 13.3 min.
8:00 a.m. subjects (n=33 / 25%) 209 licks / 17 minutes	241 licks 17.5 min.	194 licks 15.7 min.	191 licks 16.8 min.
9:25 a.m. subjects (n=31 / 24%) 153 licks / 14 minutes	150 licks 13.9 min.	153 licks 12.2 min.	154 licks 14.5 min.
12:15 p.m. subjects (n=34 / 26%) 162 licks / 13 minutes	154 licks 13.7 min.	134 licks 9.6 min.	187 licks 14.6 min.
3:00 p.m. subjects (n=32 / 25%) 177 licks / 13 minutes	132 licks 16.6 min.	104 licks 11.1 min.	213 licks 14.2 min.

Candy and wrapper images taken from Bing.com

When considering all subjects, an average of 175 licks in just over 14 minutes to the center was measured (range 148-198 licks; 12.2 to 15.5 minutes). Differences in the number of licks is hypothesized to be explained by flavor with orange being consumed quickest and with the fewest number of average licks. This pattern holds regardless of gender or time of day the class met.

While the pattern held consistent, gender does appear to play a role in the observed differences. Generally speaking, males tended to take about the same amount of time to the center but took the same or fewer licks. This may be due to males' generally larger oral cavities and larger tongues.

Greater differences in results by time of day is supported by correlation with when respondents said they last consumed food. The first class of the day, right after breakfast, translated into the most licks and time to center. The fewest licks to center are associated with midday between lunch and dinner.

An examination of other collected information indicated that eye color was not indicative of differences in average number of licks to the center. Similarly, handedness was also not associated with meaningful differences in observed behavior, although with 88% of respondents right-handed and only one ambidextrous the numbers needed for a more exacting analysis will have to wait for another study.

CONCLUSIONS

The key to definitive research is replicability. Unfortunately the current result of 175 licks to the center of a Tootsie Pop comes only most closely to that from the students at Swarthmore Junior High School. And with their range from 70-222 licks there may be a methodology issue nor reported that explains the range. There is no way to know from the reporting on their result. And without details as to their methodology or control factors it can't be considered especially reliable.

While the current study may not be definitive, due to its methodology, consideration of alternate factors, and ultimate controls, it appears the frontier of understanding that approximately 175 licks by a typical college student needs to reach the center of a randomly selected Tootsie Pop is a best guess. A more standardized answer relies more on individual factors including but not limited to tongue moistness, lick duration, tongue texture, and the diameter of the pop itself. In considering this research result there must be an acknowledgement that differences due to flavors is involved. Consequently, while the current researchers do not agree with the commerical voice over announcer that "the world may never know" how many it takes to the center of a Tootsie Pop, we believe our estimate is the most accurate and takes into account human behavior and dynamics. Readers, and instructors interested in a project for their classes to discuss consumer behavior, experimental design, result issues, etc. are encourage to conduct their own research.

REFERENCES

Bing.com website (February 2020). Images of Tootsie Pop wrappers and candy, https://www.bing.com/images/search?q=tootsie+pop+wrapper&form=HDRSC2&first=1&cw=1522&ch=750

Heath, C. and D. Heath (2007). Made to Stick: Why Some Ideas Survive and Others Die, Random House, New York, NY.

Huang, J.M., M.N. J. Moore, and L. Ristroph (2015). Shape dynamics and scaling laws for a body dissolving in fluid flow, *Journal of Fluid Dynamics*, 765, R3, pp. 1-10.

John, D.R. (1999). Consumer socialization of children: A retrospective look at twenty-five years of research, *The Journal of Consumer Research*, 26, 3, pp.183-213.

Tootsie Roll Industries website (2020) https://tootsie.com/howmanylick-experiments.

YouTube.com (2012). Classic Tootsie Roll Commercial - "How Many Licks", https://www.youtube.com/watch?v=O6rHeD5x2tI

EXPLORING CONSUMERS' HABITUAL BEHAVIOR THROUGH A SMARTPHONE EMBARGO

Michael Luthy, Bellarmine University

ABSTRACT

At the heart of learning is experience. Whether it is the experience of discussion in the classroom, studying for an examination, working on a project with other students, or pursuing and reflecting on a task independently, the experience can be transformative and lead to new knowledge and insights. The National Day of Unplugging, an event held annually in March, provided an opportunity for graduate students in a business creativity course to participate and confront, for what has become a habitual consumer behavior to many, an ongoing and near constant use of a smartphone. Participation in the Day experience afforded students the opportunity to gain perspective on their own consumer behavior while also providing information relevant to subsequent classroom discussions. The current article presents journaled reactions to the event and commentary on its use as a pedagogical tool for other instructions to potentially use in their classrooms.

INTRODUCTION

During a summer course in Business Creativity for a small cohort of MBA students, one of the learning goals was to have a more in-depth discussion that touched on several consumer behavior-related themes. The AACSB accredited institution, a medium-sized university in the South offers weeknight, weekend, and executive MBA programs to part-time students in the area.

More specifically, the class was to explore the impact of changing modern technology and the need for marketing practice and practitioners to adapt when confronting habitual behaviors. In order to better understand this, beyond a general discussion or surface-level observations, students needed to be challenged to make the topic more personal. Additionally, having all of the students share a common experience likely would facilitate a better discussion overall once the group was reassembled in the classroom. Combined with one of the overarching student learning objectives of our institution's graduate business curriculum of "fostering reflective thinking," finding the right task was the key to achieving this goal.

Approximately two decades ago general news reports documented the National Day of Unplugging. The project is an outgrowth of The Sabbath Manifesto, an adaption of the Jewish practice of reserving one day a week to unwind, unplug, relax, reflect, get outdoors, and connect with loved ones. Created by Reboot, a nonprofit Jewish community, the Day was originally established in 2003 for people of all or no faiths (Anonymous, 2020).

The intent behind the program was to challenge people to keep their electronic devices unplugged and unused for 24 hours for a global vacation from technology. It attempted to highlight the value of disconnecting from digital devices to better connect (or reconnect with), loved ones and communities in real time (Reboot Website, 2020).

In addition to maintaining the website and supporting the day of unplugging from technology Reboot currently offers a free, cloth cell phone sleeping bag for those who want to focus on the smartphone as the focus of their unplugging experience.

Asking students to alter, in some instances drastically, their behavior can be problematic. Exhibit 1 presents the instructions students were provided to follow. An attempt was made to balance the constraints of asking people (working, part-time graduate students) to alter their behavior by not using their smartphone for a 24-hour period and the potential emergency needs that might arise. The goal was introspection and reflection while not putting anyone's safety, job performance, or psychological comfort unnecessarily at risk.

Exhibit 1
ASSIGNMENT INSTRUCTIONS TO STUDENTS

Smartphone Embargo

1. Put your name on one of the smartphone sleeping bags I'm distributing in class.
2. Examine your schedule for the remainder of the month of June. Select one 24-hour period where you believe you will have the best chance of "surviving" without access to your smartphone. You may begin any day of the week and at any time during the day or night.
3. When that time arrives, write the start date and time on the smartphone sleeping bad and put your smartphone inside.
4. During this 24-hour period you are not to use your own or anyone else's smartphone or cell phone. You may use a landline phone, pay phone, or desk phone at work (if your one day is a work day). You may use a laptop or desktop computer for email or the internet. If you have a camera separate from a phone device you may use it.

   Keep in mind that "borrowing" someone else's smartphone, using a work smartphone for personal use, or asking someone else to run a search or check your email with you looking over their shoulder are all considered cheating behaviors.
5. During this one day period, you should keep a written record (in a small notebook – yes pen and paper) of your observations. How is your behavior changed if at all, do you feel differently, do you notice things around you that you typically don't, do you think about things more or differently, etc. Your goal is to evaluate the experience.
6. If, at any time during the 24 hour designated period you find that you cannot go further with this assignment you may stop and remove your smartphone from the sleeping bag however you must write the date and time you do so on the bag. Further you must write down why you stopped the assignment as well as any feelings, or other observations you experienced for later inclusion in your memo to me.
7. Email me a single spaced memo on or before July 5^{th} with the following information. Note: I suspect these memos will be in the 1-2 page range.
   a. When you started the assignment and why you selected the date and time you did?
   b. When you completed the assignment and if earlier than 24 hours, why you stopped.
   c. Any notes or observations you noted in your record about what you saw, felt, observed, etc. about the experience.
8. Best of luck!

Of course, in case of a true emergency you may discontinue participation in the assignment. After all, this is meant to be an exploration and reflection on behavior and its potential impact on creativity.

Aside from the instruction sheet, each student was supplied with a cell phone sleeping bag, obtained through contact with Reboot at no charge for use in the classroom. They were asked to complete the task with a 24-hour window of their choosing before the next class, approximately two weeks later. The results are presented in Exhibits 2 and 3.

BACKGROUND

Generally speaking, student do not possess much background information on the topic of tech addition or smartphone withdrawal beyond anecdotal incidents. As the instructor I did not want to introduce the topic beforehand since it might impact the students' firsthand experiences. Afterward however, and in conjunction with discussion of their journal observations, several articles (e.g. Archer, 2017; Lang, 2017; Stibel, 2017) were introduced to give context and scope to the issue – particularly with respect to their undergraduate compatriots who have been involved with smartphone technology either for a longer period or who were introduced to it at a younger age.

The assignment is novel, even given the widespread introduction of the smartphone (as we now know it) some approximately thirteen years ago with the first iPhone. As Steve Jobs himself noted at the iPhone's introduction in January 2007 at the San Francisco MacWorld conference there were devices called smartphones (e.g. Moto Q, Blackberry, Palm Treo, Nokia E62) on the market however they weren't very smart (Steve Jobs presentation, 2007). His announcement and presentation represents the availability of the first true smartphone as consumers now conceive it.

The novelty of the assignment stems from tapping into a habit that has had sufficient time to become significantly engrained into people's lives and of sufficient scope to impact how they perform a variety of tasks, both on a personal and a professional level. Unlike other technology, such as an electronic calculator or a desktop or even laptop personal computer, the smartphone by virtue of its handheld status and centrality too many individuals' existence makes the experience and reflection on it different from speculative classroom discussion without such an emersion.

RESULTS

The experience and reflection on it also is at the heart of fulfilling the stated learning objective of fostering reflective thinking. Salient experiences provide for more in-depth and richer points of discussion than mere pondering of a subject or considering something one has read. In this the task project allows for a better and more complete accomplishing of the learning objective.

When it comes to challenges or student concerns about being able to complete or even partially complete the task, this project enhances the potential for meaningful learning and reflection. It is specifically the possibility that students may not be able to accomplish this task to its fullest degree that opens the door for insights. As Exhibits 2 and 3 reflect, graduate students had varying degrees of problems or issues, including an unconscious action to use their smartphone on one person's part. Because the grade for this assignment is not specifically linked to completing the 24-hour embargo itself but rather the quality of their completed journal documenting and reflecting on the experience, the varied nature of different students' experiences provides the raw material for the in-class discussion.

As noted in the instructions given to students, they were given the choice of when to schedule their 24-hour embargo. Both from the resulting journals submitted for review and grading and Exhibit 2 it was readily observed that students did employ one of several strategies for minimizing the negative impact of changing their behavior to complete the assignment.

Exhibit 2
RESPONDENT BEHAVIORS

Gender	Age	Start	End	Under	Full 24 hrs	Over	Interruption in Experiment
Male	52	4:00 a.m. Friday	7:00 a.m. Friday	21 hrs.			Need to use camera to document work product
Male	39	6:00 p.m. Monday	6:00 p.m. Tuesday		Yes, but		2 minute lapse – forgot about embargo
Male	33	5:30 a.m. Tuesday	6:00 a.m. Wednesday		Yes	½ hr.	
Male	33	8:31 p.m. Saturday	10:05 p.m. Saturday	23 ½ hrs.			Self-admitted “addicted” to phone
Male	33	8:30 p.m. Friday	8:30 p.m. Saturday		Yes		
Male	31	9:46 p.m. Saturday	9:47 p.m. Sunday		Yes	1 min.	
Male	31	3:15 p.m. Saturday	9:45 p.m. Sunday		Yes	6 ½ hrs.	
Male	31	7:00 p.m. Saturday	7:00 p.m. Sunday		Yes		
Male	31	5:00 p.m Wednesday	5:00 p.m. Thursday		Yes		
Female	50	5:30 a.m. Friday	7:30 a.m. Saturday		Yes	2 hrs.	
Female	41	9:00 p.m. Thursday	6:00 p.m. Friday	3 hrs.	No		Family Issue
Female	37	10:00 p.m. Tuesday	10:30 p.m. Wednesday		Yes	½ hr.	
Female	36	8:55 p.m. Friday	8:55 p.m. Saturday		Yes		
Female	26	8:00 p.m. Saturday	8:00 p.m. Sunday		Yes		

Weekends were used for minimizing or eliminating complications related to limiting technology when in a work environment. Overnight strategies were also employed to take advantage of natural sleeping time when the need to consult their smartphone would be lessened.

Exhibit 3
SELECT STUDENT JOURNAL THEMES AND QUOTES

Hesitation, trepidation, apprehension	Some of the most meaningful things came before the exercise actually began. As I started thinking about it I really began to feel very strongly that I didn't want to do it.
Strategic planning as minimizing tactic	What day to pick, around 4th of July holiday, choose weekend to avoid work issues, early in morning, late at night to take advantage of sleeping?
Ingrained behavior	Kept tapping my pocket to make sure it (the phone) was there.
	I forgot about the project for two minutes, grabbed my wife's phone and began to look up a site. It was facinating to me that using cell phones has become so common that I could grab the phone and start surfing without realizing what I was doing; the reaction was almost involuntary.
Realizations	I found that in certin moments I was more fully "in" than others.
	I found myself engaging with my kids more. It wasn't just easier to find more time to spend time with family. It was also easier to find time to read.
	Not having my device I noticed during lull times that in the past I reserved for text messages or social media statuses I found myself taking quick walks outside. It was a great mental break from the day. It inspired imagination and appreciation of the day as opposed to being pushed information relevent or not from a 4.5 inch display.
Things learned	I really have thought about turning all my weekends into smartphone free weekends.
	I discovered that if you aren't going to use your smartphone you have to plan more effectively. I had to communicte with my wife about our plans for the day and ensure we had a schedule worked out I advance. They are a convenience but we rely on them to "think" for us too often.
	It is a great tool to deal with unforseen circumstances in your day.
Suprises	At a social ocassion I noticed that just about everyone was using their phones – taking pictures, giving someone map directions, etc.
	Going to sleep that night was very easy. Not having access to my smartphone allowed for a good night of rest.
Misc.	My one true observation from the embargo is that I am thankful that God has afforded me the insight to realize smartphones and their limitless uses have their place and attractive qualities, but do not consume the majority of my day.

> I texted my parents with the message that I was turning my phone off for 24 hours and if there is an emergency to call my wife. Within 60 seconds of powering my phone down my wife turns to me and says "your parents are wondering why you aren't using your phone."
>
> Toward the end of the day I felt I had acomplished so many things and had a productive day.
>
> I named my smartphone Freida. I had to name my phone because my wife feels that Frida is the other woman in my life so providing her an identity seems appropriate.

Vacation time for one individual and the occurrence of a national holiday, Independence Day, for another explained why their chosen 24 hour embargo occurred during the week. It also partially explains or supports the contention that for many they would have a difficult time giving up their technology and that it may have become habitual behavior.

CONCLUSIONS

The classroom discussions on consumer behavior, habitual behavior, and technology that followed the completion of this assignment were very productive. Students referenced both their experience as well as that of others in their households who attempted to participate as well. They drew on concepts from the after project assigned readings, leading to a successful learning experience.

While the learning goal of fostering reflective thinking is not the sole purview of marketing, or reserved to any one field of business or academic study, this project could be employed in any number of courses across the marketing curriculum - from consumer behavior to marketing research or from integrated marketing communications to marketing strategy.

REFERENCES

Anonymous, https://www.daysoftheyear.com/days/day-of-unplugging/, retrieved January 8, 2020.

Archer, Dale (2017). Smartphone addiction. *Psychology Today*, retrieved January 10, 2020 from https://www.psychologytoday.com/blog/reading-between-theheadlines/201307/ smartphone-addiction.

Lang, James M. (2017). The distracted classroom: Transparency, autonomy, and pedagogy, *Chronicle of Higher Education*, July 30.

Reboot website. (2020). Retrieved from http://nationaldayofunplugging.com/about-us/.

Steve Jobs iPhone 2007 Presentation at San Francisco MacWorld (HD), retrieved February 23, 2020 https://www.youtube.com/watch?v=vN4U5FqrOdQ.

Stibel, Jeff (2017). Why you're addicted to your phone … and what to do about it, *USA Today*, July 3.

INNOVATION CONSIDERED: PERSPECTIVES OF ENTERING MBA STUDENTS

Michael Luthy, Bellarmine University

ABSTRACT

Innovation is far from a new concept. The term has become something of a modern-day touchstone for business, governments, and entrepreneurs. Because of its widespread use, and driver, for everything from an indicator of a country's economic health to focus of governmental policy, to personal fulfillment of its people, it is worth exploring what the term innovation means to people. In the current study, approximately one hundred MBA students were asked about the concept at the beginning of their graduate business studies, prior to any coursework. This paper presents and discusses their collective perceptions of the concept as they define it including individuals and organizations they commonly associate with innovation as well significant examples.

INTRODUCTION

The concept of innovation is a significant concept in the American psyche (Maneri, 1982). From a "can-do" attitude to the spirit of exploration represented by sending the first person to the moon, the United States seems to have woven into its very fabric the value of the new, the improved, and the value added.

It should not be surprising then that the concept of innovation would also extend backwards, from the concept of America itself to the concept of American business. From there it is a logical small step to its being a part of American business education. Aside from its begin discussed in business schools, including those not limited to the U.S., one can see why it features prominently in the mission AACSB, the premier accrediting body for business programs worldwide (AACSB, 2020).

The fundamental purpose of AACSB accreditation is to challenge business educators to pursue excellence and continuous improvement in their business programs (AACSB, 2020). By any other terms, excellence and continuous improvement speak to the central nature of business schools' need to innovate as the world and world circumstances change.

Business schools, in planning and executing their programs to support accreditation, must consider innovation (Podymova, 2020). It is therefore reasonable to consider not just the role of innovation in their curriculums but also how students perceive the concept. It was with that in mind that the current study was undertaken.

SUBJECTS

Entering MBA program students at a medium-sized, private university in the South were surveyed as part of their first course experience. The institution was oriented toward providing a liberal arts foundation with professional schools, including business, for part-time study. Graduate business programs included cohorts in weeknight, weekend, and executive formats. Just under one hundred students were included across the different cohorts. A demographic breakdown is presented in Table 1.

As you can see from Table 1, the weeknight MBA program was the most popular for enrollment, equaling the combined enrollment for the weekend and executive programs. In terms of gender the respondents split approximately 60/40 favoring males. Because the assignment involved in this research was part of the first formal course taken in each program, the typical semester format used for the weeknight program was differentiated from a two weekend immersive course for the weekend and executive students.

Table 1
RESPONDENT DEMOGRAPHICS

Program	#	%	Gender	#	%	Course Format	#	%
Weeknight MBA	49	51.6%	Men	59	62.1%	Immersive	45	47.4%
Weekend MBA	19	20.0%	Women	36	37.9%	Semester	50	52.6%
Executive MBA	27	28.4%						
Total	95	100.0%	Total	95	100.0%	Total	95	100.0%
Age								
	Avg.	Range		Avg.	Range		Avg.	Range
Weeknight	25	21-36	Men	30	21-54	Immersive	25	21-36
Weekend	26	21-34	Women	29	21-52	Semester	33	22-54
Executive	40	26-54						

In addition to student participants demographics related to program, gender, and course format, Table 1 also provides age-related information for these same students. Given the total number of respondents and their distribution it is reasonable to conclude that there are sufficient respondents to extend conclusions drawn from this study to the larger cohort of graduate business students.

Supporting this contention of external validity is information presented in Table 2. Focusing on the age-related information and crossing it with generational affiliation definitions generally agreed to in the literature indicates (Randstad, 2014; Dimock, 2019) that the Millennial Generation and Generation Z are most represented. Since members of these two generations are currently, and soon to be, large portions of the managerial business class both in this country are around the world, their perspectives on innovation should provide insights.

Table 2
RESPONDENT AGE DISTRIBUTIONS

Age	Age Range	#	%	Age	Age Range	#	%	Generation Affiliation
21-25	1993-1998	44	46.3%	-24	1994-2003	37	39.0%	Generation Z
26-30	1988-1992	21	22.1%	25-41	1977-1993	48	50.4%	Millennial Generation
31-35	1983-1987	8	8.4%	42-53	1965-1976	9	9.5%	Generation X
36-40	1978-1982	11	11.6%	54-61	1946-1964	1	1.1%	Baby Boomers
41-45	1973-1977	3	3.2%	73-81	1937-1945	Not represented		Silent Generation
46-50	1968-1972	5	5.3%	83-	-1935	Not represented		Greatest Generation
51-55	1963-1967	3	3.2%					
					Total	95	100.0%	
	Total	95	100.0%					

The assignment given to all of the students was relatively simple and straightforward. Each subject was given 45 minutes to provide a written answer to the instructor of one question, "what is innovation?"

As part of the directions and elaboration (see Exhibit 1) they were asked to refrain from consulting any online or other sources. They were being asked their opinions. Further, a general length guide was given. Lastly, to give guidance related to rounding out their answer they were asked to provide any examples of people or projects or traits that they thought would better help the reader understand their response.

Exhibit 1
ASSIGNMENT INSTRUCTIONS

What is Innovation?

The topic of innovation will be a central and major theme throughout your MBA program. Here, at the beginning of the experience it is appropriate to solicit your perspective on what innovation is. To that end, we ask you to reflect on the question, "WHAT IS INNOVATION?" and then, without the use of the Internet or other secondary information resources, compose a one-page (approximately 350-500 word), single-spaced memo putting forward your thoughts.

Beyond a mere definition of the concept in your own words, which you should still include – you should additionally comment on any relevant examples, persons, traits, etc. that would fill out the reader's understanding of the concept as you understand it.

RESULTS

Responses

In response to the central question, "what is marketing" students used a number of different approaches to answering. Below is a representative sample of the key elements of their definitions. Collectively they represent a fairly good grasp of innovation although it is hoped that through the cases, readings, and discussions of the concept in the program, students will gain additional nuance.

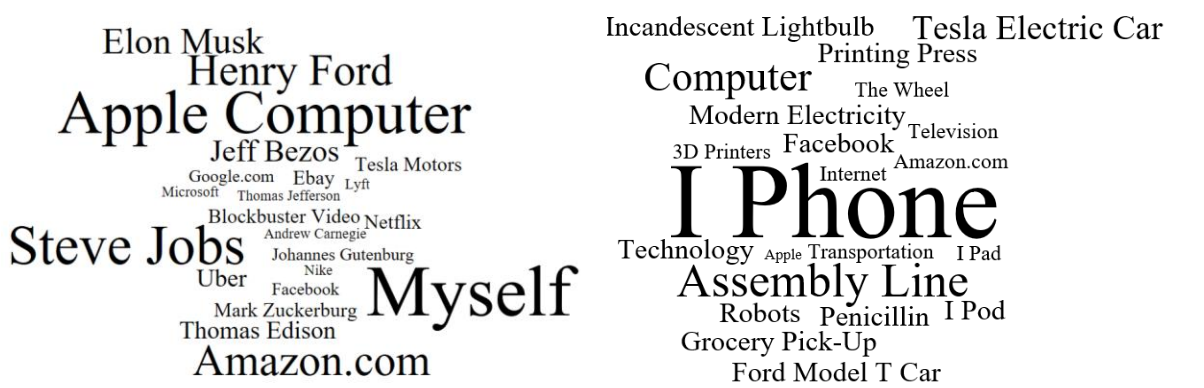
In service of these definitions respondents provided and discussed a broad number of individuals and product/service innovations – discussed in the next section.

Innovation is something that makes a process better and more efficient.
It is finding a unique way to accomplish something.
A few words come to mind when thinking of innovation: improvement, transformation, enhancement, and advancement
The word "innovation" provokes feelings of newness, refreshing, something we haven't seen before.
Innovation is what occurs when creativity is combined with courage, motivation, and determination.
Innovation refers to any action taken that leads to progress (i.e. change).
It is taking an ordinary task or objective and allowing yourself and others to incorporate a new way of thinking into how it is completed.
The word connotes the idea of technological advancement, increased efficiency, and improved quality of life.
Innovation is the use of energy and ingenuity to create or improve an idea, product, process, or service that is valuable is valuable to others.

Word Clouds

In analyzing the responses provided by the MBA students, two word clouds were generated (Word cloud generator, 2020). Responses show larger font sizes correlated with the number of times a particular response was mentioned. For the one on the left of Exhibit 2, a listing of innovators are presented. Not surprisingly, individuals such as Steve Jobs, Jeff Bezos, and Elon Musk frequently in the news were cited most often. Additionally, select organizations were also frequently cited as innovators, including Apple Computer, Amazon.com, and Tesla Motors. Not limited to current people and organizations, innovators from history were also represented in the form of: Thomas Jefferson, Andrew Carnegie, and Johannes Gutenberg. The most unexpected observation was that students overwhelmingly identified themselves (i.e. "Myself") as innovators. This points to the growing idea that we all have an innovator streak within us. It may point to a growing entrepreneurial spirit for many in business for the future.

Exhibit 2
WORD CLOUDS OF INNOVATORS AND INVENTIONS MENTIONS AT LEAST TWICE



On the right side of Exhibit 2 the word cloud presents innovations cited in subject responses. With a likely bias of more recent innovations being more often cited by respondents, it was not surprising that the iPhone was most often mentioned. Less anticipated were frequent mentions of more historical innovations such as the assembly line, incandescent lightbulb, and the printing press.

Single Mentioned Innovators and Innovations

Exhibit 2 word clouds identify those innovations and innovators responses include by two or more subjects. Table 3 by contrast presents a listing of all people and innovations made by only one respondent. The most surprising discovery made in analyzing these responses was the consideration of select organizations or names of individuals that were also companies. These dual listings were perhaps originally best known for an innovation but then became known for multiple products, processes, or became perceived as innovators.

Themes

A close inspection of Table 3 reflects a fairly widespread perception of innovations and innovators over time. It includes such innovators or companies that are no longer in business (e.g. Toys R Us – original configuration), some that represent personalities in sports or music (e.g. Steph Curry and Taylor Swift, respectively). What is noteworthy is that some respondents cited organizations and/or people from their personal experience, which may not be generalizable to a wider audience (e.g. Special Ops Command, a local high school, an influential individual they worked with in the military). There mention however, does underscore the personal impact that key experiences or individuals can have on others.

CONCLUSIONS

Innovation's centrality to future business practice and models seems assured. Especially as governments at all levels seek to encourage and harness its dynamism. Educators should expect it to be a central tenant to business education as more of the 21st Century develops. Respondents show a significant amount of understanding about the concept of innovation by their definitions as well as their knowledge of innovators and innovations (past and present). With this level of understanding at the beginning of their graduate studies it will be worthwhile to revisit them at the end of their degree programs to explore how and in what ways the depth of their understanding has changed.

Table 3
ADDITIONAL INNOVATIONS AND INNOVATORS MENTIONED ONCE

a	"Breaking 2"/Nike Running Shoes	b	Family	b	Phil Knight (Nike)
a	"Cow Power"/Renewable Resource	a	Fast Driving Cars	a	Pop Socket
a	"Heart-Lung" Machine	a,b	Fed Ex	a	Prescription Medicines
a,b	Affordable Care Act	b	Fern Creek High	b	Samsung
a,b	Airbnb	a	First Build	b	Sears
a	Airplane	b	Ford Motor Company	a	Self-Driving Cars
a	Alexa	a	Ford Quadricycle	a	Shoe Horn
a,b	Android	b	General Electric	a	Smart Phone
a	Antibiotics	b	Golf Equip. Industry	a	Smart Watch
a	Automating Warehouses	b	Jimi Hendrix	a,b	Snapchat
b	Bastion Solutions	b	John D. Rockefeller	a	Solar Power
a	Battery Powered Tractor	b	John F. Kennedy	a	SpaceX
b	Benjamin Franklin	b	John Grisham	a	Special Ops Command
b	Bill Bowerman (Nike)	b	Kanye West	a,b	Spotify
b	Bill Gates (Microsoft)	a,b	Keurig	b	Steph Curry
a	Biodegradable Cups	b	Kid Rock	b	Steve Wozniak
a	Block Chain	b	K-Mart	b	Target
a,b	Blue Apron	a	Kodak	b	Taylor Swift
a	Bluetooth Earbuds	a	Koenigsegg Regera car	a	Text Messaging
b	Brown Foreman	b	Kroger	b	The Music Industry
b	Buddy Holly	b	Lamar Jackson	b	Thornton's
a,b	CarMax	a	Led Expansion	b	Toyota Corporation
a	Compact Disks	b	Louis Pasteur	a	Toys R Us
a	Cellphones	a	Marketing	a	Twitter
b	CEO of Google	a	Mars Robot	a,b	UPS
a	Champagne	b	Michael Jackson	a	US Army
b	Chipotle	a	Microwaves	a	Virtual Reality
b	Colonel Eli Lilly	a	Mobile Veterinarians	a	Waffle Sole
a	Cooper's Craft Bourbon	a	Movie Pass	b	Walt Disney
b	David Baratto (General)	a,b	Nest Thermostats	b	Wright Brothers
a,b	Disney's Magic Band	a,b	Nokia	a,b	YouTube
a,b	Disneyworld	a,b	Norton Healthcare		
a	Drone Deliveries	a	OneStream	a	Innovation
b	Elvis Presley	b	Papa Johns	b	Innovator
b	Eminence High School	a	PeopleSoft	a,b	Potentially viewed as both

REFERENCES

AACSB website (2020). https://www.aacsb.edu/accreditation/standards/business.

Dimock, M. (2019, January). Defining generations: Where Millennials end and Generation Z begins. Pew Research Center: Fact Tank. Retrieved from https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/

Maneri, R. R. (1982). Executive Exchange: Innovation the American Way, Industry Week; 212, 6, (Mar 22, p. 15.

Podymova, Karina (2020). Business Schools Serving as Catalysts for Innovation, AACSB Forum, May 1.

Randstad and Future Workplace. (2014). Managing Gen Y and Gen Z in the Workplace. Retrieved from https://www.randstadusa.com/workforce360/managing-gen-y-z/.

Word cloud generator (2020). https://www.wordclouds.com/

TECHNOLOGY MANAGEMENT IN CENTRAL AMERICAN MAQUILAS

Robert Morrison, University of Texas Permian Basin

ABSTRACT

This study of four individuals managing technology transfer, implementation, and support in the Central American manufacturing facilities of US multinational corporations provides empirical support for five of six daily technology management activities suggested by Cetindamar, Phaal, and Probert. The technology managers accomplished their jobs through communication and learning activities as multilingual boundary spanners in the interorganizational network by facilitating the transfer of tacit, explicit, and codified knowledge. As repositories of special information in the organization's transactive memory system, they exercised referent and expert power making them more influential than one would expect based on their position in the global organizational hierarchy.

INTRODUCTION

Although technology management has become a traditional business subject and recognized as an essential component of strategic planning for decades (e.g., Bursic, & Cleland, 1991), the literature is rather limited in the area of the people who are responsible for the management of technology and technology management education (Cetindamar, Phaal, & Probert, 2016; Gudanowska, 2017). The increasing use of computer and robotic technologies on the manufacturing shop floor has significantly reduced the dependence on traditional worker skills in many industries. However, the increased use of technology increased the need for skilled technicians and technically oriented managers to support and manage the technology in the modern manufacturing firm. Concurrent with these technological advancements, neoliberal trade policies, usually in the form of trade agreements such as the 1983 Caribbean Basin Initiative (CBI) now DR-CAFTA, and the 1994 North American Free Trade Agreement (NAFTA), facilitated the shift of manufacturing to many low wage nations.

Initially, the significant difference in wages in industrialized nations versus lesser-developed nations allowed manufacturing firms to use labor-intensive processes and avoid investment in state-of-the-art technology for offshore factories. However, in the global economy of the twenty-first century where manufacturing in low wage countries is now the norm, low wage labor alone no longer provides a sustainable competitive advantage for manufacturing firms. In terms of productivity, manufacturing facilities in low wage nations must meet or exceed global benchmarks, "Low labor productivity endangers the company's survival" and "low labor costs no longer give enough of a cost advantage to offset low labor productivity" (Drucker, 1999, p. 61). The implications in developing nations is that comparative advantage requires a combination of lower-cost and technological edge (Sharif, 1997); therefore, all manufacturing plants must implement cutting edge technology to obtain "productivity equal to that of the world's leaders in a given industry" (Drucker, 1999, p. 62). This also holds true for the Latin American maquila industry (Mital, Girdhar, & Mital, 2002). However, "effective management of globally dispersed project teams involves a complex set of variables" (Thamhain, 2011, p. 35) and even intra-company transfers of technology are seldom efficient and differences in knowledge backgrounds, competency levels, language, and skills are factors in multi-national enterprises (Malik, & Bergfeld, 2015).

Although researchers pointed out the importance of incorporating manufacturing strategy in to corporate strategy decades ago (e.g., Hill & Still, 1980; Skinner, 1969, 1985; Wheelwright, 1978, 1984), corporate strategy is still predominately based on marketing decisions and manufacturing is forced to react at the backend of the process (Hill & Hill, 2009). This places additional burdens on the technology manager (TM) because "technology is a primary cause of change….technology managers must be able to forecast and assess technological change to obtain competitive advantage" (Roper et al., 2011, p. 1). As a result, while marketing may drive the strategy at the beginning of the process, the TM is required to quickly identify, acquire, and implement the appropriate technologies as the strategy moves to the operational phase. Given that global manufacturing strategies often include co-production across multiple facilities, management of intrafirm technology transfer is of increased strategic importance (Malik, 2002). This indicates that language and communication skills would be a key factor in a TM's successful execution of their duties. Regardless of whether a TM's input is part of the front end of strategic planning or during the back-end operationalization, it is apparent that the TMs play a key role in the success of any multinational manufacturing firm. Obviously, technology transfer is a long-term competence and someone must coordinate the development and implementation of technological capabilities in order to shape and accomplish the strategic and operational objectives of an organization (Cetindamar et al., 2016, 2009; Malik, & Bergfeld, 2015).

The number of technology management, management of technology, engineering management, and engineering technology degree programs in the US has increased in recent years. A cursory Internet search reveals well over 100 easily identifiable degree programs at the associate, bachelor, masters, and doctoral levels, offered at higher education institutions ranging from community colleges to Tier 1 land grant research universities. Despite this increased interest on the part of academia to develop competent TMs, the extant literature provides little insight about what TMs actually do (Cetindamar et al., 2016; Minty, 2003) and the interactive nature of intra-company technology transfer (Malik, & Bergfeld, 2015).

This study provides a valuable contribution to the literature by using field research, as suggested by Meredith (1998), to understand the work of TMs in the off-shore factories of publicly traded US multinational manufacturing firms through direct observation of the tasks they perform. These observations provide empirical support for five of six specific activities/capabilities that Cetindamar et al. (2016) suggest TMs exercise in their daily work.

CONCLUSION

This study provided empirical support for five of the six daily activities/capabilities suggested by Cetindamar et al. (2016). The fact that there was not any *protection* activity observed does not discount it as a relevant activity of TMs in general. These TMs simply were not involved in obtaining patents and intellectual property protection and employee retention was not a frequent issue in the context where they worked.

The maquilas in this study utilized world-class technology and the TMs observed facilitated the successful implementation and managed the ongoing support. They spent most of their time on tasks that are ostensively managerial in nature. While they were also practicing technologist with the required precursory technology knowledge (Harris, 1989), they played this role through planning, researching, collaborating, advising, and consulting on technical aspects of the firms daily activities and strategic initiatives; they spent little time performing technical tasks themselves. However, these TMs rose to their current position because of their technical expertise in their respective areas. Foreign language fluency and experience in the technology portion of the title occurred before adding the authoritative title of manager.

The TMs accomplished their jobs essentially through communication. They worked quiet autonomously as they used their linguistic and technical expertise to transfer tacit, explicit and codified knowledge—often through translation—in and out of the subsidiary via the interorganizational network. Through their communications, they gain access to information and become a repository of special information in the organization’s transactive memory system and that caused them to have more power and influence than the position in the organizational hierarchy would suggest. They participated in the organization’s strategic decision-making process and often acted as technology gatekeepers to control the technology obsession that can lead to inappropriate technology investments. They did this through careful evaluation of the particular technology, by analyzing competing technologies, and through calculating the total cost of acquisition and the potential return on investment.

During this study, information flowed in multiple directions (up, down, horizontal and diagonal) and via a variety of means including phone calls, meetings, video conferences, email, electronic databases, and written documents. This supports the view of technology transfer being an ongoing and continuous interactive process where many activities, functions, and networks operate simultaneously to overcome barriers to the transfer process. The TMs were essential network components that received, evaluated, stored, and disseminated that information with the highly sought-after ability to recode into another language if needed. This makes the TMs contribution instrumental when it comes to turning a dynamic capability into a sustainable competitive advantage in the multinational context.

Practitioner Relevance

There are significant managerial implications associated with operations in developing countries because of “the distinctive nature of the business environment, which varies considerably from that of the more developed nations” (Austin, 1990, p. 1). In addition, foreign direct investment (FDI) in manufacturing facilities plays an important role in transferring the knowledge and technology needed for economic development (Contractor & Sagafi-Nejad, 1981; Kosteas, 2004; Saggi, 2002; Stiglitz, 2003). One can assume that TMs in these factories are the primary facilitators of this needed transfer of knowledge and technology.

The lack of technology in developing nations is apparent. Stiglitz (2003) asserted that development requires more than just capital and resources; advancement requires the elimination of technology and knowledge gaps. However, technology and knowledge do not simply flow from the high to the low as if they were fluids (Patel, 1974); it requires education and management to facilitate its transfer. Unfortunately, the education systems in most developing and transitional economies are inadequate (Salmi, 2003). Therefore, issues related to absorptive capacity (Cohen & Levinthal, 1990) arise and management in these MNC subsidiaries must address this through human resource development activities combined with individuals possessing the required precursory technology knowledge that can identify technology and knowledge gaps and facilitate processes to address the deficiencies. Arguably, this is the role of the TM and the job would require interaction with other subsidiaries, suppliers, customers, industry organizations, and other stakeholders around the world to identify new knowledge and technology and facilitate its transfer into the local subsidiary. Therefore, the technology manager not only plays an important role as a boundary spanner or gatekeeper (Cranefield & Yoong, 2007; Johnson & Duxbury, 2010) but also as a facilitator of human resource development activities.

In discussions and interviews with US executives in the months preceding these observations, while the difficulty associated with transferring and maintaining technology was at the forefront of discussions, the executives did not accentuate the importance of the role and work tasks of the TM in the local subsidiary. The emphasis was toward the importance of US support staff providing assistance to the offshore manufacturing subsidiaries and going down to help the out on projects. During these observations, there were US support people in the factories; however, these were also the busiest days for the TMs as they spent time learning from the US team and then translating that knowledge and training the local staff who did not speak English. Each TM, in their own unique way, indicated that they did not feel that upper management truly understood what they did or appreciated the contribution it made to subsidiary success. Given the scarcity of fully bilingual, with emphasis on *fully*, individuals who also possess technical competence, executives should take steps to understand the daily work of the subsidiary TMs and assure that they receive the organizational-wide support they need and that they are aware that upper-management appreciates their contribution.

REFERENCES

Austin, J. E. (1990). *Managing in developing countries: Strategic analysis and operating techniques*. New York; London: Free Press; Collier Macmillan.

Bursic, K. M., & Cleland, D. I. (1991). Strategic technology management. *Engineering Management Journal*, 3(2), 21-29. doi:10.1080/10429247.1991.11414619

Cetindamar, D., Phaal, R., & Probert, D. (2016). Technology management as a profession and the challenges ahead. *Journal of Engineering and Technology Management*, 41, 1-13. doi:10.1016/j.jengtecman.2013.05.001

Cohen, W., M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128-152. http://www.jstor.org/stable/2393553

Contractor, F. J., & Sagafi-Nejad, T. (1981). International technology transfer: Major issues and policy responses. *Journal of International Business Studies*, 12(2), 113-135. doi:10.1057/palgrave.jibs.8490582

Cranefield, J., & Yoong, P. (2007). Interorganisational knowledge transfer: the role of the gatekeeper. *International Journal of Knowledge and Learning*, 3(1), 121-138. doi:10.1504/IJKL.2007.012604

Drucker, P. F. (1999). *Management challenges for the 21st century* (1st ed.). New York: Harper Business.

Gudanowska, A. E. (2017). Modern research trends within technology management in the lightof selected publications. *Procedia Engineering*, 182, 247-254. doi:10.1016/j.proeng.2017.03.185

Harris, D. E. (1989). Managing technical advancement: A prerequisite for competitive advantage, *Engineering Management Journal*, 1(1), 19-23. doi:10.1080/10429247.1989.11414515

Hill, A., & Hill, T. (2009). *Manufacturing operations strategy*. Basingstoke: Palgrave Macmillan.

Hill, J. S., & Still, R. R. (1980). Cultural effects of technology transfer by multinational corporations in lesser developed countries. *Columbia Journal of World Business*, 15(2), 40-51.

Johnson, K. L., & Duxbury, L. (2010). The view from the field: A case study of the expatriate boundary-spanning role. *Journal of World Business*, 45(1), 29-40. doi:10.1016/j.jwb.2009.04.002

Kosteas, B. D. (2004). The impact of foreign direct investment and trade policy on productivity, wages and technology adoption in Mexican manufacturing plants. (The Ohio State University Ph.D.), The Ohio State University, United States -- Ohio. ProQuest Dissertations & Theses A&I database. (DAI A65(09) UMI No. 3146294) Retrieved from http://search.proquest.com/docview/305140629?accountid=7116

Malik, K., & Bergfeld, M. (2015) A conceptual framework for intra-company technology transfer: cases of leveraging production process innovations across MNEs. *Technology Analysis & Strategic Management*, 27:10, 1129-1142, doi:10.1080/09537325.2015.1060309

Martinko, M. J. (1988). Observing the work. In S. Gael (Ed.), *The job analysis handbook for business, industry and government* (Vol. I, pp. 419-431). New York: John Wiley & Sons.

Meredith, J. (1998). Building operations management theory through case and field research. *Journal of Operations Management*, 16(4), 441-454. doi: 10.1016/S0272-6963(98)00023-0

Minty, G. (2003). The future history of industrial technology. *Journal of Industrial Technology*, 20(1). https://cdn.ymaws.com/www.atmae.org/resource/resmgr/JIT/minty102903.pdf

Mintzberg, H. (1968). The manager at work: determining his activities, roles and programs by structured observation. 34 database. (UMI No. 0217686) Retrieved from http://en.scientificcommons.org/7893375 ADD 1968

Mintzberg, H. (1973). *The nature of managerial work*. New York: Addison-Wesley.

Mital, A., Girdhar, A., & Mital, A. (2002). Issues in transferring technologies to maquiladoras. *International Journal of Technology Transfer and Commercialisation*, 1(4), 405-423. doi:10.1504/IJTTC.2002.001796

Patel, S. J. (1974). The technological dependence of developing countries. *The Journal of Modern African Studies*, 12(01), 1-18. doi:10.1017/S0022278X00008946

Roper, A. T., Cunningham, S. W., Porter, A. L., Mason, T. W., Rossini, G. A., & Banks, J. (2011). *Forecasting and management of technology*. Hoboken, N.J.: John Wiley & Sons.

Routley, M., Phaal, R., Athanassopoulou, N., & Probert, D. (2013). Mapping experience in organizations: A learning process for strategic technology planning. *Engineering Management Journal*, 25(1), 35-47. doi:10.1080/10429247.2013.11431964

Saggi, K. (2002). Trade, foreign direct investment, and international technology transfer: A survey. *World Bank Research Observer*, 17(2), 191–236. doi:10.1093/wbro/17.2.191

Salmi, J. (2003). New challenges for tertiary education: The World Bank report. *International Higher Education*, 28, 7-9.

Sharif, M. N. (1997). Technology strategy in developing countries: Evolving from comparative to competitive advantage. *International Journal of Technology Management*, 14(2-4), 309-343. doi:10.1504/IJTM.1997.001729

Skinner, W. (1985). *Manufacturing: the formidable competitive weapon*. New York: John Wiley and Sons.

Stephens, C. S. (1991). *A structured observation of five chief information officers: The nature of information technology managerial work*. (Auburn University Ph.D.), Auburn University, United States -- Alabama. Retrieved from http://search.proquest.com/docview/304016606?accountid=7116 ProQuest Dissertations & Theses A&I database. (DAI 52 (07) 2631A UMI No. 9201275)

Stiglitz, J. E. (2003). Globalization, technology and Asian development. *Asian Development Review*, 20(2), 1-17.

Thamhain, H. J. (2011). Critical success factors for managing technology-intensive teams in the global enterprise. *Engineering Management Journal*, 23(3), 30-36, doi:10.1080/10429247.2011.11431906

MARKET ORIENTATION DIMENSIONS IN NIGERIAN INSURANCE COMPANIES

Caroline Osuagwu, American University of Nigeria

ABSTRACT

The Market orientation construct has been conceptualized with the customer, consumer, client or relevant audience at the centre of business activities. It has been noted, conceptually and empirically, as one of the management strategies that may produce efficient and effective organizational performance. Its relevance has also been noted in both manufacturing and service-oriented business sectors, including insurance businesses. Dimensions of the Market orientation construct in Nigerian insurance companies is examined in this paper. Specifically, the paper used both qualitative and quantitative research approaches to provide empirical insight regarding dimensions of the Market Orientation construct in a sample of insurance companies operating in Lagos State of Nigeria. Using purposive sampling data from Nigerian insurance companies, it was found that the major market orientation dimensions in the sampled Nigerian insurance companies pertain to client-related issues, information-related issues, and inter-functional-coordination issues. The paper discussed the research findings with respect to relevant literature and experience, and makes suggestions in related areas for further research.

***Key Words**: Market orientation, insurance, marketing, exploratory factor analysis, confirmatory factor analysis, Nigeria.*

INTRODUCTION

The Nigerian insurance sector has gone through various reforms via the Insurance Act of 2003-2007 (Ighomirenghian, 2010). Specifically, the Nigerian insurance sector, like other sectors within the financial system, has experienced some changes in its structure and operations as a result of changes in the business environment. These changes demand organizational practices and strategies that will assist in achieving organizational efficiency and effectiveness. It may be argued that good management strategies will assist the Nigerian insurance sector to show acceptable performance indices in its business activities (Hooley, Greenley, Cadogan & Fahy, 2005).

Many companies use different types of management strategies to cope with business challenges in their business environment. Market orientation is one of the major strategies used by companies to monitor, analyze and respond to business challenges in the environment (Hooley, Greenley, Cadogan & Fahy, 2005). Generally, market orientation emphasizes customer satisfaction by coordinating functional marketing activities in order to organizational performance. According to Lado, Maydeu-Olivares and Rivera (2001), market orientation can be conceptualized as a competitive strategy that involves all functional areas and levels of the organization.

LITERATURE REVIEW

Market orientation has been defined by scholars with regard to its components or dimensions. Generally, there is no agreement in relevant literature regarding market orientation dimensions, a (Kumar, Jones, Venkatesan & Leone, 2011; Sett, 2017). This research, therefore, sought to contribute in filling parts of the identified gaps in relevant literature regarding dimensions of the market orientation construct using Nigerian insurance companies.

RESEARCH METHODS

This research, which was part of a larger research project, was carried out using both qualitative and quantitative research methods. The population of the study comprised all the fifty two (52) insurance companies operating in Nigeria. Insurance companies operating in Lagos State of Nigeria were chosen for this study because all the 52 (fifty two) registered insurance companies in Nigeria have their headquarters in Lagos State of Nigeria.

RESEARCH RESULTS & DISCUSSION

Table 1.0: Reliability Statistic of Market Orientation Measure

Cronbach's Alpha	No. of Items
.963	46

Table 1.0 shows the reliability statistic (Cronbach's alpha coefficient) of the market orientation practices measure.

Table 3.0: Exploratory Factor Analysis of Market Orientation Practices:

	Components			
	1	2	3	4
A1			0.713	
A2			0.665	
A3			0.566	
A4			0.675	
A5			0.575	
A6			0.555	
A7			0.462	
A8			0.555	
A9				0.591
A10				0.617
A11				0.506
A12				0.501
A13			0.401	
A14		0.415		
A15		0.658		
A16		0.597		
A17		0.706		
A18		.		0.438
A19		0.635		
A20		0.55		
A21		0.5		.
A22				0.492
A23				0.621
A24	.			0.54
A25	0.545			
A26	0.583			
A27	0.589			
A28	0.758			
A29	0.696			
A30	0.642			
A31	0.471			
A45	.	0.487		
A46		0.507		
EXPLAINED VAIANCE(%):60%	22	15	13	10

Table 3.0 shows major dimensions of market orientation practices in the insurance firms as revealed from the principal components analysis (exploratory factor analysis). Combining components 1& 3 in table 3.0 (since the items in these components are concerned with client-related issues) gives the following three major components (dimensions) of market orientation:
Clients-related issues (A25-A31 &A1-A8, A13).
Inter-departmental coordination issues (A14-A21, excluding A18).
Information-related issues (i.e., information generation and dissemination issues (A9-12, A18, A22-A24).

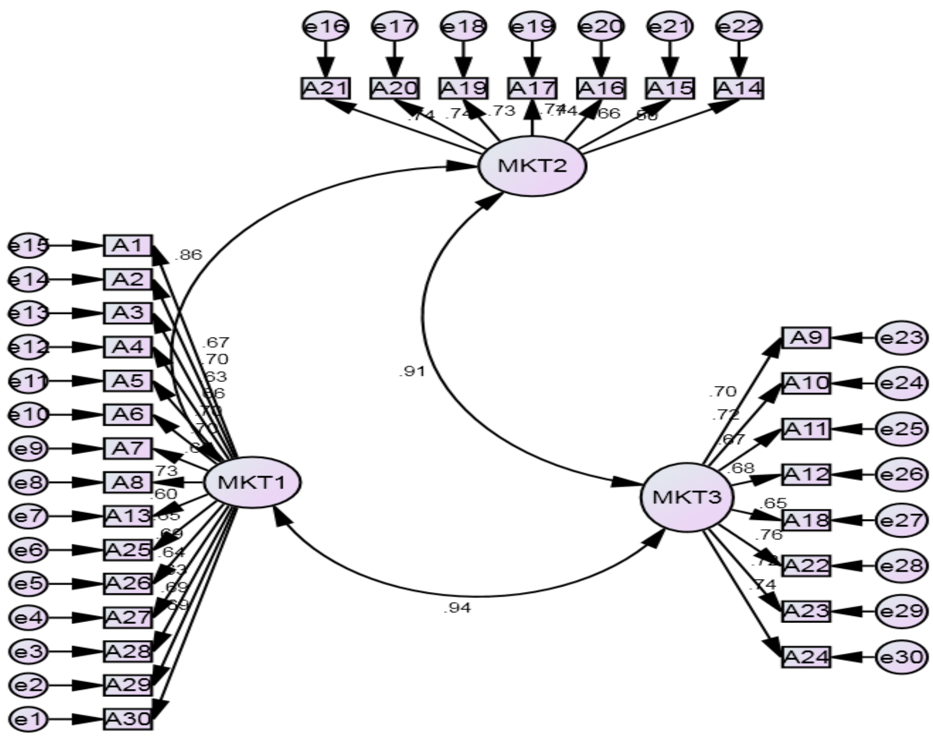
Therefore, from Table 3.0, it can be stated that there are three major dimensions of market orientation practices in the surveyed Nigerian insurance firms: Client-related issues; Interdepartmental coordination issues; and information-related issues. Results in Table 4.0 below show that there are strong correlations between each of the three components of market orientation, indicating that the three components were converging on a common construct; this is evidence of convergent validity (Cronbach, 1970; Powpaka, 2006).

TABLE 4.0 : Inter-correlation coefficients of Market Orientation Components

	Client-Related Issues	Interdepartmental Coordination Issues	Information-Related Issues
Client-Related Issues	1		
Interdepartmental Coordination Issues	584**	1	
Information-Related Issues	.554**	.500**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 1.0: Confirmatory Factor Analysis (CFA) of Market Orientation Practices (Three-Structure Components):



To confirm the components/factors gotten through exploratory factor analysis (EFA), a confirmatory factor analysis (CFA) was conducted. Figure 1.0 shows the confirmatory factor analysis (CFA) for the three-factor components or dimensions revealed by the exploratory factor analysis. The model fit indices (RMSEA, CMIN/DF, CFI and Normed Fit Index (NFI)) shown below moderately confirm the three-component structure of Market Orientation practices in the surveyed Nigerian insurance firms:

RMSEA= 0.07.; CMIN/DF= 2.5; CFI= .90; NFI= .90.

It can be concluded that the major market orientation dimensions in Nigerian insurance firms pertain to client-related issues, information-related issues, and inter-functional-coordination issues. From the findings of this research, it can be concluded that market orientation construct in Nigerian insurance companies can be categorized into three major components. Specifically, the three major dimensions of market orientation issues in Nigerian insurance firms are client-related issues; interdepartmental coordination issues; and information-related issues.

It is recommended that Nigerian insurance firms should design appropriate organizational systems that will assist in dissemination of relevant information to organizational units for efficient and effective decisions, especially in relation to their clients. This recommendation is in line with the position of Jaworski and Kohli (1993) who have argued for an organization-wide market – intelligence system that will assist efficient and effective decision-making in organizations.

It is suggested that further research be undertaken to investigate the market orientation dimensions in related financial firms (such as banks and stockbroking firms, among others). Such studies, in addition to the present study, are likely to provide more knowledge regarding market orientation dimensions in broad areas of financial services firms in a particular country or region overtime. Also, it is suggested that the present research, with its research instrument (questionnaire), be replicated in other sectors and countries in order to test the robustness of the research instrument. According to Harris and Ogbonna (2001), replication of a study in different contexts (for example, countries, regions or sectors) would add insight to the construct (market orientation) and contribute to generalizability of the results.

REFERENCES

Cronbach, L.(1970). Coefficient Alpha and the Internal Structure of Tests. Psychometrika, 16, 297–334.

Harris, L. C., & Ogbonna, E. (2001). Leadership style and market orientation: an empirical study. European Journal of Marketing, 35(5/6), 744–764. https://doi.org/10.1108/03090560110388196.

Hooley, G. J., Greenley, G. E., Cadogan, J. W., & Fahy, J. (2005). The performance impact of marketing resources. Journal of Business Research, 58(1), 18–27. https://doi.org/10.1016/S0148-2963(03)00109-7

Ighomirenghian, K. (2010). Experts Suggest Ways to Boost Nigerian Insurance Industry. Daily Independent Newspaper, 15(January).

Insurance Act. (2003). Insurance Act 2003 of the Federal Government of Nigeria. Retrieved from https://nass.gov.ng/document/download/5813

Jaworski, B. J., & Kohli, A. K. (1993). Market Orientation: Antecedents and Consequences. Journal of Marketing, 57(3), 53–70. https://doi.org/10.1177/002224299305700304

Kumar, V., Jones, E., Venkatesan, R., & Leone, R. P. (2011). Is Market Orientation a Source of Sustainable Competitive Advantage or Simply the Cost of Competing? Journal of Marketing, 75(1), 16–30. https://doi.org/10.1509/jm.75.1.16

Lado, N., & Maydeu-Olivares, A. (2001). Exploring the link between market orientation and innovation in the European and US insurance markets. International Marketing Review, 18(2), 130–145. https://doi.org/10.1108/02651330110389972

Osuagwu, C ,(2019). Market Orientation in Insurance Firms : A Research Agenda. Achieves of Business Research, Vol 7 (4) ,211-222. DOI: 10.14738/abr.74.6320

Osuagwu ,C,(2019). Market Orientation: Conceptualization, Components and Performance-Impacts: A Literature Review and Conceptual Framework. International Journal of Business Studies ,Vol 11,No 2. ISSN 1918-719XE-ISSN 1918-7203.

Osuagwu, C. (2020). Market Orientation in Nigerian Insurance Firms: Dimensions and Performance Impacts. Unpublished PhD Thesis Report, School of Business & Entrepreneurship, American University of Nigeria.

Powpaka, Samart (2006). How Market Orientation Affects Female Service Employees in Thailand. Journal of Business Research, 59, 54-61.

Sett, R. K. (2017). Market orientation − firm performance link in a dynamic environment: Looking inside the black box. Academy of Marketing Science Review-AMS Review, 8(3), 163–179. https://doi.org/10.1007/s13162-017-0099-2

CYBERSECURITY ISSUES REGARDING TECHNOLOGY ADVANCEMENTS IN SOCIAL WELFARE

Donna M. Schaeffer, Marymount University
Patrick C. Olson, National University

ABSTRACT

The Organization for Economic Cooperation and Development (OECD) reported that the number of people world-wide who are either self-employed or employed on a part-time and/or temporary basis is rising. These people are less likely to be unionized and less likely to receive welfare services when out of work. The report calls for better social protection coverage for workers in non-standard jobs. Increasingly, social protection systems are integrating technology advances, such as Artificial Intelligence (AI).

For example, Denmark has initiated several AI projects with the goal of improving how welfare services are provided to its citizens in need. Examples include programs that identify children at risk of abuse and programs that identify potential fraudulent recipients of benefits.

The integration of AI, and other technology advances, raise concerns on how to maintain personal and societal cybersecurity. The afore-mentioned systems work with personal information from one's health records, employment information, and data from financial institutions. The systems even pull in information from family members.

In this paper, we discuss policies and legislation that can enhance cybersecurity and protect people's data, privacy, and well-being as technology advances, such as AI, become integrated into the future of work and social welfare. These issues have been magnified by recent events, e.g. the global Covid-19 pandemic.

MODELING COVID-19 EPIDEMIC TO GUIDE DECISION MAKING

Khalid M. Dubas, University of Mount Olive

ABSTRACT

A coronavirus has many crown-like spikes on its surface. Two recent examples of these viruses are SARS-CoV-1 and SARS-CoV-2. The former caused the 2003 outbreak of severe acute respiratory syndrome (SARS), that according to the World Health Organization (WHO), infected a total of 8,439 people and 812 died worldwide. The latter caused the coronavirus disease 2019 (COVID-19), that the WHO declared a pandemic on March 11, 2020. Unlike the SARS-CoV-1, the SARS-CoV-2 is much more contagious and widespread and it has adversely affected life in almost every country. The Centers for Disease Control and Prevention (CDC) reported that as of July 24, there were over 15 million confirmed cases of COVID-19 in the world, among them the US had 4,024,492 cases out of which 72,219 were new cases during the last 24 hours. It reported 143,868 total deaths in the US due to this disease that included 1,113 new deaths during the last 24 hours. Among the US cases, one million new cases were added during the last 15 days indicating an exponential growth of new cases.

One way to understand and predict the impact of COVID-19 is to formulate a mathematical model to predict the spread of illness, hospitalization, death, recovery, etc. based on assumptions about the characteristics of the disease and behavior of individuals. Many institutions, universities, and organizations have formulated mathematical models for this purpose. Some notable organizations for this purpose include the COVID-19 Forecast Hub that hosts over 30 international research groups and their models, the CDC, and the FiveThirtyEight (Best & Boice, July 24, 2020; ABC News Internet Ventures, 2020). The purpose of this research is to introduce basic terminology about the spread of infectious diseases and to formulate basic epidemic models to analyze COVID-19 to guide managerial decisions.

USING A PROMPT BALL TO PROMOTE ENGAGEMENT AND CREATIVITY IN THE CLASSROOM

Ron Duggins, University of Central Arkansas

ABSTRACT

In our courses we not only need to connect the content in a practical way with our students, but the activities and interactions in class must compete with all the other messages and activities pulling at the student's attention. Finding ways to add a bit of the unexpected and promote creative thought in a class can greatly enhance the students' engagement and the enjoyment for everyone in the room. A teaching and training tool known as a prompt ball has been used for many years in adult training, common education, and therapy to promote engagement and creative thinking and can be used and adapted in higher education classrooms as well. Prompt balls are made with the general shape of a soccer ball and on each of the polygonal sections that make up the construction there is a question or activity. The common practice is to toss the ball to a participant and they must answer the question or perform the activity under their right or left thumb when they have caught the ball. Once they have answered the question or responded to the requested action, they gently toss the ball to the next participant. This teaching note will explore the use of the prompt ball and introduce a more flexible alternative for the higher education classroom to increase the engagement, active learning, and creative thinking of students. Also discussed will be how the teaching tool can be used in a socially distanced environment.

INTRODUCTION

In an article about using a desktop escape room (Duggins, 2019), the mashup term engactive was used to describe a teaching approach that is both engaging and active. Engaging in that it captures the attention of students and active in that it seeks to place the students in a position to be actively involved in their own learning or in other words, to do something other than sitting and listening. Examples of engactive approaches include gamification, game-based learning, escape rooms, various brainstorming techniques, icebreakers, and many more. The incorporation of engactive practices is not about entertainment or edutainment and there are strong pedagogical reasons for including engactive practices in a classroom.

Cavanagh (2019) relates a quote from the professor and psychologist Todd Kashdan that reads, "If you want people to be interested, committed, and willing to devote effort to learning, mastering, and using these skills for the long haul, then you can't avoid the initial step of stimulating excitement." Engagement is a necessary first step for learning (Cavanagh, 2019). This is at the heart of engactive learning. It is imperative that we not seek to entertain, but to make connections as quickly as possible with our students. These are connections between the instructor and students, among the students, and connection to the content. Engactive practices are not entertainment but tap into some of the same emotional responses that entertainment also provides.

Engactive practices and activities are also important in setting the tone and atmosphere of the class, especially when used during the first few class meetings. At the beginning of a course students are seeking to find their way in relation to the instructor, classmates, and content. It is during these early days that the instructor can set the tone and atmosphere so that students see and feel the excitement of the content, but also understand that the classroom is a safe place to explore their own ideas and inputs.

Often in the first class an icebreaker is used to get the class started. A thoughtful icebreaker is an effective engactive activity and a useful way to begin to build connections in the early days. "Icebreakers are an effective way to create these connections and can contribute to a positive learning environment as well as introduce important content. Students will also make a judgement about their participation and whether it is safe for them to contribute: it is our role to set conditions where students will feel safe to take risks and actively participate in class activities" (Kavanagh, Clark-Murphy, & Wood, 2011, p. 85).

Emotion, persona/performance, community, and stories are the four principles that Cavanagh (2019) promotes in a guide to make a classroom more engaging. These principles as presented by Cavanagh include embedded active learning. In discussing the importance of connecting with students' emotional lives, Cavanagh highlights the idea from Immordino-Yang and Damasis (2015) that "When educators fail to appreciate the importance of students' emotions, they fail to appreciate a critical force in students' learning…One could argue, in fact, that they fail to appreciate the very reason that students learn at all."

Persona/Performance is about recognizing the role that an instructor's persona and performance have in the students' engagement of the material. As previously stated, the role of the instructor is not as entertainer, but it is no less than an evangelist for the content and field of study and this requires an increased degree of excitement and/or passion.

Community involves fostering an environment where community is built, and each student feels safe to bring their full self to the class. Cavanagh states that through establishing a sense of community we can predict whether the students become active learners in the class, have high or low anxiety, and even earn better grades.

The idea of story in an engaging classroom is to use our "most natural form of thought" (Schank and Abelson, 1995) to weave the various bits of knowledge and experiences into a learning story for the course. This is done through the instructor sharing their own stories or compelling stories from the field, but also helping the students to identify and tell their own stories around the content and ideas in the course.

The use of engative activities and approaches directly address these four principles. Commercially there are tools that one can purchase to incorporate engactive activities in class. Examples include the Thumball®, Game of Things®, and Table Topic® Conversation Starters.

TEACHING NOTE

The purpose of this Teaching Note is to highlight a specific engactive tool known as a prompt ball to promote engagement and deeper learning. The term prompt ball is a general term for the commercially available trademarked product know as a Thumball®. Thumballs®, and other conversation prompts have been used in adult training, common education, and therapy for many years. The Thumball® product is a ball made with the general shape of a soccer ball and on each of the polygonal sections that make up the construction there is a question or activity. The common practice is to toss the ball to participants and they must answer the question or perform the activity under their right or left thumb when they have caught the ball. Once they have answered the question or responded to the requested action, they gently toss the ball to the next participant. There are dozens of Thumballs® available for purchase including topics such as Common Ground, Icebreakers, Emotional Intelligence, Ethics, Conflict Resolution, and Injury Prevention. There are Thumballs® that are made so that one can write their own questions with a permanent marker or pen. These commercial products are useful, but the downside is that they are rarely aligned to the content of the higher education classroom or the questions quickly become known and stale.

Instructor Use of the Prompt Ball

To adapt this tool for the higher education classroom one can use a 20-sided polyhedron foam die with the numbers 1 to 20 printed on the sides of the die or ball (Figure 1). There are also smaller multiple-sided die that are used for many different board and fantasy games that can be used in place of the larger 20-sided foam ball. The smaller die can be found with varying number of sides. The larger foam ball and smaller die are readily available from educational suppliers as well as stores that sell games and game pieces.

Figure 1

The use of the numbered ball allows the instructor flexibility in the questions or activities that are associated with each number. An instructor only needs one prompt ball or smaller die but can customize many different sets of questions and activities. The instructor would project the questions or have them written on handouts and the students would then respond to the corresponding question or activity on the prompt ball.

Example of Uses

Opening Day/Icebreakers

Develop a set of question to begin building community and help the students to get to know each other and the instructor. Toss the prompt ball around the room to break the ice in an engaging and surprising way. It is important that the instructor also participate in answering the questions or performing the actions to build connections with the students. Getting students talking to each other about themselves and their ideas is one of the principle purposes of an icebreaker and makes students aware of their similarities and differences (Kavanagh, M., Clark-Murphy, M. & Wood, L., 2011). The icebreaker questions can be more lighthearted or serious. They can be tied to the content or to current events. Characteristics of good icebreakers are that they (1) focus on participants to getting to know each other and the instructor, (2) set expectations of openness and trust (community) in the room, (3) asks the students to be engaged and active in the class.

Prepare for Creative Work

Creativity and innovative thinking are skills that can be strengthened with practice. One can use a prompt ball to kick start a creativity session or limber up the minds of the students. If one teaches classes early in the day the use of the prompt ball can help get students minds into gear and provide a bit of wake-up activity. Often laughter accompanies prompt ball activities and laughter is one of the best ways to gain student's engagement.

Spot Check for Content

To help determine if the students are picking up on the most important content of a lecture or lesson one can pause the lecture or discussion and begin passing the prompt ball around having the students answer questions about the content. This approach puts a different spin on a pop quiz.

Make Random Assignments

Use the prompt ball to make random assignments of projects or activities. One of my favorite innovation activities is to assign students a problem that they must explore and quickly devise multiple solutions. To add a bit of spontaneity, assign various problems to the numbers on the prompt ball and begin sending the ball around the room in order to make the assignments.

Another creativity activity that includes building communication skills is to randomly assign students an industry, target market, and fictional company name and have them quickly develop a product and then pitch that product to the class. By tossing the ball multiple time and using three different numbered lists the students would be assigned the industry, target market, and company name.

Student Led Assignments

Allow the students to come up with their own set of questions or activities associated with the content or a project in the course. For example, if a student were assigned a review of some sort (chapter, product, or company), the student could develop a set of questions that she would answer based upon tossing or rolling the prompt ball. This approach would create a completely different dynamic in doing a presentation as the student would not know the order of questions or topics until the prompt ball was passed around, but because the student developed the questions they would be able to show mastery of the topic or information.

Prompt Ball Best Practices

Because there are only numbers on the prompt ball of smaller die there is an unlimited number of question and activities that can be associated with each number. A key to successfully using the prompt ball is to keep changing and adding new associations to keep the activities fresh.

When tossing the prompt ball in the class be sure to set which thumb (left or right) will determine the question to be answered.

The easiest use of the prompt ball is the icebreaker but be creative and innovate uses of the tool to promote engagement with students and content throughout the course and not only on the first day.

Adjustments for Socially Distanced Use of Prompt Ball

A hands-off approach to these same activities is for only the instructor/facilitator to roll the ball like dice and the participants would answer the questions that ends up on top after the roll. The instructor could also toss the ball in the air to herself or one student could be assigned as the prompt ball handler for the day. Another way to make the use of a prompt ball more socially distanced would be to use multiple smaller game die and have enough for each student in the class to roll their own. At the end of the class the instructor would have the students place the die in a contain and the instructor would then make sure they were disinfected. One can also require the students to purchase their own smaller die to keep and use in the class so they would not have to share with other students.

REFERENCES

Cavanagh, R. (2019). *How to make your teaching more engaging*. Chronicle of Higher Education https://www.chronicle.com/article/how-to-make-your-teaching-more-engaging/

Duggins, R. (2019). *Innovation & problem-solving teaching case: The Breakout Box – A desktop escape room*. Journal of Organizational Psychology, Vol 19(4), 73-77.

Immordine-Yang, H. & Damasio, A. (2015). *Emotions, learning, and the brain: Exploring the educational implications of affective neuroscience*. W.W. Norton & Company.

Kavanagh, M, Clark-Murphy, M. & Wood, L. (2011). *The first class: Using icebreakers to facilitate transition in a tertiary environment*. Asian Social Science, Vol. 7(4), 84-92.

Schank, R. & Abelson, R. (1995) *Knowledge and memory: The real story*. In: Robert S. Wyer, Jr (ed) *Knowledge and Memory: The Real Story*. Hillsdale, NJ. Lawrence Erlbaum Associates.