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The Office of the Provost

Walden University
2019

Abstract

Technology and Organizational Decision-Making: A Qualitative Case Study Approach

by

Brad McRae

MBA, DeVry University, 2012

BS, Albany State University, 2008

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Management

Walden University

September 2019

Abstract

Technology and communication skills simultaneously increase organizational productivity and decision-making. However, excessive use of technology to make decisions can diminish the added benefits that nonverbal communication can bring. The interpersonal sensitivity effects on perception of service quality model, face-to-face communication versus teleconferencing, the technology acceptance model, and decision-making were the conceptual framework of the study. The research questions examined how excessive use of technology to make decisions can diminish the added benefits that nonverbal communication can bring to organizational leadership decision-making. Employing an exploratory multiple case study design, organizational leaders from the Southern California region, ranging in seniority from team-leader through executive, completed 25 member-checked interviews and 15 qualitative questionnaires. Using Yin's 5-step approach to analyzing the data, 8 themes remerged. From these themes, I developed 5 findings regarding technology, non-verbal communication, and decision-making. My study affects positive social change by educating organizational leaders on the importance of distancing themselves from work during nonwork hours, encouraging organizational leaders to develop guidelines around the use of teleconference software, promoting organizational learning with an emphasis on soft-skill training, and acknowledging when there is a misunderstanding in nonverbal communication. Organizational leaders can improve decision-making by using the favorable traits associated with both electronic and nonverbal behavioral communications.

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Dedication

I dedicate this dissertation to all those who encouraged me to purse me dream of being the first male in my immediate family to have a Ph.D.. Without your words of encouragement, I wouldn't have completed this.

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I first want to thank my chair, Dr. Patricia Fusch, second committee member, Dr. David Banner and my URR, Dr. Howard Schechter. The road to get here was long and bumpy. We had a few hiccups along the way, but I was able to make it to the finish line with your help. Thank you!

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Third, to Sandra, Cleve, Sandi, Renee, and Letia (my mom, dad, grandma, aunt, and sister) thank you, thank you, thank you! I started this journey with your love and support, and it was this continued love and support that guided me through.

Last, but certainly not least, thank you to all my friends; Atlanta, Los Angeles, Washington, DC, and all the other cities in-between. Those weekends when I passed on going out to the club, saying "I have to finish school work", here's my proof that I was really was doing work. Thank you!

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Chapter 1: Introduction to the Study

Technological tools provide information that is critical to decision-making. Common technological tools, such as e-mail, text messaging, and video conferencing, are systems that allow for the nearly immediate transfer and dissemination of information. Through increased rate of information dissemination, the making of decisions occurs at a faster rate than before (Bartelt & Dennis, 2014). A recent study by Muzellec and O'Raghallaish (2018) provided context towards the effect technology has on decision-making when utilizing communication technologies.

From an organizational perspective, technology and communication skills simultaneously increase organizational productivity and decision-making. The increases in technological advancements led to the expectation that information dissemination to internal and external stakeholders occur at a rate that is now faster than before (Bjerge, Clark, Fisker, & Raju, 2016). In a study by Omoniyi and Omoniyi (2015), 58% of people surveyed confirmed that technology had improved their communication and decision-making with their local bank. Although using technology allows for the dissemination of information at a faster rate, conversations occurring via an electronic medium could result in a misunderstanding and impede future communications (Fomichov & Fomichova, 2014).

The focus of this study was to explore the application of technology for decision-making, and if there are implications for compromising non-verbal communication for technology, as identified by Altdiaz (2014) and by Senescu, Aranda-Mena, and Haymaker (2013). Moreover, this study was set to explore if the utilization of

information communication technologies alters the accuracy of decision-making and, conversely, the nonverbal communication practices of organizational leadership. This chapter includes the background of the study, conceptual framework of the study, definitions of terms, scope and delimitations, limitations, research questions, and significance of the study.

Background of the Study

The focus of this study was to explore the application of technology for decision-making and determine if there are implications of compromising information accuracy for information speed, as identified by Altdiaz (2014) and Senescu et al. (2013). Nonverbal communication channels directly influence the effectiveness of communication (Kožić, Žunac, & Bakić-Tomić, 2013; Puccinelli, Andrzejewski, Markos, Noga, & Motyka, 2013). The onset of communication technologies makes an impact on how organizational members use nonverbal communication skills to make decisions (Nascimento & Silveira, 2017).

Electronic communication mediums like e-mail and text messaging focus more attention on the stated words and not on the signals that the body conveys during communication (Bowman, 2016). Regrettably, the lack of identifying body signals could result in lower emotional intelligence. Lower emotional intelligence equates to an impeded ability to communicate effectively (Van Genderen, 2013).

Information communication technologies (ICTs) are electronic social systems used to connect individuals and organizations in a way that allows for an almost instantaneous exchange of information (Petiz, Ramos, & Roseiro, 2015; Piget & Kossaï,

2013). The use of ICTs allows for the nearly simultaneous dissemination of information to internal and external members of an organization, thus increasing the rate at which decision-making can occur (Bjerge et al., 2016). Additional advantages to using ICTs are reductions in meeting coordination costs and increased knowledge transfer capabilities (Lukić, 2014).

Although technology as a form of communication is helpful in the day-to-day operations of an organization, the use of technology should not overshadow the importance of in-person communication. Utilizing non-verbal cues in an organizational setting can enhance communication and the accuracy of decision-making. As such, researchers from a wide variety of industries illustrate the potential value of detecting non-verbal cues when engaging in communication (Chakrabarty, Widing, & Brown, 2014; Nichoson & Cushing, 2013; Puccinelli et al., 2013). Every day, non-verbal communication could result in approximately 55% of all communication activities that can leave a lasting impression on the intended audience (Phutela, 2015).

In situations involving face-to-face dialogue between two or more people, the type of non-verbal behavioral cues conveyed could affect the receiver's mood and their likely response (Nicholson & Cushing, 2013). These non-verbal behaviors are unconscious and could have a direct influence on the outcome of interactions (Stevenson, 2014). For example, Nicholson and Cushing (2013) concluded in their study that doctors who have positive non-verbal characteristics (warm, kind, and inviting) could convey treatment options to patients easier and can result in fewer complaints from the patient about their overall care.

In the Puccinelli et al. (2013) study, the researchers found that regarding high performing salespeople the primary driver behind higher performance levels is the salesperson's ability to identify and adapt to the non-verbal cues of customers. The non-verbal cues called out in the study are body language. Salespeople who interacted with customers could tell if customers are interested, uninterested, or just bothered by the approach of the sales person.

Problem Statement

The application of non-verbal communication is valuable in the communication process (Fatemeh & Nasrin, 2017). Since 2012, the use of technology in the workplace, as the primary form of communication, is growing at an exponential rate (Horn Nord, Paliszkiewicz, & Koohang, 2014). Consequently, organizational leaders rely heavily on technology as their vehicle for communication (Puccinelli et al., 2013). The focus of this study was to explore the application of technology for decision-making, and if there are implications for compromising information accuracy for information speed, as identified by Altdiaz (2014) and Senescu et al. (2013).

The general problem was heavy reliance on technology, as the primary form for business communication, could result in the organizational leader's inability to understand the repercussion of communication (Kožić et al., 2013). The specific problem was the excessive utilization of technology to make decisions could diminish the added benefits non-verbal communication can bring to organizational leadership decision-making. Promoting positive social change was also an objective of the research study. The findings may prompt a discussion around the use of technology in the workplace.

Purpose of the Study

The purpose of this qualitative exploratory multiple case study was to explore how excessive utilization of technology to make decisions could diminish the added benefits non-verbal communication could bring to organizational leadership decision-making. Xiaojun and Venkatesh (2013) explained how the dependency on technology to produce and disseminate information could be problematic on employee job performance. Their assumptions claimed the reliance on technology as the main channel for workplace communication places faith in technology systems over human capital. The use of technology could be of value; however, excessive utilization of technology could remove the leader's ability to detect the non-verbal cues of the intended audience (Kožić et al., 2013).

A qualitative approach served as the methodological basis for the study. The selection and interviewing of 20 research participants located in Southern California provided an understanding of their interpretation of the concepts of non-verbal communication, technology, and decision-making. Data collected from the interviews of organizational leaders and from a qualitative questionnaire helped to explore how technology could affect their decision-making ability.

Research Questions

Central RQ: How does excessive utilization of technology to make decisions diminish the added benefits non-verbal communication could bring to organizational leadership decision-making?

RQ 1a: How do organizational leaders describe the benefits non-verbal communication has on decision-making?

RQ1b: How do organizational leaders utilize technology to make decisions?

RQ1c: How do organizational leaders describe the meaning they give to non-verbal communication when decision-making?

Conceptual Framework

The conceptual basis for this study was the synthesis of four concepts that are prevalent in organizations: non-verbal communication, decision-making, and technology. The *interpersonal sensitivity effects on perception of service quality* model by Puccinelli et al. (2013) provided the groundwork for non-verbal communication for this study's conceptual framework. Ashraf, Narongsak, and Seigyoung (2014) provided the groundwork for technology by utilizing Davis's (1989) technology acceptance model (TAM) to determine what drives individuals to accept a new form of technology.

Salter, Douglas, and Kember (2017) provided the groundwork for decision-making by comparing face-to-face communication and asynchronous online dialogue for their abilities to solve problems in a team setting. The work of March and Simon (1993) on the decision to produce and the decision to participate provides an additonal conceptual framework on decision-making. By combining these four concepts, I explored the problem of how the excessive utilization of technology to make decisions could diminish the added benefits non-verbal communication could bring to organizational leadership decision-making.

Interpersonal Sensitivity Effects on Perception of Service Quality

The Puccinelli et al. (2013) model explored how behavior, and the proper detection of behavior, could produce a favorable outcome. The interpersonal sensitivity influence on perception of service quality serves as groundwork for research regarding the importance of non-verbal communication. From a sales perspective, customer service agents who could read the non-verbal cues of a consumer increased customer perception of service quality (Puccinelli et al., 2013). The interpersonal sensitivity influence on perception of service quality suggests sales personnel could anticipate their customer's needs based on body language. Figure 1 demonstrated this phenomenon by illustrating how customer service agents could enhance the likelihood of a favorable sales transaction by reading the nonverbal actions of the customer.

Figure 1. Effects on Perception of Service Quality
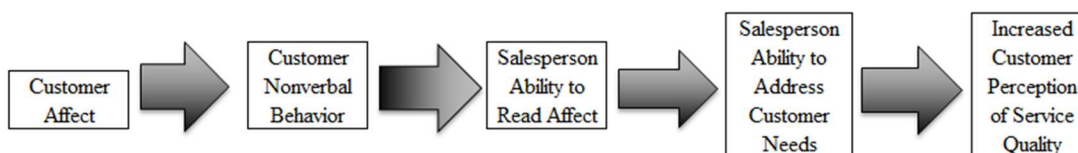
Figure 1. An illustration of how affects and behavior correlate in a sales environment. Salespeople who are able to identiy the nonverbal behaviors of a consumer are likely to increase the perception of service quality within the organization.

Technology Acceptance Model

The technology acceptance model (TAM), first introduced in Davis (1989), served as the conceptual groundwork for the acceptance and use of technology. The TAM determines the acceptance of a new technological application based on two factors: perceived usefulness and perceived ease of use (Ashraf et al., 2014). Perceived

usefulness is the populations' perception of how a new technological application will improve their current state (Samar, Mazuri Abd, & Feras, 2017). Perceived ease of use is the populations' perception of learning and utilizing the technological applications (Teeroovengadum, Heeraman, & Jugurnath, 2017).

Face-to-Face versus Teleconferencing

The Salter et al. (2017) concept regarding the correlation between face-to-face communication and online discussion forums laid the groundwork for decision-making. Video teleconferencing allows users to communicate as if the audience is in the same room (Suciu, Anwar, & Pasat, 2018). Video teleconferencing tools use web cameras, internet, and a computer to connect users electronically. The findings presented by Salter et al. (2017) assisted in understanding how face-to-face conversations and online conversations help to reinforce communication and decision-making.

The Decision to Produce and the Decision to Participate

Individuals, both leaders and non-leaders, who contribute to their organization, face two different decisions to make. The first decision is the decision to produce and the second decision is the decision to participate (March & Simon, 1993). These decisions helped to explain motivational factors for the decision-making of individuals.

Nature of the Study

The proposed research study followed an exploratory multiple case study research design. The purpose of this qualitative exploratory multiple case study was to explore how excessive utilization of technology to make decisions could diminish the added benefits non-verbal communication could bring to organizational leadership decision-

making. The multiple case study approach allowed for the collection of case studies from multiple sources versus relying on a single source of information (Yin, 2014).

This qualitative exploratory multiple case study research design assumed a collective case study approach. The collective case study approach allowed for the collection of multiple case studies. In addition, the collective case study approach allowed for data analysis within each case and between cases (Baxter & Jack, 2008). For the aim of this study, a collective case study approach allowed for the gathering and analysis of 20 case studies for the influence of potential trends of excessive technology utilization on the diminishing benefits of non-verbal communication.

Neither quantitative research methodology nor mixed methods research methodology were appropriate methods for this research. These research methods were not selected because this study aimed to gather an in-depth understanding of how technology could be a barrier to making well-informed decisions based on the personal input of organizational leaders. Interviews with research participants served as the first data collection tool. Qualitative questionnaires were the second data collection tool. For this reason, a qualitative case study approach was best suited.

A case study approach uses multiple data sources to form a rich understanding of the data (Baxter & Jack, 2008). In Stake (2010), case study research was the method of studying the complexities of a single case with the goal of determining what special events made up that specific case. Using a collective case study approach granted the ability to look at the complexities of decision-making from the perspective of members of a variety of organizations.

The viability of other qualitative methods was not suitable; the case study approach remained best suited for this study. The ethnographic approach, while too large of a scope for this study, was better suited for studies of human interaction with the aim of cultural exploration (Miškolci, 2015). Unlike a case study, the phenomenological approach required the researcher to look at the lived experiences of the individual (Adams & van Manen, 2017). The narrative approach, while too small for this study, was better suited for laying out a series of events from one or two sources (Haydon & van der Riet, 2017). The grounded theory approach was not applicable because the aim of this study was not to produce a theory (Akesson, Braganza, & Root, 2018).

Definitions

Baby boomers: People born between 1946 and 1964 (Severt, Fjelstul, & Breiter, 2013).

Excessive technology: An individual spending so much time using an information communication technology that the person neglects other aspects of life or adopts behaviors that could cause harm or deemed a nuisance (Emelin, Tkhostov, & Rasskazova, 2014).

Face-to-face communication: A verbal method of communication that occurs directly in front of the intended audience (Taylor, Hester, & Wilson, 2011).

Generation X: People born between 1965 and 1982 (Severt et al., 2013).

Generation Y: People born after 1982 (Severt et al., 2013).

Information communication technologies: Computer software used to transfer information through an electronic medium (Ladyshewsky & Pettapiece, 2015).

Matures: People born before 1945 (Severt et al., 2013).

Non-verbal communication: A method of communication without the utilization of a spoken or written word (Puccinelli et al., 2013).

Socio-emotional: The emotional intelligence required to maintain good relationships with others (Peña-Acuña & Sánchez-Cobarro, 2017).

Technology acceptance model: A model used to explain the behavioral factors that are behind why users accept technological applications (Ashraf et al., 2014).

Assumptions

There were four primary assumptions presented in this study. First, age could determine one's capacity to use technology effectively (Šimonová, Klímová, Poulová, & Pražák, 2017). A common misconception is older generations, like Matures and Baby Boomers, are less likely to utilize technological applications as much as Generation X and Generation Y individuals (Severt et al., 2013). Social media tools like Facebook are helping to bridge the usage gap by encouraging Matures and Baby Boomers to use this tool to connect with family and friends electronically (Kamboj & Rahman, 2016).

Second, displaying some non-verbal behavioral cues often occur without much thought and are difficult to falsify (Phutela, 2015). Köprülü (2014) explored the perception of body language between the teacher and the student. The researcher concluded the unconscious body movements presented by the teacher and the students are effective tools in gauging a person's attitude towards any given situation (Köprülü, 2014).

Third, ICTs are often misleading when it comes to sending and receiving emotion and tone. In attempts to address the use of inaccurate feelings, using 'emoticons' assists in conveying the appropriate emotional response; however, ICTs cannot convey the proper tone of the message adequately. For example, typing in capital letters contributes to the perception of a person yelling, but it is possible that the sender of the message simply made a mistake by typing a message in capital letters.

Last, verbal communication is often not feasible in a global organization. In the 21st century, many organizations cover more than a single geographic location. Organizations can cover multiple states, countries, or continents. This broad scope creates specific barriers to communication. These obstacles can include time, linguistic, and cultural differences.

Scope and Delimitations

The central research question and three sub-research questions explored how excessive utilization of technology to make decisions can diminish the added benefits non-verbal communication brings to organizational leadership decision-making. The aim of the study was to answer the following research questions.

Central RQ: How does excessive utilization of technology to make decisions diminish the added benefits non-verbal communication can bring to organizational leadership decision-making?

RQ 1a: How do organizational leaders describe the benefits non-verbal communication has on decision-making?

RQ1b: How do organizational leaders utilize technology to make decisions?

RQ1c: How do organizational leaders describe the meaning they give to non-verbal communication when decision-making?

The population of this study included organizational leaders of for-profit and non-profit organizations. The research study included approximately 20 interviews and 100 qualitative questionnaires carried out within the Southern California area. The participants included both men and women from a variety of races and cultural backgrounds. Conducting 20 interviews and 100 qualitative questionnaires allowed more time for in-depth interviews and comprehensive data collection to complement the data from the qualitative questionnaire.

In respect to potential transferability, the findings presented helped to establish evidence for additional studies on this problem. Furthermore, a future quantitative study could explore the correlation between factors like race, age, and gender and the use of technology when performing correct decision-making.

Limitations

There were three limitations presented in this study. First, an element of bias towards the use of ICTs to communicate exists (Aesaert, Voogt, Kuiper, & van Braak, 2017). The use of technology in communication creates a technological transcript of communications between individuals that is often not present in traditional face-to-face communication. From an organizational perspective, written transcripts of communication provide a level of accountability between the senders and receivers of the communication channel.

Second, the study only considered a sample of the population that uses ICTs to communicate. Due to the qualitative exploratory multiple case study approach used in this research, I did not require a broad cross-section of the population. Utilizing a different approach would lead the findings to be slightly distinct from the findings presented in this study. However, a within-methods methodological triangulation approach served to ensure trustworthiness in the qualitative study. A within-method triangulation approach allowed for the use of a single research approach but employs multiple strategies to evaluate the data.

While interviews were the primary data collection method, the use of observational notes and transcripts of audio recordings, which derive from the interviews, created an opportunity to use various strategies to analyze responses. In addition, I included data collected from the qualitative questionnaire. This approach to ensuring research credibility draws its basis from Denzin (1989) and Bekhet and Zauszniewski's (2012) explanation of the methodological triangulation technique.

Third, the study only considered commonly used present-day technologies. There is a possibility that technology can evolve to fill in the gap between the excessive utilization of technology and the missed opportunity to make well-informed decisions when individuals can adequately identify and respond to non-verbal cues. Technology companies are continually developing new technological tools to aid people in their everyday lives. It is possible that future technology can bridge the gap between the excessive utilization of technology and the lack of identifying non-verbal behaviors.

Significance of the Study

Significance to Practice

Within this research, several potential contributions could advance the practice and policy of organizational leadership and management. First, several best practices, suggested by organizational leaders, for balancing ICTs and face-to-face communication could emerge. The sharing of this information could potentially help many organizational leaders struggling with finding a balance between the over communication via technology and the underutilization of face-to-face communication.

Second, the suggested methods for improving decision-making could help other organizational leaders increase the accuracy of their decision-making. Organizational leaders who can compare their decision-making practices with the decision-making practices of the research participants may be able to improve their decision-making skill set. The Sukumar and Ferrell (2013) study on knowledge management and knowledge transfer illustrates how comparing knowledge on soft skills like decision-making allows every interested party to grow their understanding of the subject. The goal of sharing of decision-making best practices is to enhance organizational productivity by reducing the wasteful spending of organizational resources caused by poor decision-making.

Third, the findings of this study could illustrate how non-verbal communication plays a vital role in an organizational setting. Researchers have concluded that non-verbal communication helps to support and control verbal communication in a wide variety of scenarios (Butt & Shafiq, 2013; Nicholson & Cushing, 2013; Phutela, 2015). Organizations could benefit from the knowledge shared by interviewed decision-makers.

Significance to Theory

The purpose of this qualitative exploratory multiple case study was to explore how excessive utilization of technology to make decisions can diminish the added benefits non-verbal communication can bring to organizational leadership decision-making.

Leaders are the visionaries within the organization (Benson, 2015). The inability of organizational leaders to detect non-verbal cues can become an impediment to the leader's capability of making well-informed decisions. Ultimately, this could affect their effectiveness within the organization. With the data provided by this study, organizational leaders could use methods suggested by their peers to improve decision-making.

Significance to Social Change

The findings presented in this study could create an environment of positive social change that affects multiple aspects of effective leadership and organizational management. With the knowledge gained from this study, organizational leaders could learn to make accurate and timely decisions by utilizing the favorable traits associated with ICTs and non-verbal behavioral communication.

It is no surprise that ICTs increase organizational productivity. Higher levels of productivity result in a higher rate at which organizational leaders make decisions (Al Mamun & Wickremasinghe, 2014). As organizational leaders embrace new forms of ICTs, awareness should be placed on the unknown impacts ICTs have on decision-

making. Unfavorable impacts of ICTs on the effectiveness of an organizational leader may include rushing to a conclusion, false reporting, and partial comprehension.

The findings of this study could provide empirical evidence that the excessive utilization of ICTs to make decisions is detrimental to decision-making. By balancing ICTs with the non-verbal cues gained through face-to-face communication, organizational leaders could be better suited to make informed decisions. Understanding the importance of finding a balance between the use of ICTs and non-verbal cues could lend a competitive advantage that the organizational leader can use to promote positive social change within their organization.

Summary and Transition

The first chapter included a background of the gap in knowledge within accurate decision-making caused by the compromise of information speed for information accuracy. The general problem was heavy reliance on technology, as the primary form for business communication, can result in the organizational leader's inability to understand the repercussion of communication. The specific problem presented in this study was the excessive utilization of technology to make decisions can diminish the added benefits non-verbal communication brings to organizational leadership decision-making.

This qualitative exploratory multiple case study explored the use of technology, as a tool for communication, and its capability to compromise information accuracy for information speed. This lack of non-verbal cues can restrict the effectiveness of decision-

making. The following chapters in this study included the problem identified. Chapter 2

included literature that supports why this is a problem.

Chapter 2: Literature Review

The specific problem was that the excessive utilization of technology to make decisions could diminish the added benefits non-verbal communication could bring to organizational leadership decision-making. A higher customer satisfaction rating and increased sales for sales personnel is possible for those who were able to identify the non-verbal cues of customers when conducting a sales transaction (Puccinelli et al., 2013). It was the goal of this study to promote positive social change by increasing awareness of the specific problem to organizational leaders. Achieving this goal required this study to provide research, which supports the notion that technology and non-verbal communication, when used in conjunction, could improve decision-making.

The purpose of this qualitative exploratory multiple case study was to explore how excessive utilization of technology to make decisions could diminish the added benefits non-verbal communication could bring to organizational leadership decision-making. Organizational leaders rely heavily on technology to communicate and make decisions (Xiaojun & Venkatesh, 2013). Although the use of technology is valuable in an organizational setting, the excessive utilization of technology can remove the leader's ability to detect the non-verbal cues of the audience.

This study assumed a qualitative approach. Interviews with approximately 20 research participants located in Southern California helped to advance the understanding of their interpretation of non-verbal communication, technology, and decision-making. These participants were a mix of men and women participants between the ages of 21 to 65. The participants came from a combination of entry, mid, and senior organizational

levels of for-profit and non-profit organizational models. Data from interviews, a qualitative questionnaire, and direct observation notes of organizational leaders of for-profit and non-profit organizations helped to explore if technology affects their ability to make accurate decisions.

Literature Search Strategy

The literature search strategy conducted for the support of the problem identified in this research study was comprehensive and exhaustive. All journal articles were peer-reviewed and current. Multiple Walden University Library databases was the source of informative literature. These databases included ABI/INFORM Complete, Academic Search Complete, Business Source Complete, EBSCOhost, ProQuest Central, SAGE Premier, Science Direct, and Thoreau Multi-Database Search. The utilization of specific keywords relating to the research topics included decision-making, information and communication technologies, non-verbal behaviors, and non-verbal cues.

Referencing articles that were predominantly from 2013 to current ensures research articles were current and applicable to the research topics of decision-making, information and communication technologies, non-verbal behaviors, and non-verbal cues. This literature review procedure aimed to achieve four goals. First, find relevant peer-reviewed research that supported the problems identified in Chapter 1.

Second, find relevant peer-reviewed literature that supported this study's purpose as explained in Chapter 1. Third, understand the factors and influences of decision-making, information and communication technologies, non-verbal behaviors, and

nonverbal cues. Fourth, produce a quality literature review that explored how decision-making is affected by ICTs and non-verbal behaviors.

Conceptual Framework

The conceptual basis for this study was the synthesis of four concepts that are prevalent in organizations: non-verbal communication, decision-making, and technology. The *interpersonal sensitivity effects on perception of service quality* model by Puccinelli et al. (2013) provided the groundwork for non-verbal communication for this study's conceptual framework. Ashraf, Narongsak, and Seigyoung (2014) provided the groundwork for technology by utilizing Davis's (1989) technology acceptance model (TAM) to determine what drives individuals to accept a new form of technology.

Salter, Douglas, and Kember (2017) provided the groundwork for decision-making by comparing face-to-face communication and asynchronous online dialogue for their abilities to solve problems in a team setting. The work of March and Simon (1993) on the decision to produce and the decision to participate provides an additional conceptual framework on decision-making. By combining these four concepts, I explored the problem of how the excessive utilization of technology to make decisions could diminish the added benefits non-verbal communication could bring to organizational leadership decision-making.

Figure 2.   Connectivity of Conceptual Frameworks

Face - to - Face vs. Teleconferencing

Interpersonal Sensitivity Effects   Technology Acceptance Model
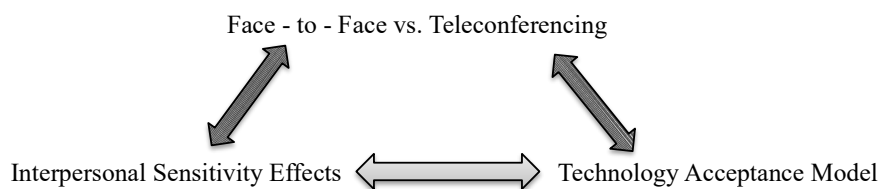
Figure 2. An illustration of how these three concepts work together to form the conceptual framework of the study.

Face-to-Face versus Teleconferencing

When it comes to communication via teleconferencing or traditional face-to-face communication methods, there are inherent benefits presented when communicating in-person. First, face-to-face communication allows for increased discussion and more in-depth responses than teleconferencing (Gallo, Carpenter, & Glisson, 2013). Although teleconferencing allows communication to occur, the lack of physical interaction creates two possible complications for communication channels.

The first possible complication for communication channels is the quality of teleconferencing is only as good as the hardware used. When utilizing teleconferencing software, the quality of audio and video depends on multiple pieces. Optimum communications via teleconferencing rely on the internet download and upload speeds, type of computer used, type of audio and video hardware used, and audio and video software used.

The second possible complication for communication channels is it is difficult to gauge the responses of the audience when meeting via teleconferencing software.

Presenters gauge their delivery of a message based on the verbal and non-verbal feedback from the audience.

When communicating electronically, the presenter assumes the audience is attentive. Gallo et al. (2013) supported this notion when their research concluded teleconferencing provides a quicker method for reviewing grant applications, but face-to-face communication provides a more significant opportunity for increased discussions and more accurate decision-making.

Second, face-to-face communication can be costly to conduct on a reoccurring basis; however, face-to-face communication results in a more accurate dialogue for interpersonal communications and evaluating customer-based brand equity (CBBE) (Hogan, Romaniuk, & Faulkner, 2016; Rasmußen, 2014). CBBE is the brand value consumers give a product or service. As a product's CBBE increases, the advantage the product has over its competitor increases as well.

A method to increase a product's brand equity is to encourage meaningful dialogue around the product. An example of CBBE in practice is the recent growth of Workday, Inc. and their business partners. Workday is an enterprise resource planning tool that allows users scalability and flexibility that other enterprise resource planning tools do not offer at a reasonable cost (Why Workday, 2017). Workday drives its growth by their business partners who sell and implement the service to clients.

Since every partner essentially is selling the same Workday service, consumer brand equity is the final deciding factor as to which partner wins the contract. Workday partners with high levels of brand equity (IBM, Deloitte, Accenture, and KPMG) win

contracts over lesser-known Workday partners (Kainos, Intecrowd, and Oakton). Since a product's CBBE is a key metric for organizations, it serves in the best interest of the organization to improve their CBBE score. Increasing levels of interpersonal communication, specifically face-to-face communication, helps in enhancing the CBBE of an organization (Choudhury & Kakati, 2014; Hogan et al., 2014).

Interpersonal Sensitivity Effects on Perception of Service Quality

Non-verbal cues can influence perception and judgment without verbally communicating one's opinion. Recent studies have illustrated non-verbal actions either can positively or negatively affect consumer decision-making (Bashir & Rule, 2014; Puccinelli et al., 2013). The interpersonal sensitivity effects on perception of service quality model examine this occurrence.

This model suggests that customer service agents who are more adept at spotting and accurately responding to the non-verbal cues of customers are more likely to affect the customer's shopping experience. As a result, correctly identifying these non-verbal cues creates a positive experience for the customer; which translates into increased consumer value towards the organization and increased sales revenue.

From an organizational perspective, face-to-face communication provides easily identifiable indicators that communication through technology does not offer (Bonaccio, O'Reilly, O'Sullivan, & Chiocchio, 2016). These indicators, also known as codes, have the classification of body, sensory, and contact code. Body codes are specific movements individuals give off. Some examples of body codes are affirmative and negative head nods, smiling, pouting. Sensory and contact codes are unique to the senses of touching

and hearing. The sender's subconscious mind interprets these codes as a behavioral indicator. For example, a person with excessively visible perspiration during a job interview could have the perception of nervousness.

Technology Acceptance Model

The technology acceptance model (TAM) explores an organization's behavior towards technology usage by explaining why users accept some forms of technologies and use that technology at a higher rate than other users. In Davis (1989) original study on the TAM, the acceptance of a technological application has two requirements: perceived usefulness and perceived ease of use.

Perceived usefulness is the first factor of the TAM. The concept of perceived usefulness dictates that the rate at which an individual uses technology determines the perception of how a new technological application will improve their current state of life (Ashraf et al., 2014). For years, research studies highlighted the value technology has on increasing organizational efficiency (Chun, Kim, & Lee, 2015).

While these studies are correct in stating technology increases organizational efficiency, focusing solely on the IT aspect of increasing organizational efficiency can be problematic for the organization. Installing new software tools within the organization without accounting for the change management aspect of new software implementation could cause an adverse reaction within the organization. Organizations that implement technological applications without evaluating the rationale for having a new piece of technology will risk implementing a solution that has a low perception of usefulness by individuals (Ashraf et al., 2014; Economic Commission, 2013).

The second factor of the TAM is perceived ease of use. Perceived ease of use is a usage factor applied to a piece of technology that determines if utilization of that technology is easy (Ashraf et al., 2014). Predominantly, people are more resistant to using a piece of technology if they perceive it as overly complicated. Users with a high learning curve towards a piece of technology would opt to keep to their old methods. Although forcing users to learn and use said piece of technology could increase usage, the negative effects of decreased employee satisfaction now become a factor. Ultimately, studies have shown people who perceive a new technological tool as easy to learn and use correctly are more likely to be less resistant to embracing the new technology (Ashraf et al., 2014; Davis, 1989).

The Decision to Produce and the Decision to Participate

March and Simon (1993) identified two decisions individuals think through when evaluating the motivational factors for decision-making within their organization. The decision to produce is a synthesis of three different models and explores the similarities between the drives of the intrinsic motives of an individual and organizational demands reflected in the motivation to produce a product. The decision to participate finds its basis in the concept of organization equilibrium and asks what motivates an individual to participate in the organization at all.

The decision to produce is a combination of three models. The first model, the evoked set of alternatives, states the more alternatives an individual has, the greater the likely of selecting one the alternatives. The second model, the perceived consequences of the evoked alternatives, places an intrinsic value on the consequences on each of the

identified alternatives. The third model, the individual goal, used to test if the how the

consequences identified in the second model measure to the own goals of the individual.

The decision to participate, founded in the concept of the theory of organizational

equilibrium, looks at the balance between the payments an individual receives for their

services and what the individual contributes to the organization (March & Simon, 1993).

The payment received, also known as inducement, is a combination of physical payments

and the value the individual places on the organization. Individuals participate in the

organization if the inducements outweigh the individual contributions required.

However, this motivation will secede if individual contributions begin to outweigh

inducements.

<center>**Literature Review**</center>

Construct of Interest: Non-Verbal Communication and ICTs

In today's interconnected society, organizations require the ability to

communicate with internal and external stakeholders at any given moment. While ICTs

offer the capability for organizations to communicate instantly with its target audience,

there remains the possibility for inaccurate decision-making to occur. The likelihood of

inaccurate decision-making increases the inability of the communicators to identify

specific non-verbal cues that arise when engaging in communication.

Studies highlight the importance of non-verbal communication. Non-verbal

communication can help to enhance verbal communication in a wide variety of situations

(Phutela, 2015). In situations where there are language barriers, body movements like

sign language or pointing help to engage in communication. Additionally, Bronstein,

Nelson, Livnat, and Ben-Ari (2012) substantiated that face-to-face communication channels, also considered a form of non-verbal communication, helps organizational leaders in contract negations by establishing a stronger rapport with the audience.

ICTs play a variety of roles that pertain to organizational communication. First, ICTs assist organizations by increasing its productivity in increasing the rate at which message delivery to the receivers occur (Díaz-Chao, Sainz-González, & Torrent-Sellens, 2015; Teryima & Sunday, 2015). ICTs allows for the rapid dissemination of information via technology channels like e-mail, text messaging, and video conferencing. E-mails and text messaging allow users to transmit word and multimedia messages to one or more users in only a few moments. Video conferencing allows for the simultaneous sharing, or viewing, of audio and visual data.

Second, ICTs improve organizational accountability (Im, Porumbescu, & Lee, 2013). ICTs create a communication system where messages are recorded, time-stamped and archived for later reference. The recording, time-stamping and archiving of electronic messages serve two purposes. First, as organizational members become aware of the monitoring of their electronic communication, organizational members would be more inclined to use language that is appropriate for the organizational culture and, second, stored electronic communications that could become a repository of organizational knowledge.

Exploration of Methodology and Methods

This research study followed an exploratory case study research methodology. The purpose of this qualitative exploratory multiple case study was to explore how

excessive utilization of technology to make decisions could diminish the added benefits non-verbal communication could bring to organizational leadership decision-making.

The research design of this qualitative exploratory multiple case study assumed a collective case study approach. For the aim of this study, a collective case study approach provided alignment with the research question. By gathering and analyzing the responses of research participants, this study provided insight into how excessive use of technology could impede the leader's ability to make accurate decisions within an organization.

Studies show the utilization of a qualitative case study research methodology that seeks out to explore the implications of ICTs for organizations. Gelderman, Semeijn, and de Bruijn (2015) studied the process organizations go through when deciding on which ICT to implement. This exploratory case study used a combination of document analysis and interviewing as their methodology to collect their findings and conduct their review.

Khalil Moghaddam and Khatoon-Abadi (2013) identified factors that determine ICT adoption among rural users. Using a semi-structured interview with the target population helped to gain patterns examples of widely used ICT within the organization. Third, Krecci, Strielkowski, and Čabelkova (2015) classified organizational factors that influence the success of small and medium business organizations. The case study reviewed small and medium business organizations in the Czech Republic to determine how ICT plays a role in the success of the organization.

In addition to ICT usage in organizations, the utilization of a qualitative case study research methodology occurred in a multitude of studies that set out to explore the

efficacy of non-verbal communication within organizations. Difrancesco, Pulvermüller, and Mohr (2012) explained the features of intensive language-action therapy (ILAT) and the learning opportunities this presents.

Howard, Perkins, and Sowden (2012) explored the idiosyncratic body movements used in people who are different from their larger population group. The research methodology conducted in this study involved an hour-long conversation with the participant. Judd (2013) explained how a miscommunication could have detrimental consequences. This study used interviews as its research methodology for collecting data and a qualitative questionnaire as a second data source.

Strengths and Weaknesses Presented by Approaches of Previous Studies

Strengths. Both non-verbal communication and ICTs have respective strengths that could attribute to the success of the organization. Non-verbal communication provides an added advantage in negations with potential clients. Since a person's non-verbal cues occur subconsciously, it becomes difficult for an untrained individual to disguise their genuine response.

The study by Janevski and Zafirovska (2015) found the significance of non-verbal communication to be true in studying business negations of small business owners. In their study, they noticed small business owners gradually becoming cognizant of the value of reading and responding to non-verbal cues. In addition to the value of reading authentic non-verbal cues, face-to-face communication helps convey the message when discussing relevant information.

For example, the study by Trotman, Bauer, and Humphreys (2015) concluded preparers anticipating a face-to-face interview are more concerned with producing higher quality results. The cause behind this motivation is the drive to surpass expectations when engaging in high-stakes face-to-face dialogues.

ICTs provide an added organizational advantage. Organizations that have an increased variety of ICTs affect the speed and reach of the dissemination of organizational communication (Stephens, Jafari, Boyles, Ford, & Zhu, 2015). Moreover, ICTs create an environment where information sharing occurs relatively instantly. Employing multiple forms of ICTs only increases the number of channels the organization must disseminate information. Furthermore, employees who constantly utilize ICTs develop a deeper sense of team membership; thus, improving the chances of employee morale and recognition (Chen & McDonald, 2015).

Weaknesses. Non-verbal communication and ICTs have their respective weaknesses when it pertains to organizational applications. Prior research on the usage of non-verbal communication has been overly generalized. A research study by Janevski and Zafirovska (2015) concluded many research studies generalize topics about non-verbal communication to fit the entire population. Research studies generalize their findings because the vast amount of cultures and sub-cultures makes studying the global standards of non-verbal communication challenging.

ICTs require user training. Poorly trained users could set back organizational productivity (Stephens et al., 2015). Untrained users could damage the integrity and security of the system by introducing malicious data into the tool. Malware, viruses, and

junk messages are examples of malicious data that could easily arrive into the ICT by untrained users. The introduction of malicious data could result in unplanned software outages, thus slowing down organizational productivity.

In addition to the adverse effects on productivity, ICTs create a misconception that the organization encourages working outside of the typical business workday (Chen & McDonald, 2015). ICTs allow employees to communicate with other members of the organization regardless if in the office or not. ICTs could create a misconception that the organization encourages working during non-work times. Although working remotely from the office does increase productivity shortly, working from home could have a detrimental effect on employee morale. In the end, decreased employee morale would translate into decreased organizational productivity.

Rationale for Selection of Concepts

The conceptual basis for this study was the synthesis of four concepts that are prevalent in organizations: non-verbal communication, decision-making, and technology. The interpersonal sensitivity effects on perception of service quality model by Puccinelli et al. (2013) provided the groundwork for non-verbal communication for this study's conceptual framework. Ashraf, Narongsak, and Seigyoung (2014) provided the groundwork for technology by utilizing Davis's (1989) technology acceptance model (TAM) to determine what drives individuals to accept a new form of technology.

Salter, Douglas, and Kember (2017) provided the groundwork for decision-making by comparing face-to-face communication and asynchronous online dialogue for their abilities to solve problems in a team setting. The work of March and Simon (1993)

on the decision to produce and the decision to participate provided an additional conceptual framework on decision-making. By combining these four concepts, I explored the problem of how the excessive utilization of technology to make decisions could diminish the added benefits non-verbal communication could bring to organizational leadership decision-making.

Face-to-face versus teleconferencing. Face-to-face communication versus teleconferencing as a conceptual basis for this study had its basis rooted in previous research studies (Baek, Wojcieszak, & Delli Carpini, 2012; Meluch & Walter, 2012). Meluch and Walter (2012) study determined face-to-face communication to be better suited when handling matters of conflict resolution within an organization. Since teleconferencing occurs in a non-interpersonal environment, a technological communication barrier impedes the recognition of non-verbal cues. Face-to-face communication, on the other hand, allows individuals engaged in dialogue to read the non-verbal cues, tone, and body language accurately. The combination of face-to-face communication and observing non-verbal cues puts both parties engaged in communication with a better chance of conflict resolution.

Second, teleconferencing is a useful tool to increase organizational productivity. The lack of oversight in teleconferencing resources could create a hostile environment for employees. Teleconferencing software has the potential to undermine organizational norms by promoting an environment that allows reckless negative behavior (Baek et al., 2012). The rate of usage in teleconferencing software solutions is increasing as new

software emerges. If not monitored, teleconferencing can form subgroups, which could become reflective of the cultural divides we see in the real world.

Interpersonal sensitivity effects on perception of service quality. Non-verbal cues could influence perception and judgment without verbally communicating one's opinion. The McColl and Trong (2013) study on gender, facial attractiveness, and customer satisfaction that found a person's gender could influence their ability to decode non-verbal cues. Although some ICTs provide the ability for the user to specify their gender online, there is no way to guarantee their gender without some verbal or face-to-face interaction (Salomonson, Allwood, Lind, & Alm, 2013).

Additionally, Bartels (2013) suggested the legal obligations, organizational norms, and cultural norms require some forms of face-to-face communication to occur to conduct business. Face-to-face interactions create an environment where both parties rely on conversational stimuli to remain engaged in the conversation. Conversational stimuli could include a person's scent, their level of attractiveness, and their non-verbal cues. With ICTs, it is difficult to obtain the same level of stimulation received via face-to-face communication. It is easy for any user to disengage quickly from the conversation but give the illusion that they are still present.

Technology acceptance model. The perceived usefulness and the perceived ease of use are two factors that determine the utilization of technology. Senior leadership will either become a champion for the new technology or assign someone as the technology's champion. Those individuals who seek personal recognition as the SME (subject-matter expert) on the new technology will be more accepting of the new technology. Regardless

of who will become the new technology's champion, organizations should assume there would be a learning curve when the technology dissemination occurs to the rest of the organization. The length of the learning curve depends on how the employees perceive the usefulness and the ease of use.

Technology adoption plays a critical role in the use of ICTs. Users, when given the option, will either be slow to adopt the new technology or not use it at all. Park, Rhoads, Hou, and Lee (2014) explained the reason for some user's apprehension towards is the relationship between perceived ease of use, the perceived usefulness, and the actual use. Users who feel the new technology is difficult to operate or has no immediate use for them will not use the technology unless forced to do so by their supervisor.

The decision to produce and the decision to participate. The decision to produce and the decision to participate are two decisions facing organizational members. Each decision requires the organizational member to look at a different set of requirements to make decisions about their actions. The first decision, the decision to produce, is a synthesis of three different models and explores the similarities between the drives of the intrinsic motives of an individual and organizational demands reflected in the motivation to produce a product. The second decision, the decision to participate, evaluates the organizational equilibrium to determine if the benefits of the organization outweighs the inputs required by the organizational member.

Non-Verbal Cues

There were five primary areas of investigation about non-verbal cues. These areas are expression, olfactory, kinesics, vocalics, and oculesics. The following explores these areas further.

Expression. Expression, in the context of verbal communication, is the facial expressions given off when engaging in communication (Phutela, 2015). Using an expression to aid in decision-making allows for persons involved in communication to overcome many communication barriers. Facial expressions develop through a person's life experiences and over time, these expressions often become second nature. Reading a person's expression provides an insight into their mind's processed thoughts.

One benefit of expression is that expressions could gauge a person's emotional intelligence. Peña-Acuña and Sánchez-Cobarro (2017) determined properly reading a person's expression require a high degree of emotional intelligence. Emotional intelligence is the level of capability a person must perceive, process, and react appropriately to facial expressions and emotions. If the goal is to take advantage of the emotional intelligence benefit, it is best if the receiving and decoding of expressions commence in real-time. Utilizing technology as a medium to decode non-verbal cues reduces the efficacy of emotional intelligence, thus lowering the likelihood of accurate decision-making.

Relying on expression to make decisions does have its drawbacks. In some instances, expression could cause communication barriers (Phutela, 2015). Expressions vary depending on cultural backgrounds. As such, people engaging in communication

will have some natural cultural backgrounds that conflict. Often, relying solely on expression as a method of communication could cause miscommunication. For example, a smile in Western civilization is a sign of politeness and ease. Russian culture calls for smiles only with friends or close acquaintances. A U.S. businessperson smiling while discussing a deal with a Russian business person would give the wrong impression. A mishap of this caliber could impede further communication talks.

Olfactory. Olfactory, also known as olfactics deals with the non-verbal communicative abilities smells have when engaging in face-to-face communication. Smells are prone to trigger calming behaviors in individuals. Smells like peppermint, spearmint, linalool, and ylang-ylang oils cause a feeling of harmony and relaxation. Sugawara et al. (2013) determined scents, primarily scented candles, and lotions, could induce a relaxed state. The relaxed state translates into less anxiety and decreases the chance of second-guessing when engaging in decision-making.

Additionally, smells can remind an individual of a memorable event. Non-verbal communicative abilities relate better to smell detection (Vyhnalek et al., 2015). When an individual interacts with a familiar scent, their mind is likely to recall a memory that is associated with that scent. This effect can be positive or negative on the individual. If the receiving person associates the scent with a pleasant memory, the individual will likely be more receptive to the message delivered. If the person receiving the message associates the scent with an unfavorable memory, then the individual will likely be less receptive to the message.

Olfactory non-verbal communication does have its disadvantages. People with amnestic mild cognitive impairment have reduced odor identification remembrance (Vyhnalek et al., 2015). The weaker a person's mind gets, the less relying on olfactory senses will help in non-verbal communication. The weakened state is due to a person's inability to recall memories that would be beneficial at a given time.

Kinesics. Kinesics explores how an individual's body movement serves as a form of non-verbal communication. Kinesics cues guide interactions and discourse (Gruber, King, Hay, & Johnston, 2016). Body movements are deep-rooted traits that individuals have learned over time through seeing a movement and continually repeating the movement. Since body movements are behaviors learned over time, it is hard for a person to falsify their movements without actively concentrating on their actions.

Hand gestures, head movements, and eyebrow movements are subtle indicators of a person's motive (Gruber et al., 2016; Mandal, 2014). These body movements will determine if a person is either engaged in the conversation or disengaged in the conversation. When engaging in communication via ICTs, it is possible to overlook these subtle cues. When communicating via ICTs, the actual message draws greater attention; less attention is to the person sending or receiving the message.

Body movements could affect the outcome of important decisions. When participating in a job interview, a person's body language has a deeper impact on the effectiveness of communication than language, ethnicity, and the order of the interview (Gruber et al., 2016). Elkins and Derrick (2013) referenced the example of smiling as a body movement. Smiling when conducting business has a direct relationship on the level

of trust between the people engaged in communication (2013). In most Western cultures, smiling during meetings makes an individual more personable, thus increasing the level of trust. In contrast, having a stern face, while interacting with a businessperson, could give the impression that an individual is unfriendly and unapproachable.

Body movements convey hierarchical structures within organizations. In business organizations, leaders who walk with confidence, dress conservatively, better, and have a firm handshake (Mandal, 2014). In the U.S. military structure, it is customary to salute superiors. The superior will salute back as a sign of respect. In Japan, it is customary to bow when meeting someone. In the Japanese culture, the deepness of the bow determines superiority and respect level.

Vocalics. Vocalics is the personal expression through voice. These behavioral cues exhibit from a person's voice when they speak. Some examples of vocalics behaviors are changes in pitch, tone, and length of vocal statements.

Vocalics plays a major part in determining the accuracy of a vocal statement. An indicator of a fraudulent statement is its length. Burgoon et al. (2016) found fraudulent statements to be longer and filled more with details than non-fraudulent statements. Fraudulent statements show more signs of thinking and emotional arousal than non-fraudulent statements. Face-to-face communication require individuals to think and respond to answers rapidly. People that engage in communication via an electronic medium can purposefully slow down the rate of response and answer with less consequence of the length of time between responding as an indicator of the level of truth in a message.

Other vocalics indicators that influence decision-making are pitch and tone. When asked questions that a person responding is not prepared for, the responding person's pitch is more likely to fluctuate. As a person's pitch fluctuates, the receiver's level of distrust begins to increase. The pitch could give a false reading. Excitement could also cause a person's pitch to fluctuate. Elkins and Derrick (2013) determined if the receiver could identify fluctuations in your pitch because of excitement, then distrust will not increase. The problem with this statement is emotional intelligence drives one's ability to gauge vocalics. Receivers with a low level of emotional intelligence would find it difficult to differentiate excitement from a false response.

When engaging in ICTs, the value of vocalics as a helper for accurate decision-making decreases. There are wide varieties of factors that make utilizing vocalics as a tool for accurate decision-making in ICTs unreliable. These factors include Internet connectivity speeds, software reliance, and hardware reliance. Poor communication hardware or software will directly influence the effects of personal expression through a person's voice.

Oculesics. Oculesics is the study of eye movement and its behavioral effects on decision-making. For the use of this study, oculesics has two different applications. The use of colors when communicating is the first application of oculesics; the length of time it takes to review a document is the second application of oculesics.

Colors determine what items the eyes look at first. Warmer colors draw the eyes faster than they are to cooler colors (Bera, 2016). On the ROYGBIV (red, orange, yellow, green, blue, indigo, and violet) color spectrum, warmer colors are red, orange,

and yellow. Cooler colors are green, blue, indigo, and violet. The use of colors affects the decision-making process when using a visual medium to present data. Colors can mislead an individual into making decisions by misdirecting their eyes. In the first few moments of looking at a colorful chart, the eyes focus on the warmer colors. The eyes looking at warmer colors first could have detrimental effects on decision-making. Favorable data could have a warm color, and unfavorable data could have a cool color. A leader, looking at the misleading chart, could be deceived into a decision without seeing the complete picture.

Second, eye movement determines how well an individual knows their information. Individuals with higher prior knowledge of a subject will spend less time reviewing choices than individuals with lower prior knowledge (Lindner et al., 2014). Individuals with a prior background in the subject matter can read choices once and make quick and accurate decisions. On the other hand, an unprepared individual requires more time to review options and take appropriate action.

For example, Linder et al. (2014) discovered that eye movements are indicators of the decision-making process when individuals have multiple-choice assessments. Individuals with higher prior knowledge on a subject tend to spend less time reviewing all the choices, but more time viewing the correct choice. Whereas individuals with lower prior knowledge on a subject tend to spend less time reviewing all the options, but more time viewing the wrong choices.

This type of information is beneficial when engaging in conversation. Looking at a person's eye movement while they are reviewing information can be a solid indicator of

how well they know the information. Furthermore, the person's rate of eye movement and length of reviewing the information can indicate not only what decision they will make, but also the level of confidence in the decision made.

ICT's

From a global perspective, the utilization of technology as the primary form of communication increased exponentially from 45% in 2002 to 81% in 2010 (Heimlich, 2011). This 36% increase in the usage of technology within an eight-year period highlights the importance of understanding the role ICTs play in decision-making. This section discusses ICTs and factors that influence usage.

Race and age as ICTs usage factors. An individual's race and age play a factor in the usage of ICTs. People who struggle with English as the primary method of communication will prefer verbal communication to electronic communication (O'Mara & Harris, 2016). However, ICTs serve as a method for building virtual spaces that connect people who are proficient in English to those who are not. For this reason, ICTs are useful in dealing with the complexities of operating a multi-cultural organization.

Age is another ICT usage factor that varies amongst age demographics. Organizations are struggling to persuade the more senior employees to utilize ICTs (Nor, Hashim, Husin, & Aziz, 2015). ICTs over-burdened with text content are difficult for older individuals to read; thus, impairing their comprehension of the message. Examples of these scenarios are in long emails and text messages. Although screens can make the font bigger, senior employees struggle with making these adjustments without the help of others more technologically savvy. If an organization is successful in persuading senior

employees to utilize ICTs, showing the capabilities of an ICT to convey both text and animation will be beneficial (Nor et al., 2015).

Strategic-relational approach. Usages of ICTs have a basis on relational and contractual governance. Relational governance is the exchanging of information with hopes that a partnership based on trust develops. Contractual governance is the legal agreement between entities that specifies the terms of an agreement between entities.

Organizations have a long history of failed ICT projects, financial losses, and less usable software and services (Gelderman et al., 2015). One reason why ICT projects fail is organizations utilize contractual governance practices to implement new technologies, instead of balancing between contractual and relational governance. Applying organizational usage mandates to all employees forces ICT usage, but it does not correlate to employees trusting the ICT. As a result, there is a decrease in the likelihood of a successful implementation. It is imperative to the success of the ICT that the software is beneficial to all strategic partners; i.e., internal stakeholders and external stakeholders (Jung, 2013).

A tool that could gauge the success of an ICT implementation when organizations use combined relational and contractual governance policies is the strategic-relational approach (SRA). The SRA, developed by Jessop (2001), is a theoretical tool for analyzing strategically situated actors and how their interactions affect each other (Jung, 2013). The SRA tool evaluates key contributors, project sponsors, project managers, consultants, and employees, and provides a prediction of how successful and widely used the ICT software will be within the organization. Without the use of predictive analytic

models, like the SRA, organizations will likely employ contractual governance practices. In turn, the organization will see a negative effect of the ICT.

Adoption differences between rural and urban ICT users. When comparing ICT users based on micro level rural versus urban metrics, the concept of cluster membership needs to be in the forefront. Cluster membership is the collection of knowledge that an organization can access. Steinfield, LaRose, Chew, and Tong (2012) believed organizations in rural areas lack the benefits of cluster membership, whereas organizations in urban areas gain the advantages of cluster membership. The difference between these two areas is its population. From a micro perspective, organizations in rural areas are less densely populated, cannot thus benefit from ICTs as a tool of interconnectivity between internal and external stakeholders. In contrast, organizations in urban areas are more populated and harder to communicate with effectively. Using ICTs in urban areas will help increase the rate at which information dissemination occurs within the larger group of stakeholders.

Communication is critical to encouraging and engaging all parties that maintain a vested stake in the organization. Due to the population differences presented in rural and urban environments, ICT usage is different (Heath, Maghrabi, & Carr, 2015). Urban areas have more technological resources at their disposal that allow implementing ICTs easier and more cost-efficient. Urban areas increase the effectiveness of the technology by providing greater accessibility to telephone, cable, fiber optic cables, and cell phone towers that. Many rural areas lack this ability and even the capacity to hold a heavy volume of telecommunication resources (Murillo, Paco, & Wright, 2015).

ICT's and organizational size. ICTs usage occurs in both small organizations and larger organizations to help increase the efficiency of communication. Morikawa (2015) theorized ICTs help increase the effectiveness of communication within smaller organizations more than in larger organizations. This basis for this theory is size and complexity. Larger organizations are prone to having multiple channels of communication. Additionally, larger organizations tend to have a larger geographic footprint and are culturally diverse. The combination of diverse communication channels, geographic differences, and cultural diversity within a larger organization makes utilizing ICTs less efficient. In contrast, smaller organizations usually lack these complexities and can encounter more of a benefit from utilizing a single ICT.

Another way to evaluate the usage of ICTs and organizational size is the perceived benefit the ICT has to an organization. Smaller organizations can obtain more input on the selection of an ICT system, but that does not equate to wider usage. Advanced information technologies, like enterprise resource planning systems, offer smaller organizations the flexibility to purchase scalable ICTs that cater to the size and need of the organization. In contrast, larger organizations obtain less input from employees when implementing ICTs. Larger organizations have the challenge to find an appropriate ICT that suits the need for every employee. Communication and knowledge sharing software, like intranets, help with decision-making in larger organizations.

Advantages and disadvantages of ICTs. Hartyunyan, Moldoveanu, Moldoveanu, and Asavei (2015) specified certain advantages and disadvantages to using ICTs within an organization. The first advantage of ICTs is an increase in the rate of

communication within an organization. ICTs allow for regular communication that face-to-face communication could not provide without extensive use of resources. Second, ICTs increase the efficiency of organizational resources. ICTs, when implemented correctly, can serve as a comprehensive repository of information that the organization can readily draw upon when needed. Third, ICTs help to increase the reach of organizational learning. Users of ICTs can engage in web-based courses and seminars to increase their knowledge.

The first disadvantage of ICTs is the risk of purchasing hardware or software that could become obsolete. Purchasing enterprise hardware and software tools are acceptable costs of doing business. However, purchasing ICTs that become obsolete before the end of its useful life could be costly to many organizations. The second disadvantage of an ICT is the rate at which it can become a distraction to the daily operations of the organization. ICTs, when not turned-off during periods of non-use, can be a distraction and inversely affect productivity. The third disadvantage of an ICT is the high probability of inexperienced users. Users who do not know how to use the application will be reluctant to use the application. Those groups of inexperienced users who require usage the ICT tend to have a higher learning curve. The higher learning curve could lead to frustration with the new software application.

Decision-Making

Decision-making requires multiple factors to determine our perspectives and accuracy of a decision. For this reason, it is no surprise that decision-making is complex and multi-faceted. The following segments first address the psychological and cognitive

perspective of decision-making. Then, a discussion of the models that improve decision-making occurs. Last, the evaluation of organizational leadership and decision-making follows.

Psychological perspective of decision-making. The mental and emotional state of a person influences their decision-making. A study by Lii, Chien, Pant, and Lee (2013) concluded that communication mediums used during high-stress times determine the effectiveness of communicating decisions. The use of offline mediums when engaging in decision-making during a crisis control event could increase the effectiveness of communication. In contrast, the use of online mediums when engaging in decision-making and crisis control is less effective. The reason for the difference is the perception of trust (Lii et al., 2013). Individuals who participate in offline communications have higher levels of trust than individuals who solely rely on online communications to interact. The higher levels of trust are a result of reduced communication barriers when engaging in face-to-face communication.

In another study of consumer spending and satisfaction, online communication medium shows to affect profits and consumer satisfaction positively. Users of an electronic medium received higher satisfaction and increased profits (Geiger, 2014). Conducting business via an electronic medium reduces overhead expenses for the business. The consumer has the potential to receive these savings, which increases the possibility of the consumer to decide to buy the product.

Cognitive perspective of decision-making. When engaging in complex decision-making, there are numerous cognitive processes in play. The study by Mervis

and Rosch (1981) and Rosch (1975) provided a theory to the cognitive perspective called the cognitive categorization theory (Hahn, Preuss, Pinkse, & Figge, 2015). The cognitive categorization theory suggests the individual will use a well thought out process to make sense of the complex situation.

Leaders faced with ethically charged business-related decisions must use a well thought out process to understand the factors that influence decision-making (Whitaker & Godwin, 2013). These factors are social, economic, organizational, and personal. Social factors are factors that affect a person's lifestyle; examples include religion, family, financial status. Economic factors are factors that affect the cost of operation; examples include interest rates, overhead costs, and taxes. Organizational factors are factors that affect the culture of the organization; examples include leadership style, organizational size, and organizational objectives. Personal factors are factors that affect the decision and behavior of the individuals; examples include family size, family location, and culture. As made mention by Whitaker and Godwin (2013), the increased societal pressure placed on leaders have forced more decisions made from an ethical point of view.

Accuracy in decision-making. Ensuring the accuracy of a decision can be challenging. There are wide varieties of factors that come into play when engaging in decision-making. As such, predicting the accuracy of a decision can be as complex as making the decision itself. The study by Woodside and Baxter (2013) reviewed certain models decision-makers can use to improve the accuracy of decision-making. The first is the ethnographic decision tree model (EDTM). The EDTM illustrates the thought

process of a team by describing and explaining key success and failure paths. The EDTM aims to illustrate the path of choices resulting from a decision. The objective is to select the most optimal path, which ensures a favorable outcome. The second model is decision system analysis (DSA) as first described by Hulbert, Farley, and Howard (1972). The DSA is a decision-making process where theoretical configurations of what could happen within an organization affect the accuracy of decision-making. The DSA, like the EDTM, increases the accuracy of decision-making by predictive decision inputs. The third model is the content analysis model. The content analysis model gauges the accuracy of a decision when using prior written communications, such as meeting minutes and emails. Unlike the EDTM or the DSA, the content analysis model uses historical, versus predictive data, to analyze the accuracy of a decision.

Predicting the accuracy of decision-making has applications in a wide variety of industries. For example, financial planners use predictive analyses to guide where best to invest their client's money. When making decisions on the success of organizations, the annual financial report is a solid indicator of the long-term outcomes of the organization. There are multiple of factors that influence the success or failure of the organization. It becomes challenging to make an accurate decision based on numbers alone (Hajek, Olej, & Myskova, 2014). To ease the challenges, financial agents use a combination of financial numbers, product/service review, and intangible feelings to make decisions that are more accurate.

Decision-making, leadership, and paradoxes. It is no surprise that decision-making is a requirement while in positions of leadership. However, the paradoxes that

leaders create while engaging in decision-making are a surprise. Often, some leaders include paradoxes in their organizational strategy to attempt to appease internal and external stakeholders simultaneously (Smith, 2014). For example, a leader promising to increase shareholder value by decreasing operational expenses while finding a way to improve employee morale by offering more incentives to employees creates a financial paradox. The financial paradox occurs when cost-saving measures promised to shareholders and cost spending measures promised to the employees offset each other.

The answer to this paradox is in the leadership practice. The difference between transformational and transactional leadership practices play a fundamental role in the decision-making paradoxes created. Transformational leaders address the paradox of decision-making by engaging team members and collectively work together to solve the problem (Aga, Noorderhaven, & Vallejo, 2016). Transactional leaders address the paradox of decision-making by setting employee targets in return for recognition, which results in employees striving to out-perform each other (Hamstra, Van Yperen, Wisse, & Sassenberg, 2014).

Ethics also plays a role in the decision-making of a leader. Hoyt and Price (2015) concluded the ethical behavior exhibited by a leader would adversely affect the individuals within a group. A leader with strong ethics is likely to inspire ethical decision-making within their team. In contrast, a leader with lapses in ethics is likely to inspire unethical decision-making within their team. Regardless of the outcome, the leader can alter decisions in a positive, or negative, way for the organization. The ability

to alter decisions translates into effects on customer satisfaction, employee morale, and organizational finances.

Information Overload

  Data dumping. When an individual must process a significant amount of the information in a given setting, a data overload occurs. A study by Lucian (2014) concluded that the processing of high volumes of data results in the person feeling overwhelmed and confused. Data dumping occurs when the recipient of the information receives a high volume of data and then expected to review and analyze the large volume of data.

  Requiring the information recipient to decipher if the information is either meaningful or insignificant is another way data dumping attribute to information overload. Ellwart, Happ, Gurtner, and Rack (2015) claimed data dumping is an indicator that there is too much low-quality information shared. When sharing information, the information should be of a high-quality nature; meaning it should be value added. Organizations can ensure the prevention of data dumping by following the structured online team adoption (STROTA) process. STROTA is a process where individual information gathering occurred and shared amongst key members of the team. The key members then decide if the data requires dissemination of the information to the entire team. Virtual teams that follow the STROTA procedure experience less information overload and are more efficient at making decisions.

  The workplace is not the only setting an individual must process data. Social media is another medium that adds to a person's sense of information overload. Maier,

Laumer, Echkardt, and Weitzel (2015) used the social support theory to explain how social media compounds the problem of information overload that people experience. The social support theory explores the influences of social networking on a person's ability to manage interpersonal connections that exist in a social environment. As it stands, some interpersonal connections formed in the professional environment place a strain on our ability to manage information from these multiple sources. The addition of social media channels only exacerbates the problem of information overload by required individuals to both manage interpersonal and social-media information.

      Too much face-to-face communication. Organizations, which are highly complex in their cultural and racial composition, should reduce their dependency on face-to-face communication when engaging in communication. Having a culturally and racially diverse organization could lead to conflicts within the organization (Korovyakovskaya & Hyonsong, 2015). These conflicts are a direct result of the miscommunication between individuals of different cultural backgrounds. For example, certain religious practices differ based on a person's religion. Muslims observe five formal prayers each day, while many Christians pray once each day. Jewish members observe certain religious holidays that Christians do not. The result of these religious differences could disrupt organizational productivity. In environments where cultural and linguistic barriers exist, technology should help overcome these obstacles.

      A direct relationship between meaningful communication and positive leadership characteristics exists in organizational leaders. Leaders spend a significant amount of time focusing on how to cater a message to fit the varying communication styles of the

subordinates. As a result, they become less productive and often miscommunicate the message (Solaja, Idowu, & James, 2016). A leader with a perfectionist personality trait would spend too much tailoring the message to a diverse audience, causing hesitation and a loss of productivity. Organizational leaders should understand that not every person would receive the message as intended.

Interpersonal communication, also known as face-to-face communication, is integral to daily operations within organizations. Škare and Kostelic (2015) utilized the game theory approach to explaining how two separate groups of people interact. The game theory approach explains why a certain word or phrase causes the receiver of the message to become less receptive to anything said. The processing of communication information in real time creates the possibility of misinterpretation of the words. Failure to use proper word choices could be detrimental to the communication channel. The use of an electronic medium is a solution towards the prevention of failed communication resulting from poor word choice. Electronic communications allow the sender to type their comments, proof it, and rephrase their wording before sending the message.

Too much electronic communication. There are two forms of technologies: disruptive and sustaining. Disruptive technologies, like email and smartphones, could result in the feeling of isolation and do little to advance the notion of a team setting. Sustaining technologies, like Skype and other video conferencing software, help to eliminate the feeling of team isolation by bridging some of the interpersonal aspects of communications with the positive side of technology. Over utilizing either form of technology in the organization does have adverse effects. McMurtry (2014) discovered

too much computer-mediated communication could lead to the feeling of isolation, anxiety, and loss of control. Promoting a work environment where employees are in constant contact results in longer work days and a faster pace of work. Additionally, the constant interruptions of email notifications result in task fragmentation. Since the overuse of computer-mediated communication can lead to negative feelings of isolation, anxiety, and loss of control, making the shift towards interpersonal communication would aid in reversing the negative feelings.

Furthermore, the excessive utilization of electronic communication in an organization could lead to confusion between what are work and non-work activities. The study conducted by Bowman (2016) found electronic communications, if not balanced with interpersonal relationships, could cause department silos to form. Leaders who actively promote the usage of ICTs unknowingly create divisions between their department and others.

Chang, Hung, and Hsieh (2014) model of virtual teams suggested establishing a balance between human usage and technology usage could result in higher levels of trust and cooperation. Virtual teams help lessen cultural barriers and form trust by serving as an intermediary for communication. Trust is paramount to the success of the team, regardless if the team conducts its meetings in a virtual setting or an interpersonal setting. Organizational leaders should recognize that face-to-face presence of the team makes for establishing trust easier interpersonally than virtually.

Freezing: the inability to make decisions. Regardless of an individual's position within an organization, decision-making is a complex process. The correct, or

incorrect, decisions typically depends on the amount of information collected and reviewed. One element that causes a leader's inability to make decisions is data overload. Leaders prefer to wait for more information before making a decision (Håkonsson & Carroll, 2016). Waiting for more information could result in large amounts of data to process. Håkonsson and Carroll (2016) proposed the solution to the problem of data overload is to make decisions based on the main facts. Leaders should not dwell in the realm of complete certainty when making decisions. Instead, make decisions based on the probability of the desired outcome. Leaders refer to this ability to make decisions off the outcome probability as their gut feeling.

Knowledge management practices allow organizations to acquire and store data in a method that allows for quick data analysis and more accurate decision-making. Knowledge management occurs in four phases: knowledge creation, knowledge retention, knowledge transfer, and knowledge application. Migdadi and Abu Zaid (2016) believed there is a vast amount of organizational knowledge, but only the retention of pertinent information needs to occur. Otherwise, the overabundance of useful and irrelevant data diminishes data transfer capabilities. When this happens, the leader either receives too much information or receives the incorrect information. Poor decision-making is the result of either receiving too much information or receiving inaccurate information.

Alternative to the Extremes

Interpersonal communication. Dubois, Bonezzi, and De Angelis (2016) suggested increased amounts of interpersonal communication could result in increased

amounts of negative word of mouth communication. Interpersonal communication provides the opportunity for more discrete conversations to occur. Although this discretion is helpful for covert conversations, it presents the appropriate medium to communicate negative information while simultaneously protecting the source of information. Motives behind interpersonal communication and increased negative word of mouth communication are self-enhancement and the protection of others. Since self-enhancement and the protection of others aid in spreading negative word of mouth communication, promoting more electronic communication could diminish the adverse effects. Chen and McDonald (2015) recommended the use of ICTs to encourage group collaboration and accountability.

Interpersonal communication is essential to building a team that trusts each other. Nirwan (2014) predicted teams with high amounts of interpersonal communication have higher levels of trust than organizations that have low amounts of interpersonal communication. Additionally, higher levels of interpersonal communication correspond to team performance. Teams that trust each other perform better than teams with elements of distrust. The findings presented by Nirwan (2014) supported the claims made by Dubois et al. (2016). Increased interpersonal communication fosters more word of mouth communication, which translates into increased organizational trust. The perception is this 'trust' is positive. However, Dubois et al. (2016) study concluded that this form of trust is not necessarily always a positive for the organization and could result in negative word of mouth communication.

Electronic communication. Social transmission, the act of sharing information between two or more individuals, has increased over the past few decades (Berger, 2013). The increase in social transmission is a direct result of the uptake of information communication technologies. The overuse of electronic communication can draw people into a feeling of isolation; giving the impression that data shared is private. Increased cybersecurity and a disassociated social presence give the false impression that information shared via an electronic medium is private. However, most electronic communication systems have tools in place to allow specific users to obtain and review electronic communication.

There is a growing concern about the constant bombardment of electronic notifications on a person mental stability (LaRose, Connolly, Lee, Li, & Hales, 2014). Although people enjoy the benefits of receiving social media updates on the events of their peers, the continual electronic alerts received does cause concern for the psychological well-being of a person. Heavy doses of electronic communication can lead to sleep deprivation and feelings overwhelmed. Staying electronically connected does present the advantage of having information made readily available to a person. However, spending too much time attached to an electronic medium can negatively affect a person's well-being.

Happy medium. The effective use of ICTs in organizations establishes a balance between too much interpersonal communication and electronic communication. As mentioned by Chen and McDonald (2015), ICTs encourage group collaboration and maintains individual accountability. ICTs like email, text messaging, and instant

messaging allows for the quick dissemination of information to a single person or a group of individuals. Additionally, many organizations create internet and communication policies, tailored to the culture of the organization, which establish clear guidelines on how to use the ICTs properly. This healthy form of communication allows information to flow freely amongst the organization, therefore, influencing the rate and accuracy decision-making within the organization.

Summary and Conclusions

The second chapter included an extensive review of the literature about the application of technology for decision-making and if there are implications for trading the benefits of non-verbal communication for the speed of digital communication. The reviewed literature contained the types of non-verbal cues in an organizational setting, the factors that influence the usages of ICTs in an organization, and the effects non-verbal cues and ICTs have on decision-making. Additionally, this chapter included the literature search strategy and conceptual framework in detail.

The literature review contained certain findings of the use of ICTs and non-verbal cues to aid in decision-making. ICTs, or information and communication technologies, are technological applications that assist communication. When reviewing the topic of ICTs and decision-making in the organization, there is strong evidence that supports the claim that technology increases the rate at which information sharing occurs amongst decision-makers (Díaz-Chao et al., 2015; Hartyunyan et al., 2015; Steinfield et al., 2012; Teryima & Sunday, 2015). As a result, decisions occur at a faster rate than without the use of ICTs.

Reviewing the literature on non-verbal cues included an insight into the potential benefits of utilizing non-verbal cues to make decisions. Non-verbal cues provide certain signals that are difficult to detect when solely relying on technology to communicate. Nonetheless, there are some drawbacks to utilizing non-verbal cues over technology in an organizational setting. First, noticing non-verbal cues when engaging in face-to-face communication could be costly to maintain on a reoccurring basis. Second, non-verbal cues could be misleading if not properly acknowledged by the receiver of the communication channel.

The topics covered in this literature review explored how the excessive utilization of technology to make decisions could diminish the added benefits non-verbal communication could bring to organizational leadership decision-making. Chapter 3 included an explanation of the research methodology and support as to why a qualitative exploratory multiple case study was best suited for this research study.

Chapter 3: Research Method

The purpose of this qualitative exploratory multiple case study was to explore how excessive utilization of technology to make decisions could diminish the added benefits non-verbal communication could bring to organizational leadership decision-making. Although the use of technology is valuable in an organizational setting, the excessive utilization of technology can remove the leader's ability to detect the non-verbal cues of the audience (Albardiaz, 2014; Senescu et al., 2013).

I assumed a qualitative approach for data collection. Interviews with organizational leaders help to gain an understanding of their interpretation of the concepts of non-verbal communication, technology, and decision-making. Data collected from interviews and a qualitative questionnaire explored how technology could influence decision-making and what were the potential implications regarding trading the benefits of non-verbal communication for the speed of digital communication.

Chapter 3 of this Proposal included an extensive review of the research methodologies. The research methodology contains the qualitative exploratory multiple case study approach used. The sections that follow include the research design and rationale, role of the researcher, methodology, issues of trustworthiness, summary, and conclusions.

Research Design and Rationale

Central RQ: How does excessive utilization of technology to make decisions diminish the added benefits non-verbal communication can bring to organizational leadership decision-making?

RQ 1a: How do organizational leaders describe the benefits non-verbal communication has on decision-making?

RQ1b: How do organizational leaders utilize technology to make decisions?

RQ1c: How do organizational leaders describe the meaning they give to non-verbal communication when decision-making?

Central Concept of the Study

The conceptual basis for this study was the synthesis of four concepts that are prevalent in organizations: non-verbal communication, decision-making, and technology. The *interpersonal sensitivity effects on perception of service quality* model by Puccinelli et al. (2013) provided the groundwork for non-verbal communication for this study's conceptual framework. Ashraf, Narongsak, and Seigyoung (2014) provided the groundwork for technology by utilizing Davis's (1989) technology acceptance model (TAM) to determine what drives individuals to accept a new form of technology.

Salter, Douglas, and Kember (2017) provided the groundwork for decision-making by comparing face-to-face communication and asynchronous online dialogue for their abilities to solve problems in a team setting. The work of March and Simon (1993) on the decision to produce and the decision to participate provides an additional conceptual framework on decision-making. By combining these four concepts, I explore the problem of how the excessive utilization of technology to make decisions can diminish the added benefits non-verbal communication can bring to organizational leadership decision-making.

Research Tradition and Rationale

The research tradition proposed in this research study followed a qualitative exploratory multiple case study research design. A qualitative exploratory multiple case study approach served three purposes. First, the case study approach provided alignment with the research questions. Second, the case study approach allowed for better alignment with the purpose of this study. Third, the case study approach provided a more considerable amount of perspectives on this issue.

Neither a quantitative research methodology nor mixed methods research methodology was chosen for this research because this study aims to gather an in-depth understanding of how technology affects decision-making and if there are implications for trading non-verbal communication for the speed of digital communication. Interviews and a qualitative questionnaire are used to collect the findings to explore the influence on decisions made with and without the use of technology. For this reason, a qualitative case study approach was best suited. Using a case study approach provided the opportunity to explore the research problem and how it could influence the behavior of organizational members.

Role of the Researcher

Due to the nature of this study, an interviewer role provided the opportunity to collect qualitative response. The use of open-ended questions provided more insight into the utilization of technology as the primary form of communication. A voice recorder and interview notes were additional data sources that support data collected from the interview.

Approximately 20 interviews collected an appropriate amount of information. In addition, participants completed a qualitative questionnaire. The research participants were individuals known for both professional and personal experiences. Additionally, participant mixture included professionals from profit and non-profit organizations.

In efforts to ensure the integrity of the research, this study requested that research participants answer interview questions that do not create an element of bias. The participants come from non-profit and for-profit organizations within Southern California that have no direct personal or financial interest in the use of ICTs in their organizations other than the use to communicate. Also, the connections between the participants and the researcher are professional. The professional relationships prevent the dynamics of power relationships to interfere with the outcome of the findings.

Methodology

Participant Selection Logic

The study involved the interview of approximately 20 research participants located in Southern California. These participants were a mix of men and women participants between the ages of 21 to 65. The participants came from a combination of entry, mid, and senior organizational levels of for-profit and non-profit organizational models.

The selection basis for the research participants aimed to remove potential research biases. These factors were organizational seniority, age, type of organization, and locality. The experience was a factor because interviewing participants with varying levels of seniority would provide a more holistic approach to exploring the case study.

Age, like experience, was also a factor because different age demographics help eliminate biases in the findings. Selecting participants that are members of for-profit and non-profit organizations reduces possible research biases based on the structure or profit motive of the organization. Participants were in the Southern California region because this region provides a culturally diverse participant pool.

Table 1 provides a list of organizations that each proposed research participant is a member. Of the 20 professionals targeted, there is an even mix of for-profit and non-profit organizational members. Additionally, the spread between senior, mid, and entry-level employees is similar between the for-profit and non-profit organizations.

Table 1

List of Research Participant's Organizations and Selection Criteria

Participant	Company	Status	Role
1	Fox Studios	For-Profit	Senior Level
2	Raytheon Space and Airborne Systems	For-Profit	Senior Level
3	Nickelodeon	For-Profit	Senior Level
4	M. Perry Designs	For-Profit	Senior Level
5	Grindr	For-Profit	Mid-Level
6	Warner Brothers	For-Profit	Mid-Level
7	International Business Machines	For-Profit	Mid-Level
8	ABC Disney	For-Profit	Entry-Level
9	Warner Brothers	For-Profit	Entry-Level
10	Raytheon Space and Airborne Systems	For-Profit	Entry-Level
11	The Now Boarding Corporation	Non-Profit	Senior Level
12	The Now Boarding Corporation	Non-Profit	Senior Level
13	The Now Boarding Corporation	Non-Profit	Senior Level
14	The Now Boarding Corporation	Non-Profit	Senior Level
15	Public Broadcasting Services	Non-Profit	Mid-Level
16	Santa Monica College	Non-Profit	Mid-Level
17	California State University at Northridge	Non-Profit	Mid-Level

			(continued)
Participant	Company	Status	Role
19	Public Broadcasting Services	Non-Profit	Entry-Level
20	California State University at Northridge	Non-Profit	Entry-Level

The participant pool included approximately 20 professionals located in Southern California. Half of the professionals have primary experience contributing to for-profit organizations as either a leader or an employee. The other half of the professionals have primary experience contributing to non-profit organizations as a leader or an employee. The reason for this selection was to remove the element of research bias caused by organizational profit structure. Due to having some form of professional relationships with each of the research participants, soliciting these participants transpires via phone. Confirmation emails confirm the phone discussion and possible dates, times, and locations to carry out the interview.

Instrumentation

Since this study assumed a qualitative exploratory multiple case study approach, interviews and qualitative questionnaires are the primary data collection instrument. The use of researcher produced interview protocols and qualitative questionnaire provided two separate sources for data collection and analysis. The research questions and qualitative questionnaire presented in the study centralize on technology, non-verbal cues, and the influence on decision-making. More specifically, the study explored how the utilization of technologies affects decision-making and if there are implications for trading the benefits of non-verbal communication for the speed of digital communication.

Interview. The primary data collection tool for this study was one-on-one interviews with the research participants. Interviews occurred in an environment that is free from outside distractions. The interviewer asked a series of open-ended questions to the research participant. The interviewee then responded to each question. Additional questions followed if responses are vague. The goal of this process was to create a structured dialogue were research data was natural. Although most of the data gathering occurred through the interview process, interview transcripts and direct observation notes support the data collected from interviews.

Qualitative questionnaire. The qualitative questionnaire was the second research instrument used to collect data. The questionnaire was a series of open-ended questions presented to research participants that focuses on the participant's views on technology, non-verbal communication, and decision-making. The qualitative questionnaire captures data from another perspective.

Researcher-developed instruments. Numerous literature sources served as the basis for instruments development (Ai & Wu, 2016; Cohanier, 2014; Moore, 2016; Newton & Sundin, 2016). The focuses of these studies were communication, ICTs, and decision-making respectively. Each of these studies conducted varying amounts of interviews to collect data for their qualitative case study. Importantly, these studies were able to achieve content validity by carrying out transparent interviews and questionnaires.

Content validity. Four factors created methodological triangulation. First, the composition of research participant pool was members of for-profit and non-profit organizations. Second, either research participants were at senior, middle, or entry levels

within their organization. Third, this study intended to have an even mix of people who identify as either men or women. Fourth, the ages of the research participants grouping have a basis on Severt et al. (2013) classification of who belongs to which generation.

Procedures for Recruitment, Participation, and Data Collection

Interview. Questions used to form the interview protocol originate from the research questions and the input of the dissertation committee (see Appendix A). For the purposes of this study, the overall objective of the interview protocol was to provide a semi-structured interview where the researcher asks each participant a series of 10 questions. Approximately 20 individuals located in the Southern California region will receive a request to participate. Each interview occurred once and will took anywhere from 30 minutes to 1 hour, including member checking. The length of time depends on the participant and the answers supplied. An audio recorder was the primary data collection tool. Additionally, direct observational notes captured actions gathered by the audio recorder. Solicitation of additional research participants occurred in the event there are initially too few participants to conduct the interview protocol.

Qualitative questionnaire. The objective of the qualitative questionnaire used in this study was to provide an additional source for data collection and analysis. Approximately 100 individuals located in the Southern California region received an email requesting their voluntary participation within 15 days of receiving the email. The email contains a link to SurveyMonkey, an internet-based survey collection tool. Since participation is voluntary, this study used no incentives to encourage engagement. Only one submission of the qualitative questionnaire allowed per person. After 15 days, I

closed the questionnaire and analyzed responses. Solicitation of additional research participants occurred in the event there were initially too few participants to conduct the qualitative questionnaire protocol.

Exit strategy. Once the interview concluded, the research participants could ask questions to the researcher. These questions varied based on the thoughts of each research participant. In the event I needed additional questions, follow-up discussions occur in the same environment of the interview. Research participants can read the combined analysis and findings upon the conclusion of the study.

Data Analysis Plan

Interview. The interviewer collects data with the aim of providing data to answer the central research question and research questions 1a through 1c. Transcription processes placed the interview question responses into a format for systematic coding. Once the transcripts are available, member checking assisted with the accuracy of the transcripts. Member checking allowed participants to review the researcher's interpretation of responses for validation. I allowed research participants a week to review their responses and provide corrections as needed. I reviewed transcripts and member checked responses for any changes and make the necessary adjustments.

Once the member checking process concluded, reviewing of the interview transcripts, member checking data, qualitative questionnaire data, and the observational notes occurred using Yin's five-step method for qualitative data analysis as outlined by Durodola, Fusch, and Tippins (2015). First, *compiling* requires the collection of data gathered from interview transcripts, member checked forms, and observational notes and

organization of the data in a way that allows for connection to the research questions. Second, *disassembling* involves digesting the organized data into smaller sub-groups and tagging the sub-groups with labels. Third, the *reassembling* process is the attempt to see if patterns emerge during the rearranging of labeled sub-groups. Fourth, the *interpretation* process is where connections between the data and research questions emerge to form narratives that answer the research questions and leads to the *conclusion* process of the analysis.

The software used for coding is NVivo 12 for Mac. NVivo 12 for Mac is qualitative and mixed methods software that allows for storing, coding, and analysis of interviews, survey responses, articles, and social media posts (QSR International Pty. Ltd., 2017). The coding procedure occurred in two steps. First, NVivo 12 establishes a list of pre-set codes based on the perceived responses to the interview questions. Second, the researcher develops a list of codes discovered from interview responses. Emergent codes originated from the two sources: common responses that have not been pre-determined and discrepant cases.

Qualitative questionnaire. The qualitative questionnaire collected data, with the aim of providing data to answer the central research question and research questions 1a through 1c. Participants entered their responses in the online questionnaire and submit their questionnaire once all questions have a response. Participants had 15 days from receipt of the email invitation to complete the questionnaire.

After the 15 days, reviewing of the data from the qualitative questionnaire occurred using Yin's five-step method for qualitative data analysis as outlined by

Durodola et al. (2015). First, *compiling* requires the collection of data gathered from interview transcripts, member checked forms, and observational notes and organization of the data in a way that allows for connection to the research questions. Second, *disassembling* involves digesting the organized data into smaller sub-groups and tagging the sub-groups with labels. Third, the *reassembling* process is the attempt to see if patterns emerge during the rearranging of labeled sub-groups. Fourth, the *interpretation* process is where connections between the data and research questions emerge to form narratives that answer the research questions and leads to the *conclusion* process of the analysis.

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Coding all the data together. Finally, I coded all data from the interviews and from the questionnaire together using the same process detailed above. Coding all data together and not in silos demonstrated methodological (within method) triangulation as explained by Durodola et al. (2015).

Issues of Trustworthiness

Credibility

The study used methodological triangulation to establish credibility and ensure internal validity. Specifically, the study assumed a within-method triangulation approach over a between-method triangulation approach. A within-method triangulation approach allowed for the use of a single research approach but employed multiple strategies to evaluate the data. While interviews were the main data collection method, the use of observational notes and transcripts of audio recordings, which derive from the interviews, created an opportunity to use various strategies to analyze responses. Additionally, the use of data from the qualitative questionnaires enhanced the understanding of the strategies. This approach to ensuring research credibility draws its basis from Denzin (1989) and Bekhet and Zauszniewski (2012) explanation of the methodological triangulation technique.

Transferability

The reader determines transferability (Porte, 2013; Schwandt, Lincoln, & Guba, 2007). The study used variation in participant selection, detailed observational notes, as well as rich and thick data to enhanced transferability. There were 20 research participants used in this study. Of the 20, ten belonged to for-profit organizations, and the other ten belonged to non-profit organizations. Of the ten for-profit research participants, four will be senior leaders in their organization. The other six were three mid-level employees and three-entry level. Of the ten non-profit research participants, four were

senior leaders in their organization. The other six were three mid-level employees and three-entry level.

In addition to the variation in participants, detailed observational served as a vehicle to gather human behavioral responses to the research questions. The method for ensuring transferability, called the thick description, is a valid method to enhance the probability of transferability (Geertz, 1973; Serra, 2016). During each interview, observational notes collected behavioral responses that audio recordings do not easily capture. These observational notes aim to provide enough context that anyone could determine if parts of the research findings are applicable in subsequent studies (Schwandt et al., 2007).

Dependability

Research participants received a briefing on the interview procedure before conducting the interview. During this time, the researcher and the participants discussed any potential misunderstandings with the consent form or the interview procedure. Protocol forms outline key steps followed during the data collection process. Additionally, the use of methodological triangulation created reliable data. Analyzing and comparing observational notes and transcripts from audio recordings to responses from interview questions establishes within-method methodological triangulation.

Confirmability

This study used a variety of methods to ensure confirmability. The first method was interviewee transcript review. Interviewee transcript review is a supported confirmability method where the participants review the collected data to verify the

accuracy (Connelly, 2016). Hagens, Dobrow, and Chafe (2009) agreed that interview transcript review provides an additional level of verification. Hagens et al. (2009) argued interview transcript review could offer a low positive net impact on the transcript data. Interviewee transcript review could allow interviewees to change, or remove, responses, causing a loss of data. To mitigate this potential bias, any removal or change of a response prompted a review by the researcher to ensure the change was necessary.

Data saturation was another method used to ensure confirmability. Data saturation dictates that research collection continues until no new themes emerge. If at the end of the 20 interviews and the qualitative questionnaires, no new themes emerge, the study has achieved data saturation and the sample size is adequate. It is possible that individual data collection activities can yield in data saturation but at a slow rate (Hancock, Amankwaa, Revell, & Mueller, 2016). Regardless of the data saturation rate, the procedure of ensuring data saturation shows to serve as an adequate method of validating the sample size in qualitative research (Boddy, 2016).

Ethical Procedures

The Institutional Review Board (IRB) at Walden University sets the definitions of ethical procedures for data collection in this study. IRB approved this research study; Walden University IRB approval number is 11-29-18-0392536. No research occurred before IRB approval.

E-mail invitations soliciting for participation occurred before the interview. As part of the IRB approval, research participants signed the Consent Form before conducting the interview. Appendix B provides a copy of the Consent Form submitted to

research participants. Research participants had seven days to review the form and ask questions and address any concerns. Additionally, participants may reject signing the form. Not signing the form disqualified the research participant from participating in the study. New research participants will replace any disqualified research participants.

Appendices C, D, and E illustrate the protocol for conducting interviews, observations, and interviewee transcript review. Interviews occurred in a controlled space; conducting interviews in a controlled space reduces possible distractions. In the event interviews occurred at the research participant's location, permission to conduct interviews on the participant's premises is a part of their consent form. Also, research participants may refuse participation or withdraw early from the study. If participants elected to withdraw, I removed their findings from the study and participants did not receive any repercussions for their decision. An example of the qualitative questionnaire is in the appendices.

Interview participants received reassurance of their privacy at the onset of the interview. None of the research participants were apart a vulnerable population. The 2017 edition of the *International Compilation of Human Research Standards,* located within the U.S. Department of Health and Human Services website, provided requirements for researching non-vulnerable adults in California, and none applied to this study (U.S. Department of Health and Human Services, 2016). Interview questions from the interview did not ascertain any humiliating or hostile information. Additionally, there was zero conflicts of interest with this population. A lock and key safe secured the external hard drive that contains data collected via electronic notes, audio recordings, and

for a minimum of five years. After the completion of the study, a licensed document shredding company will destroy paper versions of transcripts. I maintained confidentiality throughout the data collection and analysis.

Summary

The third chapter contained an extensive review of the employed research methodology. The research methodology included the research design and rationale, the role of the researcher, and the methodology. Additionally, the third chapter included how this study deals with the issues of trustworthiness: credibility, transferability, dependability, and confirmability.

This qualitative exploratory multiple case study research design assumed a collective case study approach. A collective case study approach served three purposes. First, the collective case study approach provided alignment with the research questions. Second, the collective case study approach allowed for better alignment with the objective of this study. Third, the collective case study approach provided a greater amount of perspectives on this issue.

Since this study aimed to gather an in-depth understanding of how excessive utilization of technology to make decisions could diminish the added benefits non-verbal communication brings to organizational leadership decision-making, a quantitative research methodology nor mixed methods research methodology would be adequate research methods for collecting data. The behavior of decision-making could determine if the use of information communication technologies influences the accuracy of decision-making. For this reason, a qualitative case study approach was best suited. Using a

collective case study approach provided the opportunity to observe and study this behavior in a real-world setting.

     The areas covered during this research methodology section explored the data collection method used. Moreover, the literature explored why a qualitative exploratory multiple case study approach was best suited for this study. Chapter 4 is set to review the research results and common themes discovered.

Chapter 4: Results

The purpose of this qualitative exploratory multiple case study was to explore how the excessive utilization of technology to make decisions could diminish the added benefits non-verbal communication could bring to organizational leadership decision-making. Xiaojun and Venkatesh (2013) explained how the dependency on technology to produce and disseminate information could be problematic on employee job performance. Their assumptions claim the reliance on technology as the main channel for workplace communication places faith in technology systems over human capital. The use of technology can be of value; however, excessive utilization of technology can remove the leader's ability to detect the non-verbal cues of the intended audience (Kožić et al., 2013).

This study set to provide insight into one central question, how does excessive utilization of technology to make decisions diminish the added benefits non-verbal communication can bring to organizational leadership decision-making? Additionally, I formed three sub-research questions to better explore the central research question. The first sub-research question asked how do organizational leaders describe the benefits non-verbal communication has on decision-making? The second sub-research questions asked how do organizational leaders utilize technology to make decisions? The third sub-research question asked how do organizational leaders describe the meaning they give to non-verbal communication when decision-making?

Research Setting

During this study, there were no organizational conditions that influenced participants responses to the research questions. However, one participant made note that she was recently engaged. This event had zero impact on her responses to the interview questions.

This study used two qualitative research data collection methods, interviews and questionnaires. Interviews served as the primary qualitative research methodology. Questionnaires were the secondary research methodology. Using these two forms of research helped to establish confirmability in the study by determining if the themes that emerged from the interviews are like the themes that emerged from the questionnaires (Heath, Williamson, & Harcourt, 2018).

Interviews

I selected research participants by Linked-in profiles. I searched through 1st degree Linked-In connections for potential research participants. Selection criteria included (a) personally located in Southern California, (b) being currently employed, and (c) currently holding a position of at least manager/ supervisor as identified in their profile. Direct messages via linked-in was the method for contacting research participants. I elected to send emails over direct messages to individuals who provided their email address in their Linked-In profile. Direct messages and emails followed a standard template. To increase the likelihood of responses, I changed the greetings line of each message by personally greeting the recipient of the message.

There was a total of 25 research participants who took part in the interviews. Interview participants took part in an interview via WebEx that lasted between 30 to 50 minutes for each participant. In Chapter 3, interviews were to occur in person at a public library. However, due to the availability and the recommendation of research participants, conducting interviews via WebEx allowed for more flexibility in participant's schedules and increased the participation rate of the study.

After research participants agreed to the interview and signed the consent form, participants received a WebEx calendar invite. The invite included a unique website link tailored to each participant. This prevented participants from joining or listing in on another participant's interview. Additionally, the participants were aware to be in a quiet place while the WebEx interview occurs.

Once the interview started, the webcam, speakers, and audio were on. Interview participants positively received this form of interviewing. During the interview, there were minor technical difficulties. These technical difficulties included brief loss of internet connectivity with one participant and inaudible responses to questions for another participant. In both scenarios, the technical issues ended, and asked to restate their responses.

At the end of each WebEx interview, WebEx recordings captured the audio in an MP4 format. As a redundancy, the voice recording feature included in the iPhone served as a backup in case retrieving the MP4 file failed. Trint, an online audio and video transcription service, transcribe the MP4 files into word documents for analysis and summation.

Questionnaires

Interview participants provided the contact information for prospective questionnaire participants. Each interview participant provided a list of names and email address of individuals whom they know from either professional or personal relationships. I received 105 email address from the interview participants. I entered the email addresses into SurveyMonkey and sent a web address to the prospective participants requesting them to participate in the questionnaire.

Within the first week of opening the questionnaire, the response rate was low. I received 6 responses at the end of the first week. At the start of week two, I sent reminder emails to all participants. The use of reminder notifications helps to increase participation (Park, Park, Heo, & Gustafson, 2019). At the end of week two, I received a total of 15 questionnaires out of 105 requests for participation; a response rate of approximately 14%.

Each participant only submitted one response to the questionnaire. The estimated time to complete each questionnaire was 15 minutes. However, based on response data from SurveyMonkey, questionnaires took anywhere from 2 minutes to 20 minutes to complete. After a period of 2 weeks passed, access to the questionnaire concluded and data collection occurred. SurveyMonkey automatically gathered the responses into a spreadsheet for coding and analysis.

Demographics

Table 2 illustrated the percentage of research participants by a qualitative method. A total of 40 research participants, 60% of research participants participated in the

interviews and 40% of the research participants participated in the questionnaire.

Interviews were the primary research method. The questionnaire was the secondary

research method and helped to establish confirmability in the study.

Table 2

Research Participants by Qualitative Method

Qualitative Method	No. of Participants	Percentage of Participants
Interview	25	60%
Questionnaire	15	40%
Total	40	100%

Another demographic captured was the profit status of the organization the

research participants were associated with. Table 3 illustrates 55% of research

participants are members of for-profit organizations. Whereas 45% of research

participants are members of non-profit organizations. Responses of research participants

provided their organization's profit status.

Table 3

Research Participants by Profit Status

Organization's Profit Status	No. of Participants	Percentage of Participants
For Profit	22	55%
Non-Profit/Not-For-Profit	18	45%
Total	40	100%

Organizational seniority was the third demographic captured in the study. Table 4

illustrates out of the 40 research participants, 40% held the title of director or executive,

30% were managers, and 30% were team leads or supervisors. Research participants described their seniority in their response to research question #1. See Appendix A for a list of research questions.

Table 4

Research Participants by Organizational Seniority

Organizational Seniority	No. of Participants	Percentage of Participants
Director - Executive	16	40%
Manager	11	30%
Team Lead - Supervisor	13	30%
Total	40	100%

Gender was the final demographic captured in this study. Table 5 illustrates 50% of the interview research participants were male and 10% were female. The questionnaire didn't capture participant gender and represents 40% of individuals who did not provide their gender.

Table 5

Research Participants by Gender

Gender	No. of Participants	Percentage of Participants
Male	20	50%
Female	5	10%
Did Not Provide	15	40%
Total	40	100%

Data Collection

I employed a qualitative exploratory multiple case study approach. Using multiple case studies allowed me to study the experiences of 40 individuals and form themes

based on their responses to the research questions. This case study approach follows Di Mauro, Fratocchi, Orzes, and Sartor's (2018) approach when they studied five cases of offshoring and backshoring activities at five organziations. In addition to using a multiple case study approach, I used two qualitative research methods to collect data. Interviews served as the primary qualitative research data collection methodology. Questionnaires were the secondary data collection methodology. Using these two forms of research helped to establish credibility in the study by determining if the themes that emerged from the interviews are like the themes that emerged from the questionnaires (Bekhet & Zauszniewski, 2012; Denzin, 1989).

Interviews

Interviews began with the first participant on January 3, 2019 and concluded with the last participant on January 15, 2019. Over the course of 12 days, I conducted 25 interviews, averaging about two interviews each day. Interview protocol, as outlined in Appendix B, lists the questions and procedures maintained for each interview. Additionally, Appendix C lists the observation protocol for taking notes on responses during the interview.

At the conclusion of each interview, I used Trint to transcribe the audio recordings of the interviews. Following the interview transcript review protocol outlined in Appendix D, I emailed the interview participants of copy of the transcribed audio recording for their review. I requested participants review and provide corrections to the transcript within two weeks of receiving the transcript. If there were any corrections to the transcript, both my initial interpretation and their correction remained on the

transcript for analysis. Some participants needed multiple reminder emails, but I was able to get all participants to review and confirm the accuracy of the transcript.

I used the interviewee reviewed transcript to start the member checking protocol, as described in Appendix E. For every interview participant, I summarized their interviewee reviewed transcript into ten different paragraphs. Each paragraph was a response to the ten interview questions. I then asked participants to review my summations and provide feedback within two weeks of receiving my email. As with the interview transcript review, some participants needed multiple reminder emails. Eventually, all 25 participants confirmed my summation was an accurate reflection of their responses. I uploaded the member checked forms to NVivo 12 for coding.

Questionnaire

Questionnaires were the secondary data collection methodology. Starting on February 20, 2019, 15 individuals participated in the questionnaire; following the questionnaire protocol detailed in Appendix G. The questions provided in the questionnaire were the same questions asked to interview participants. The estimated time to complete each questionnaire was 15 minutes. However, based on response data from SurveyMonkey, questionnaires took anywhere from 2 minutes to 20 minutes to complete.

After a period of 2 weeks passed, access to the questionnaire concluded and data collection occurred. SurveyMonkey automatically gathered the responses into a an excel format. I took this excel spreadsheet and converted it to a word document. I then uploaded the word document into NVivo 12 for coding.

Data Analysis

As mentioned in Chapter 3, data analysis for both the interview and questionnaire followed Yin's 5-step method for data analysis as outlined by Durodola, Fusch, and Tippins (2015). First, *compiling* requires the collection of data gathered from interview transcripts, member checked forms, and observational notes and organization of the data in a way that allows for connection to the research questions. Second, *disassembling* involves digesting the organized data into smaller sub-groups and tagging the sub-groups with labels. Third, the *reassembling* process is the attempt to see if patterns emerge during the rearranging of labeled sub-groups. Fourth, the *interpretation* process is where connections between the data and research questions emerge to form narratives that answer the research questions and leads to the *conclusion* process of the analysis. The following outlines the data analysis plan for interviews and questionnaires.

Interview

The interview collected data with the aim of providing data to answer the central research question and research questions 1a through 1c. Upon completion of the interviews, Tint transcribed the audio recordings into a word document. I asked interview participants to review the transcripts for accuracy. Interview participants emailed either their corrected transcript or their confirmation the transcript was accurate. From there, I summarized each transcript into ten different paragraphs. Each paragraph was an answer to the ten interview questions. I asked interview participants to review my summaries and provide corrections or confirmation that my summation was correct. I uploaded the member checked forms to NVivo 12 for coding and analysis.

The first step in data analysis was compiling the member checked forms in NVivo 12. Second, disassembled the data by running word frequency tests and word search queries to establish codes in the interview data. Third, I reassembled the data by grouping the codes together which formed themes. Fourth, I interpreted the data by applying the themes to the central research question and sub-research questions a through c. Lastly, I concluded analysis of the interview responses and began evaluating the questionnaires.

Questionnaire

The goal of the questionnaire was to assess if I achieved data saturation. I compared themes from the questionnaire with the themes from the interview. If I found similar themes between the interview and questionnaire, then I know I achieved data saturation. I used SurveyMonkey to administer the questionnaire. Interview participants provided me email address of individuals they know either professionally or personally. I entered these email addresses in SurveyMonkey, and SurveyMonkey sent an introductory email and link to participant. Questionnaire participants proceeded to answer ten open-ended questions. These questions were the same questions asked to the interview participants. After I closed the questionnaire, I gathered the responses and began to analyze the data using Yin's 5-step approach to data analysis.

The first step in data analysis was compiling the questionnaire responses in NVivo 12. Second, disassembled the data by running word frequency tests and word search queries to establish codes in the questionnaire data. Third, I reassembled the data by grouping the codes together which formed themes. Fourth, I interpreted the data by comparing the themes from the questionnaires to the themes of the interview. I could not

establish any new themes in the questionnaire data. As such, I concluded the analysis of the questionnaire data.

Codes

In analyzing the data, Table 6 outlines the eight codes and themes that emerged from the data analysis. For each of the codes and themes, Table 6 includes the keywords obtained from the interviews and the questionnaires. These words were some of the most commonly referenced words by the participants and discovered through the word frequency test conducted in NVivo 12.

Table 6

Codes and Themes

Codes	Themes	Key Words
Age Differences	Generational differences matter when engaging in communication	Baby boomers Generation X Generation Y Generation Z Millennials
Decision-Making	Decisions are based on data and personal connections	Policies & procedures Interpersonal relationships
Meetings	Importance determines communication method	Audience Subject matter
Miscommunication	Miscommunication can occur with technology	Misreading emails Tone
Non-Verbal Communication	Non-verbal communication is more than just body language	Technology Body language

| | | (continued) |
Codes	Themes	Key Words
Technology	Technology has a place in almost everything organizations do	Email Hardware Software Phone
Traumatic	Technology can create problems	Misuse of technology Tech failures Distraction
Verbal Communication	The concept of face to face communication is being redefined	In-person Video Conferences

Age differences. Participants in both the interviews and questionnaires used four words to categorize age demographics. Lined up from an older workforce to a younger workforce, baby boomers, generation x, generation y, and millennials comprise the makeup of organizations. Research participants referenced the difference of age in the usage and acceptance of technologies. This supports the findings presented by Šimonová et al. (2017) study on technology acceptance and usage within older generations which suggests older individuals accept and use technology at a slower rate than younger their younger counterparts. Participant 30E noticed this difference in their organization. Younger employees tend to communicate via email. While the older employees prefer walking over to another person's office to communicate.

Decision making. Most leaders at all levels of an organization, from supervisor to executive, claimed to make decisions based on policy and not too much on their interactions with others. The leaders accept responsibility for their decisions but arrive at their decisions differently. For example, participants 6L, 11C, 13C, 14A, and 18D

mentioned in their interviews they rely on the input of others to influence their decisions. Participants 10D and 35M rely on their "gut" to help them make decisions. Whereas the remainder bases their decision solely on the policy of the organization. This trend aligns with the Whitaker and Goodwin (2015) study on decisions-making by organizational leaders. When complex issues require decision making, high performing leaders use a well thought out process to understand the factors influencing their decision (Whitaker & Goodwin, 2015). For some participants, a well thought out process includes consulting others. For a few, they rely on what their instincts are telling them. For the majority, participants of the interviews and the questionnaires refer to their organization's policy for guidance.

Meetings. The participants feel high stakes or personal meetings should occur in person to lessen any miscommunications of body language and tone that could arrive when communicating through a teleconference service. The responses provided by the research participants corroborate the findings by Lii et al. (2013). The use of offline mediums when engaging in decision-making could increase the effectiveness of communication (Lii et al., 2013). Participant 18D stated, "If the meeting is important, then the meeting should be held in person if possible". When asked why, their response was it helps to "drive the message home".

Miscommunication. Research participants stated miscommunications occur in two ways. As made mentioned by Edwards, Bybee, Frost, Harvey, and Navarro (2017) in their study of miscommunication and tone, miscommunication occurs either in the misinterpretation of body language or the misinterpretation of emails. In my study,

interview and questionnaire participants specifically called out body language and emails as their main source of miscommunication. With body language, participant 42Q stated, "employers who misread body language, makes the wrong assumptions about their employee's behavior". With an email, the misinterpretation of an email could convey the improper tone to the receiver (Gumbo, 2018). Participant 15A stated "there is much more of an opportunity for miscommunication and for things to be misinterpreted via email". Other participants mentioned similar occurrences with email. Either they have received or sent an email and interpreted it differently than intended.

Non-verbal communication. When asked what non-verbal communication means to the research participants, each participant responded with a body language or technology example. For body language, research participants responded with words like chest rising, facial gestures, shoulder shrugs, head shaking, and body posture. These responses suggest methods for conveying response to information received. In McNeill (1992) research on nonverbal communication, specifically gestures, he claimed there is a direct connection between a person's gestures and their thought process. This suggests when received with new information, body movements provide insight into what a person is thinking. With technology being a response to what non-verbal communication means to the participants, research participants responded with words like email, office communicator, text messages, and social media. I couldn't find research literature to support participant's association of technology to the definition of non-verbal communication.

Technology. Each research participant made mention of technology and the uses of technology in their respective organizations. Participant 10D mentioned, using technology to "solve problems". Participant 5T stated, "technology makes up 97% of their daily communications". Some examples of technology mentioned by participants included email, phone, instant messenger, emojis, and Skype. While not fully supporting the study conducted by Hartyunyan et al. (2015), responses by participants partially support their study. Technology in the workplace greatly increases inter-company communication.

Traumatic. Research participants mentioned traumatic experiences caused by the misuse of technology and non-verbal communication. With the misuse of technology, nearly all participants referenced traumatic experiences surrounding by the misinterpretation of an electronic message and the conflicts that resulted from the misinterpretation. For example, participant 14A mentioned member on his team posted a marking campaign add to the organization's social media page before approval. This oversight caused great backlash because the image was "misinterpreted" by the audience. Whereas with non-verbal communication, research participants mentioned how body language, either their own or observation of others, could give off the wrong signals. Participant 4B referenced a past interaction with their employee that went very badly because the employee "took offense to the tone of my email". The study by Dickinson (2017) highlights the problem with misinterpretting tone from electronic communications and suggests establishing a rapport with the audience could reduce traumatic experiences caused by misterpreting the tone of electronic messages.

Verbal communication. Most research participants viewed verbal communication as a necessity when having conversations regarding complex or important subject matter. As participant 14A stated, "having conversations in person reduces the room for ambiguity". When probing this question, the participant stated, "your tone is better delivered verbally than with email". The data provides a link to Romero-Andonegi, de Pablo-Delgado, Etxebarria-Lejarreta, and Romero-Andonegi (2018) study on the correlation between vocalizations, gestures, and prosody which suggests gestures and verbal communication together make for more effective communication.

Discrepant Cases

I evaluated outlying responses as data collection and analysis occurred in NVivo 12. The outlying responses were minimal and not consistent. As such, these discrepant responses did not warrant coding as no clear theme presented itself.

Evidence of Trustworthiness

Credibility

A within-method triangulation approach helped to established credibility and ensure internal validity. A within-method triangulation approach allowed for the use of a single research approach but employed multiple strategies to evaluate the data. Interviews, member checking, and questionnaires were the multiple strategies employed to evaluate the data. Data collected through interviews were subject to member checking and analyzed into themes. Like the interviews, codes and themes emerged from analyzed questionnaire responses. No new themes emerged from the questionnaire responses. This

approach to ensuring research credibility draws its basis from Denzin (1989) and Bekhet and Zauszniewski (2012) explanation of the methodological triangulation technique.

Transferability

The reader determines transferability (Porte, 2013; Schwandt, Lincoln, & Guba, 2007). The research study used a total of 40 research participants; as opposed to the 20 previously intended. The 40 participants made a diverse group. Tables 2, 3, 4, and 5 outlines the different demographics of the participants. In addition to the variation in participants, detailed observational served as a vehicle to gather human behavioral responses to the research questions. Despite holding interviews via WebEx, as opposed to conducting interviews in person as originally planned, observational notes collected behavioral responses that audio recordings did not easily capture.

In addition to using a wide demographics of participants, detailed observational served as a vehicle to gather human behavioral responses to the research questions. The method for ensuring transferability, called the thick description, is a valid method to enhance the probability of transferability (Geertz, 1973; Serra, 2016). During each WebEx interview, observational notes collected behavioral responses that audio recordings do not easily capture.

Dependability

Research participants received a briefing on the interview procedure before the interview took place. During this time, the researcher and the participants discussed any potential misunderstandings with the consent form or the interview procedure. The protocol forms outline key steps followed during the data collection process.

Additionally, the use of within-methods triangulation created reliable data. Analyzing and comparing member checked interview responses from summarized audio recordings to responses from questionnaires established within-method methodological triangulation.

Confirmability

The use of interviewee transcript review helped to ensure confirmability. Interviewee transcript review is a supported confirmability method where the participants review the collected data to verify the accuracy (Connelly, 2016). Interview participants received a transcription of their interview. Each interview participant had 2 weeks to review the transcript and provide corrections. Interviewee transcript review allowed interviewees to change responses. However, research participants made no major changes. All changes made by participants were around spellings of software applications.

Data saturation was another method used to ensure confirmability. Data saturation dictates that research collection continues until no new themes emerge. To test data saturation, I compared the themes that emerged from the questionnaires to the themes that emerged from the interviews. In reviewing the themes of the questionnaire, no new themes emerged.

Study Results

In review the data collected from interviews, questionnaires, observation notes, and member checked forms, eight themes emerged with respect to the central research question and three sub-research questions (see Table 6). Central RQ - How does excessive utilization of technology to make decisions diminish the added benefits non-

verbal communication can bring to organizational leadership decision-making? RQ 1A - How does organizational leaders describe the benefits non-verbal communication has on decision-making? RQ 1B - How does organizational leaders utilize technology to make decisions? RQ 1C - How does organizational leaders describe the meaning they give to non-verbal communication when decision-making?

Theme 1: Generational differences matter when engaging in communication.

Research findings suggest generational differences matter when engaging in communication and gathering information for making decisions. Most research participants noticed the younger generation of employees utilizes technology more than older generations. Participant 30E noticed younger employees at his organization tend to communicate via email versus walking over to another person's office. Participant 4B believed some older generation of employees does not know how to use technology effectively. Participant 7X stated the older generation of employees are more personable and prefer human interaction overusing technology.

Theme one that emerged from the data helped explore research question 1A. The research data indicates a communication preference, either communicating via technology or in person, when gathering data for decision-making and disseminating the decision. Participant 38M commented, "people in the older generation aren't as heavily engaged with technology as younger generations." Participant 41J corroborated this statement stating, "the executives in my organization tend to be older and favor in-person conversations."

These generational differences help to answer research question 1A. The benefits non-verbal communication has on decision-making varies on the age of the person communicating. Older generational leaders are less likely to accept and use technology than younger generational leaders (Šimonová et al., 2017). As such, the older generation of leaders are likely more adept at using the benefits of non-verbal communication because they've grown accustomed to face-to-face dialogues. Conversely, data suggests younger generational leaders place their value less on non-verbal communication to aide in decision-making and more on technology, policy, and procedure.

Theme 2: Decisions are based on data and personal connections.

Research participant responses indicate decisions are based on both data and personal connections. Participants used words like "data", "policy", "procedures", "body language" to describe the tools used to aid in decision making. For some of the participants, their decisions were not based on data alone. Participants 32J and 6L used body language in addition to data to help in decision-making. Other participants, like 16T and 11C, make decisions supported by facts. For these participants, factors like intuition and non-verbal behaviors are not the basis for their decisions. Participant 16T stated, "I can't let it influence me. I sit on various committees and a lot of the times people don't express remorse for their actions. I see it in their body language, but I cannot let their body language sway my decision." Participant 11C is bound to make decisions in accordance with insurance law. The participants who mentioned their decisions must be based on policy noted they do observe the non-verbal behaviors but must be mindful of not letting their observations form biases when making a decision

While no participant mentioned using Woodside and Baxter (2013) ethnographic decision tree model (EDTM) to make decisions, participants who made decisions based on policy, procedure, and law used decision system analysis (DSA) to arrive at their decision. By using the DSA process to arrive at a decision, these leaders take into consideration of what could happen to the organization if they made the wrong decision. The research data helps answer research question 1C. Organizational leaders use non-verbal communication as an aide in their decision making only when their organization allows non-verbal communication to influence their decision. This trend aligns with the Hahn et al. (2015) and Whitaker and Goodwin (2015) studies on decisions-making by organizational leaders. When complex issues require decision making, high performing leaders use a well thought out process to understand the factors influencing their decision (Whitaker & Goodwin, 2015).

Theme 3: Importance determines the communication method.

To the research participants, importance of the message determines the communication method. Research participants noted meetings as a time to collect information for use in their decision-making. However, the importance of the subject matter determines if a meeting should occur or if an email enough means to collect information. Participant 1S preferred meetings when information is too complex to capture in an email. Participant 10D preferred meeting over emails because it allows them to address all concerns. When asked if there is a preference over face-to-face meetings versus teleconference meetings, the participants did not have a preference for

one over the other. Participant 28C stated, "most of my meetings are through WebEx. It can become costly and inefficient to gather people from around the world in one room."

Every research participant mentioned their use of both non-verbal communication and technology to make decisions. The participants' responses suggested leadership decision-making is a complex process and made of a multitude of factors. Some decision-making factors include emotional state, data, politics, and behavior (Hallo, Gunawan, & Nguyen, 2018, Hahn et al., 2015, and Whitaker and Goodwin, 2015). Participants' responses propose nonverbal cues help to navigate interactions with their audience, but it does not directly influence the outcome of decisions made by organizational leaders. Theme three provided insight into the central research question. However, I cannot determine if the excessive use of technology minimizes the benefits non-verbal communication offers to decision-making if considering technology and non-verbal communication as the only factors that attribute to decision-making.

Theme 4: Miscommunication can occur with technology.

The emerged theme helped to answer research question 1B. Organizational leaders utilize technology to make decisions. However, participants noted events of miscommunication caused by technology. With verbal communication, the misinterpretation of an email could convey the improper tone to the receiver (Gumbo, 2018). Participant 15A stated "there is much more of an opportunity for miscommunication and for things to be misinterpreted via email". Other participants mentioned similar occurrences with email. Participant 13C also mentioned a

miscommunication occurring when sending an email to their employee and the employee took offense due to the wrong tone in the email.

Theme 5: Non-verbal communication is more than just body language.

Theme five emerged in response to research question 1C. In exploring how do organizational leaders describe the meaning they give to non-verbal communication when engaging in decision making, I found non-verbal communication is more than body language to the research participants. I asked interview and questionnaire participants what non-verbal communication means to you. Some traditional responses were "body language", "gestures", and "expression". However, participants 7X, 11C, 25R, 28C, 30E, and 38M viewed some technologies as a form of non-verbal communication. To these participants, email, text messages, and instant messaging are forms of non-verbal communication.

Non-verbal communication defined by Bonaccio et al. (2016) is the act of communicating without using linguistics. Using this definition as a reference point, technology cannot be a form of non-verbal communication. Emails, test messages, and instant messages all convey some form of linguistics.

However, participant 6L noted the use of animated gifs and emojis when sending electronic communications. A graphical interchange format (gif) is an image that contains a reoccurring animation (Juzar & Munir, 2016). An emoji is a graphical symbol which symbolizes an object or a face (Daniel & Camp, 2018). The use of gifs and emojis when communicating via technology implies non-verbal communication (Juzar & Munir, 2016; Daniel & Camp, 2018). Gifs and emojis help to convey non-verbal cues as if

communicating in person. For example, a smiling emoji at the end of a text message has the same perception as a person smiling in person (Daniel & Camp, 2018).

Theme 6: Technology has a place in almost everything organizations do.

Theme six emerged in exploring research question 1B. Participants agreed they utilize technology heavily to make decisions. For many of them, technology plays a major part in the day to day operations of organizations. Technology enables organizational leaders to collect and evaluate data at a fast rate. Furthermore, the use of technology by organizations improves the organization's capabilities and ability to remain competitive (Benitez, Chen, Teo, & Ajamieh, 2018).

Research participants mentioned a variety of methods to utilize technology to make decisions. Two technologies most referenced were Microsoft Excel and email. To participant 6L, Excel is a valuable tool to "gather data, analyze findings, and disseminate information." Participant 7X uses Excel to "gather data and tell different stories about what is happening with the data."

With email, participant 10D, used email to "collect updates from the team and provide guidance when needed." Participant 16T sends and receives roughly 75 to 100 emails daily. Participant 2K receives 100 emails a day and reads every one of them "to stay on top of things going on in their department". Participant 7X uses technology "27 hours a day, 7 days a week" to remain in contact with their organization.

Theme 7: Technology can create problems.

In reviewing interview and questionnaire data, theme seven emerged in response to interview and questionnaire question #8 (see Appendix A and Appendix F). Theme

seven provides insight into some of the traumatic experiences organizational leaders encountered when utilizing technology to make decision. Research participants cited multiple examples of when technology backfired; causing them more problems than intended. Participant 1S stated, "technology is a helpful tool, but it is also a major distraction." When asked to elaborate, 1S said, "constant notifications, the buzzing, and ringing can be too much at times. But I can't turn it off, because I might miss something."

Advances in technology has redefined the traditional work place. Organizational leaders have access to work emails on their cell phone, work laptops, and dedicated work cell phones. This constant connection to the work place requires organizational leaders to use ICTs at a faster rate and speed, promote constant multitasking, and encourages overexposure to information (Berg-Beckhoff, Nielsen, & Lauren, 2018). Despite the benefits technology brings to decision making, organizational reliance on technology could result in employee burnout (Ber-Beckhoff et al., 2018; Ter Hoeven, van Zoonen, & Fonner, 2016; & Barber & Santuzzi, 2015).

Theme 8: The concept of face-to-face communication is being redefined.

Theme eight emerged from reviewing the interview and questionnaire data and addressed the central research question. Responses from research participants suggest the excessive utilization of technology to make decisions does not diminish the added benefits non-verbal communication bring to decision making. Instead, the use of technology has redefined how we look at face-to-face communication in the organizational setting. Research participants alluded face-to-face communication is no longer the traditional conversations that occur in person. Participants stated using

teleconference software solutions like Skype, FaceTime, and WebEx more and more to communicate with other people within their organization. To them, having discussions using these tools are like have a face-to-face conversation.

Telecommunications software like Skype, FaceTime, and WebEx provide a face-to-face communication experience with the use of technology. These tools allow people to see and hear audio and video respectively and shown to be an adequate vehicle for increasing the effects of face-to-face communication (Wang, Huang, & Quek, 2018). Additionally, telecommunication software can reduce organizational travel expenses in many situations (Alton, Luke, & Wilder, 2018). With telecommunication software, organizational leaders can conduct virtual meetings from their home office. Reducing the need for traveling to multiple sites.

Summary

The fourth chapter contained an extensive review of the research study results. Chapter four discussed the research settings, study demographics, data collection methods, data analysis, evidence of trustworthiness, and study results. The primary data collection method was to conduct interviews; questionnaires served as the secondary data collection method. This two-method approach allowed for within-method data triangulation and helped establish study credibility.

The research study used a total of 40 research participants; as opposed to the 20 previously intended. The 40 participants made a diverse group to collect data from. Demographic categories included the qualitative method, organizational profit status,

organizational seniority, and gender. 25 of the 40 participants participated in interviews; the remaining 15 participants in the questionnaires.

Data analysis followed Yin's 5-step method for data analysis. First, the import feature within NVivo 12 compiled the data. Second, sub-groups emerged from dissembling the data into what NVivo 12 calls nodes. Third, the reassembled in each node helped to determine if any patterns or themes emerged. Fourth, comparing the themes that emerged from the reassemble step and the research questions of the study aid in finding connections between the research question and themes. Last, data analysis concludes once I was able to establish a connection between the research question and the themes that emerged from the data

Analyzed data helped answer the central research question and three sub-research questions. [Central RQ] How does excessive utilization of technology to make decisions diminish the added benefits non-verbal communication can bring to organizational leadership decision-making? [RQ1A] How do organizational leaders describe the benefits non-verbal communication has on decision-making? [RQ1B] How do organizational leaders utilize technology to make decisions? [RQ1C] How do organizational leaders describe the meaning they give to non-verbal communication when decision-making? Chapter 5 is set to review the discussion, conclusions, and recommendations of the study.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this qualitative exploratory multiple case study was to explore how the excessive utilization of technology to make decisions can diminish the added benefits non-verbal communication can bring to organizational leadership decision-making. Xiaojun and Venkatesh (2013) explained how the dependency on technology to produce and disseminate information could be problematic on employee job performance. Their assumptions claim the reliance on technology as the main channel for workplace communication places faith in technology systems over human capital. The use of technology can be of value; however, excessive utilization of technology can remove the leader's ability to detect the non-verbal cues of the intended audience (Kožić et al., 2013).

Eight themes emerged from the research data gathered through interviews and questionnaires. (a) generational differences matter when engaging in communication; (b) decisions are based on data and personal connections; (c) importance determines communication method; (d) miscommunication can occur with technology; (e) non-verbal communication is more than just body language; (f) technology has a place in almost everything organizations do; (g) technology can create problems; (h) the concept of face to face communication is being redefined.

Interpretation of Findings

Eight themes emerged with the aim of answering the central research question and the three sub-research questions. [Central RQ] How does excessive utilization of technology to make decisions diminish the added benefits non-verbal communication can

bring to organizational leadership decision-making? [RQ1A] How do organizational leaders describe the benefits non-verbal communication has on decision-making? [RQ1B] How do organizational leaders utilize technology to make decisions? [RQ1C] How do organizational leaders describe the meaning they give to non-verbal communication when decision-making? The following is an interpretation of the findings as it relates to the themes that emerged.

Finding 1: Age Matters When Choosing A Communication Medium

Organizational leader should take into consideration the communication medium when communicating with different generational groups. Using the technology acceptance model (TAM) as a reference point for generational usage, older generations are less likely to accept and use technology as an organizational communication medium (Šimonová et al., 2017). The underlying assumption is their perception on the usefulness and ease of use of technology. For older generations, it would be more meaningful and easier to communicate in person (Simon, 2013).

Another way to view how age matters when choosing a communication medium is to reference Spitzberg (2000) work on communication competence. Communication competence is the use of verbal and non-verbal communication to effectively achieve the desired outcome in a method perceived as appropriate to the context and by the communicators (Morreale, Staley, Stavrositu, & Krakowiak, 2015; Spitzberg, 2000). Data analysis suggests the word "appropriate" has conflicting meanings to older and younger generations. Older generations believe more face-to-face interactions are appropriate; whereas younger generations view using technology to communicate is more

appropriate and an efficient means of communication (Morreale et al., 2015; Simon,2013).

Finding 2: Non-Verbal Behaviors Does Not Necessarily Influence Decision-Making

While identifying non-verbal behaviors helped some research participants in making decisions, observing non-verbal behaviors does not help others in making decisions. The reason for this difference was due to their role within their organization. Individuals who utilize non-verbal behaviors to make decision let their level of trust influence their decisions (Lii et al., 2013). Communicators use the non-verbal behaviors of the audience as a method for determining trust. Since learning non-verbal behaviors occur over time and difficult to fake, these individuals value the insight non-verbal behaviors bring with communication (Phutela, 2015 & Köprülü, 2014).

On the other hand, research participants cited relying on their organization's policies and procedures to guide their decision-making. While these individuals have clearer guidance on decision-making, they do succumb to their organization's social structure. Social structure, as first defined by Gidden (1989), is the rules and resources, established by the individuals belonging to the social systems that can both enable and constrict a person's daily decisions (Jarrahi & Sawyer, 2015). Following organizational policy prohibited research participants from allowing their observation of a person's non-verbal behaviors influence their decision-making.

Finding 3: For Leaders, Content Determines Communication Method

Organizational leaders have a wide variety of communication vehicles to receive and send information. Teleconferencing, interpersonal communication, and emails are a

few examples of communication vehicles. For the research participants, the content

determines how to receive a decision. The research participants preferred to receive

complex content in person or through teleconference, and less complex content via an

email. For them, having the ability to discuss complex content face-to-face helps to make

a well-informed decision.

This preference in communication method for complex and non-complex content

has basis in Popa's (2016) distinction between effective and efficient communication. To

Popa (2016), effective communication is time consuming but yields a better

understanding of the message; efficient communication is fast but limits comprehension

of the message. With complex content, there is a preference to follow effective

communication practices. Utilizing effective communication practices, like face-to-face

or teleconference meetings, allows leaders to gain a comprehensive understanding of the

content.

Finding 4: Technology Miscommunication and the Use of Gifs and Emojis

Research participants cited tone to be the driver of miscommunication when

utilizing technological applications like e-mail or text messages. E-mail and text

messages are adequate tools for conveying a quick discussion. However, it is possible for

the message receiver to misinterpret the message's tone if your verbal immediacy

behaviors are not adequate (Gumbo, 2018 & Dickinson, 2017). Immediacy behaviors, as

defined by Dickinson (2017), are the verbal and non-verbal behaviors used to reduce the

emotional distance between people.

When engaging in electronic communication, the use of Emojis and gifs help to convey proper tone and improve verbal immediacy behaviors (Daniel & Camp, 2018; Dickinson, 2017; & Juzar & Munir, 2016). As indicated by Al Rashdi (2018), emojis and gifs help to: (1) demonstrate favorability, (2) express jokes, and (3) deflect negative emotions. Many smartphones have the emoji key board built in and access to a gif database. Email services like Outlook and Gmail have add-ons you can activate on your account and enable emojis and gifs.

Finding 5: Organizations Ingrained Technology in Daily Operations

As organizations continue to grow more diverse, so does the technologies that connect the organization together. Technology enables organizational leaders to collect and evaluate data at a fast rate. Furthermore, the use of technology by organizations improves the organization's capabilities and ability to remain competitive (Benitez et al., 2018). These competitive benefits apply not only to the general performance of the organization, but to its people and profits. Organizations with learning management systems (LMS) can create, use, and share organizational knowledge amongst its members (Hajli, Wang, Tajvidi, & Hajli, 2017). Enabling a culture where members can draw from knowledge to make informed decisions. Organizations with a robust enterprise resource planning (ERP) system see improved productivity, higher quality and dependability in the data, and reduced organizational costs (Chauhan & Singh, 2017).

However, the increased use of technologies by organizations does not come without risk. Although there are many risks with using organizational technology, research participants cited technology burn-out as their primary cause of traumatic

experiences with organizational technology. Technology burn-out occurs when stress, resulting from the fear of losing control of large amounts of electronic communications and notifications, places a great strain on the employee's well-being (Ter Hoeven et al., 2016). With recent advances in technology, many employees can be away from work but still maintain contact. Employees have the ability the ability to send and receive emails and text messages from their company phone or laptop. For some employees, this constant connection to work feels like they are working all day (Ter Hoeven et al., 2016 & McMurtry, 2014).

Limitations of the Study

There were three limitations presented in this study. First, an element of bias towards the use of ICTs to communicate continues to exist (Aesaert et al., 2017). The use of technology in communication creates a technological transcript of communications between individuals that is often not present in traditional face-to-face communication. From an organizational perspective, written transcripts of communication provide a level of accountability between the senders and receivers of the communication channel. Additionally, ICTs allow for nearly instantaneous communication and promote organizational efficiencies that organizations have grown to utilize at an increasing rate (Chauhan & Singh, 2017; Phutela, 2015).

Second, I only considered a sample of the population that uses ICTs to communicate. Due to the qualitative exploratory multiple case study approach used in this research, I did not use a broad cross-section of the population. Utilizing a different approach would lead the findings to be slightly different from the findings presented in

this study. However, using a within-methods methodological triangulation approach served to ensure trustworthiness in the qualitative study. A within-method triangulation approach allowed for the use of a single research approach but employed interviews, questionnaires, and member checking to analyze the data. While interviews were the primary data collection method, the use of questionnaires and member checking created an opportunity to use various strategies to analyze responses. This approach to ensuring research credibility draws its basis from Denzin (1989) and Bekhet and Zauszniewski's (2012) explanation of the methodological triangulation technique.

Third, the study only considered commonly used present-day technologies. There is a possibility that technology can evolve to fill in the gap between the excessive utilization of technology and the missed opportunity to make well-informed decisions when individuals can adequately identify and respond to non-verbal cues. Technology companies are continually developing new technological tools to aid people in their everyday lives. It is possible that future technology can bridge the gap between the excessive utilization of technology and the lack of identifying non-verbal behaviors.

Recommendations

Future study on the intersection of technology, non-verbal communication, and decision making could explore the limitations and findings of this study. This study used a qualitative exploratory case study approach to investigate if the excessive use of technology to communicate diminishes the added benefits non-verbal communication brings to decision-making. In doing so, I identified five findings and three limitations.

The following recommendations provide suggestions for future study that could examine the findings and provide solutions to the limitations.

Firstly, studies show demographics like age, location, and race are contributing factors in the utilization of technology (O'Mara & Harris, 2016; Nor et al., 2015; Murillo et al. 2015; Heath et al., 2015; & Steinfield et al., 2012). One method of understanding technology usage by age, location, and race is applying the TAM and studying how the two factors of the TAM influence technology use in these demographics. The first factor of the TAM, perceived usefulness, could dive into the perception of a communication tool and how it helps in performing their task more efficiently. The second factor of the TAM, perceived ease-of-use, could study how the same communication tool would be effortless to use. Understanding how technology utilization varies by demographics could provide insight on how to promote ICTs within an organization.

Secondly, leaders have choices on how they want to send a receive information from others. Teleconferencing, interpersonal communication, and email are a few examples of communication mediums at their disposal. By applying Popa's (2016) distinction between effective and efficient communication on organizational leaders' communication preference, future studies could explore how technology usage during critical moments helps in decision-making. Unlike Lii et al., (2013) study on crisis control, studying critical decisions helps to discover the inputs organizational leaders use to make decisions.

Thirdly, the use of emojis and gifs help to convey proper tone and improve verbal immediacy behaviors (Daniel & Camp, 2018; Dickinson, 2017; & Juzar & Munir, 2016).

As indicated by Al Rashdi (2018), emojis and gifs help to: (1) demonstrate favorability, (2) express jokes, and (3) deflect negative emotions. Since emojis and gifs are relatively new, future studies can explore the gap in knowledge on the use of emojis and gifs as a form of communication in the business setting. Specifically, on the possible benefits emojis and gif have in adding communication through technological mediums.

Fourthly, in addition to emojis and gifs, other technological tools developed to assist organizations with their daily operations. Since the use of technology by organizations improves the organization's capabilities and ability to remain competitive, organizational leaders have a growing number of technological tools readily available (Benitez et al., 2018). Some software tools, like ERPs, help to maintain organizational productivity by providing higher quality data and reduced organizational costs (Chauhan & Singh, 2017). Whereas other software tools help in organizational learning and knowledge sharing between individuals (Hajli et al., 2017). Future studies could add to the growing body of knowledge surrounding web-based learnings on new software applications (Ahmadaliev, Xiaohui1, & Abduvohidov, 2018).

Finally, despite the benefits technology has on organizational productivity, the increased use of technology to communicate has a downside. With recent advances in technology, employees have the ability the ability to send and receive emails and text messages from their company phone or laptop. For some employees, this constant connection to work feels like they are constantly working (Ter Hoeven et al., 2016 & McMurtry, 2014). This constant connection to work could lead to technology burn-out, decreased productivity, and higher possibility of errors (Ter Hoeven et al., 2016).

Applying the current body of knowledge surrounding employee performance and technology burn-out could produce new communication applications aimed at increasing organizational productivity while simultaneously limiting the effects of technology burn-out.

Implications

The purpose of this qualitative exploratory multiple case study was to explore how excessive utilization of technology to make decisions can diminish the added benefits non-verbal communication could bring to organizational leadership decision-making. Both Xiaojun and Venkatesh (2013) and Kožić et al. (2013) explained how the dependency on technology to produce and disseminate information could be problematic on employee job performance and remove the ability to detect non-verbal cues. My study provides implications for positive social change and implications for methodological and empirical research.

First, the findings could educate organizational leaders on the importance of distancing themselves from work during non-work hours. The threat of technology burn-out increases as employees continuously feel the burden of being in constant communication with their place of employment (Ter Hoeven et al., 2016). Organizations and organizational leaders could use the findings of this study to aid in developing policies address technology burn-out. By leveraging the findings of McMurtry (2014) with the findings of my study, organizational leaders could recognize the importance of promoting rules encouraging employees to distance themselves from organizational technology.

Second, the literature review and study findings could encourage organizational leaders to develop guidelines around the use of teleconference software. Recent advances in technology resulted in a variety of technology communication tools which makes it possible for communication between two parties to occur regardless of location. Since teleconferencing is a useful tool to increase organizational productivity. The lack of oversight in teleconferencing resources could create a hostile environment for employees. Teleconferencing software has the potential to undermine organizational norms by promoting an environment that allows reckless negative behavior (Baek et al., 2012). The rate of usage in teleconferencing software solutions is increasing as new software emerges. If not monitored, teleconferencing can form subgroups, which could become reflective of the cultural divides we see in the real world.

Third, I believe organizations could use the findings presented in my study as a basis for promoting organizational learning, emphasizing on soft-skill development. As mentioned by Referencing Benitez et al. (2018), applying certain technologies not only improves the organization's capabilities and its ability to remain competitive, but it also helps in the development in the organization's people. Organizations with learning management systems (LMS) can create, use, and share organizational knowledge amongst its members (Hajli, Wang, Tajvidi, & Hajli, 2017). Enabling a culture where members can draw from knowledge to make informed decisions. Organizations could develop a soft-skill curriculum, managed by the organization's LMS, were employees could take web-based trainings on subjects like non-verbal communication, technology etiquette, and various ERP software learnings.

Fourth, the findings suggest there is a misunderstanding of what is non-verbal communication. Specifically, there is a misunderstanding that certain technologies, like texting or emails, are forms of non-verbal communication. Non-verbal communication defined by Bonaccio et al. (2016) is the act of communicating without using linguistics. Using this definition as a reference point, technology cannot be a form of non-verbal communication. However, I believe the current definition of non-verbal communication to be outdated and should consider the newer forms of technology. The use of emojis and gifs, as mentioned by Al Rashdi (2018), help to convey feelings without using linguistics. In the past, non-verbal cues like body gestures and facial expressions were examples of non-verbal communication. By adding emojis and gifs, you extend the definition of non-verbal communication to include the more recent communication technologies used to convey feeling and emotion.

Conclusions

Technological tools provide information that is critical to decision-making. Common technological tools, such as e-mail, text messaging, and video conferencing, are systems that allow for the nearly immediate transfer and dissemination of information at a faster rate than before (Bartelt & Dennis, 2014). Although using technology allows for the dissemination of information at a faster rate, conversations occurring via an electronic medium could result in a misunderstanding and impede future communications (Fomichov & Fomichova, 2014).

The purpose of this exploratory multiple case study was to study the application of technology for decision-making, and if there are implications for compromising non-

verbal communication for technology, as identified by Altdiaz (2014) and by Senescu et al. (2013). Moreover, this study was set to investigate if the utilization of information communication technologies alters the accuracy of decision-making and, conversely, the non-verbal communication practices of organizational leadership.

I developed a central research question and three sub-research questions to explore the purpose of my study. [Central RQ] How does excessive utilization of technology to make decisions diminish the added benefits non-verbal communication can bring to organizational leadership decision-making? [RQ1A] How do organizational leaders describe the benefits non-verbal communication has on decision-making? [RQ1B] How do organizational leaders utilize technology to make decisions? [RQ1C] How do organizational leaders describe the meaning they give to non-verbal communication when decision-making

In addition to using a multiple case study approach, I used two qualitative research methods to collect data. Interviews served as the primary qualitative research data collection methodology. Questionnaires were the secondary data collection methodology. Using these two forms of research helped to establish credibility in the study by determining if the themes that emerged from the interviews are like the themes that emerged from the questionnaires (Bekhet & Zauszniewski, 2012; Denzin, 1989).

Analyzing the data gathered from the interviews, questionnaires, and member checked forms, I discovered eight themes that emerged. (a) generational differences matter when engaging in communication, (b) decisions are based on data and personal connections, (c) importance determines communication method, (d) miscommunication

can occur with or without technology, (e) non-verbal communication is more than just body language, (f) technology is used in almost everything we do, (g) technology can create problems, (h) the concept of fact-to-face communication is being redefined.

These eight themes lead to five findings. First, age matters when choosing a communication medium. Second, non-verbal behaviors do not necessarily influence decisions made by organizational leaders. Third, for leaders, content determines their communication method. Fourth, miscommunication occurs with technology, but using gifs and emojis help to reduce miscommunication. Last, organizations ingrained technology in their daily operations.

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Appendix A: Interview Questions

1. What role do you play in your organization?

2. How do you see yourself today, in terms of your decision-making ability within your organization?

3. What extent do you believe using technology plays in the effectiveness of communication?

4. What does non-verbal communication mean to you?

5. How do you use non-verbal communication on a daily basis?

6. How would you describe your use of technology on a daily basis?

7. How do your co-workers or clients view your use of technology as a form of communication?

8. How would you describe particularly difficult or traumatic experience, while at the organization, caused by the misuse of technology?

9. What extent do you believe observing non-verbal behaviors play in the decisions you make?

10. How would you describe a particularly difficult or traumatic experience, while at the organization, caused by a misreading of non-verbal communication?

Appendix B: Interview Protocol Form

Researcher Interview Protocol

Date: _____

Time: _____

Location: _____

Interviewee (Title and Code): _____

Interviewer: _____

Data Collection Interviews

Introductory Protocol

To help facilitate note taking, I would like to audio tape our conversations today. Please sign the release form. For your information, only I will be privy to the tapes that will be eventually destroyed after they are transcribed. In addition, you must sign a form devised to meet our human subject requirements. Essentially, this document states that: (1) all information will be held confidential, (2) your participation is voluntary, and you may stop at any time if you feel uncomfortable, and (3) we do not intend to inflict any harm. Thank you for your agreeing to participate.
I have planned this interview to last no longer than one hour. During this time, I have several questions that I would like to cover. If time begins to run short, it may be necessary to interrupt you in order to push ahead and complete this line of questioning.
Introduction
You have been selected to speak with me today because you have been identified as someone who has a great deal to share about non-verbal communication, technology and decision-making. My research project focuses on how excessive utilization of technology to make decisions can diminish the added benefits non-verbal communication brings to organizational leadership decision-making. My study does not aim to evaluate your techniques or experiences. Rather, my aim is to learn more about how you handle non-verbal communication, technology and decision-making.

Central RQ: How does excessive utilization of technology to make decisions diminish

the added benefits non-verbal communication can bring to organizational leadership

decision-making?

Interview Questions:

1. What role do you play in your organization?

   a. PROBE: How does this role influence how you communicate?

2. How do you see yourself today, in terms of your decision-making ability within your organization?

   b. PROBE: How does that make you feel?

3. What extent do you believe using technology plays in the effectiveness of communication?

   c. PROBE: What are some advantages and disadvantages to using video teleconferencing (video chat) technologies in your organization?

RQ 1a: How do organizational leaders describe the benefits non-verbal communication has on decision-making?

Interview Questions:

4. What does non-verbal communication mean to you?

   a. PROBE: What are some non-verbal behaviors that you can identify and what is their correlation to verbal communication?

5. How do you use non-verbal communication on a daily basis?

   b. PROBE: What advantage does communicating in this form offer?

RQ 1b: How do organizational leaders utilize technology to make decisions?

Interview Questions:

6. How would you describe your use of technology on a daily basis?

   a. PROBE: What advantage does communicating in this form offer?

7. How do your co-workers or clients view your use of technology as a form of communication?

   a. PROBE: What did you learn from their feedback?

8. How would you describe particularly difficult or traumatic experience, while at the organization, caused by the misuse of technology?

   b. PROBE: Looking back, what would you do differently now?

RQ 1c: How to organizational leaders describe the meaning they give to non-verbal communication when decision-making?

9. What extent do you believe observing non-verbal behaviors play in the decisions you make?

   b. PROBE: What led you to believe this?

10. How would you describe a particularly difficult or traumatic experience, while at the organization, caused by a misreading of non-verbal communication?

   c. PROBE: Looking back, what would you do differently now?

Appendix C: Observation Protocol Form

Researcher Observation Protocol

Date: _____

Time: _____

Location: _____

Interviewee (Title and Code): _____

Interviewer: _____

Central Research Question: How does excessive utilization of technology to make

decisions diminish the added benefits non-verbal communication can bring to

organizational leadership decision-making?

Interview Question	Reflective Notes
What extent do you believe using technology plays in the effectiveness of business communication?	
What extent do you believe observing non-verbal behaviors play in the decisions you make?	
How do you see yourself today, in terms of your decision-making ability within your organization?	

What role do you play in your organization?

How would you describe your use of technology on a daily basis?

How would you describe a particularly difficult or traumatic experience, while at the organization, caused by the misuse of technology?

What does non-verbal communication mean to you?

How do you use non-verbal communication on a daily basis?

How would you describe a particularly difficult or traumatic experience, while at the organization, caused by a misreading of non-verbal communication?

[Thank participants]

Appendix D: Interviewee Transcript Review Protocol Form

Interviewee Transcript Review Protocol

1. Prepare summary derived from the emerging themes of the interview and observation.

2. Verify with research participants that they are still able to meet their commitment to check their responses.

3. Electronically deliver the summarized

4. Collect responses and added data

5. Integrate new findings and adjust for any new emerging themes

Appendix E: Member Checking Protocol

Member Checking Protocol

1. Interview participant taking notes and recording interviews

2. Transcribe recording

3. Critically analyze transcript and interview notes

4. Synthesize interpretation for participant answer by question

5. Member check interpretation by sharing a paper version of the question and synthesis

6. Note and record any additional in-depth data from the participant

7. For a third interview repeat 2 through 6 if needed for more in-depth data collection

Appendix F: Qualitative Questionnaire Questions

Qualitative Questionnaire Questions

1. What role do you play in your organization?

2. How do you see yourself today, in terms of your decision-making ability within your organization?

3. What extent do you believe using technology plays in the effectiveness of communication?

4. What does non-verbal communication mean to you?

5. How do you use non-verbal communication on a daily basis?

6. How would you describe your use of technology on a daily basis?

7. How do your co-workers or clients view your use of technology as a form of communication?

8. How would you describe particularly difficult or traumatic experience, while at the organization, caused by the misuse of technology?

9. What extent do you believe observing non-verbal behaviors play in the decisions you make?

10. How would you describe a particularly difficult or traumatic experience, while at the organization, caused by a misreading of non-verbal communication?

Appendix G: Questionnaire Protocol Form

Questionnaire Protocol

1. Participant emails are gathered from interview participants

2. Email addresses are placed in SurveyMonkey

3. SurveyMonkey sends the introductory email that contains a link to the consent form and questionnaire to the participants

4. Participants decide if they agree to participants in the study by selecting "yes" on the consent form

5. Participants fill in their responses to the 10 questions

6. After 1 week, reminder emails are sent out to participants who haven't completed the questionnaire

7. After week 2, questionnaire is closed

8. Responses are uploaded into NVivo 12 for analysis and coding