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Successful Strategies for Retaining Profitability in an Education-Sector IT Project

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This is to certify that the doctoral study by

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2019

Abstract

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MS, Walden University, 2012

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

Many information technology (IT) project managers (PMs) and other business leaders lack effective strategies for enhancing communication among their project team members, thereby reducing profitability and organizational cohesion. The purpose of this multiple case study was to explore communication strategies that IT PMs used to successfully complete IT mobile device projects. The conceptual framework for this study was McQuail's mass communication, Craig's communication, and Deming's profound knowledge theory. Purposive sampling method was used to identify 6 successful IT PMs and leaders who worked at 2 leading educations settings located in southeastern South Carolina. Data gathered from the semistructured interviews and collected from publicly available documents were analyzed using coding techniques, constant comparison, and keyword phrases. After methodological triangulation of the data sources collected and completion of Yin's 5-step process of data analysis, 3 key themes emerged from data analysis: standardized project communication, project team building, and positive customer focus. Findings from this study may contribute to positive social change by providing IT PMs with evidence to support efficient communication strategies in the education sector to increase organizational performance and profitability, which may positively contribute to improving quality of life for employees, driving economic development, and improving community relations.

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Dedication

I dedicate this doctoral study to God who gave me the health and strength to push forward! To my three beloved children, Tyea, Kyleik, and Zyaire thank you for growing with me through this journey. I say thank you, and I love you. To my parents, Harold and Hattie Byas thank you for believing in me and loving me unconditionally. I would not have reached this level of achievement without the values you instilled to be a firm believer of the scripture Philippians 4:13 “I could do all things through Christ which strengthened me.” With God, your encouragement and unwavering love and support have made my time and effort on this dissertation journey possible; I am infinitely grateful.

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Section 1: Foundation of the Study

Background of the Problem

A project manager (PM) is vital to the success of a project (Hwang & Ng, 2013). Business use project management disciplines and practices to achieve strategic goals and create value for their organizations (Too & Weaver, 2014). However, project processes are not independent entities. The success or failure of projects is not entirely within the control of the PM and project team. Lack of communication, inconsistent goals, and other related issues in the domain of leaders and management can influence the growth and results of projects negatively. In many sectors of business, a deficiency exists of value of communication; this lack of understanding contributes to financial, project, and business failure. Business leaders claim that communication is a crucial element to the success of the business but sometimes overlook the importance (Sahin, Çubuk, & Uslu, 2014). My goal in this study was to explore organizational communication strategies that education sector information technology (IT) PMs can use to improve the performance and profitability of mobile device projects.

Problem Statement

An essential component of the low success rate of projects is a lack of communication competency (Brière, Proulx, Flores, & Laporte, 2015). Since 2005, 62.4% of IT projects failed because of budget overruns, wrong project teams, and lack of implementing communication strategies (Reynolds & Yetton, 2015). The general business problem that I addressed in this study is IT program managers face challenges

with organizational communication issues resulting in decreased performance and profitability when implementing mobile device projects. The specific business problem is that some education sector information technology project managers lack organizational communication strategies for improving the performance and profitability of mobile device projects.

Purpose Statement

My purpose in this qualitative multiple case study was to explore what communication strategies education sector IT PMs used for improving the performance and profitability of mobile device projects. The target population was senior- level IT PMs and team leaders in two small education section organizations in southeastern South Carolina. I selected the six participants because they have experience in developing and deploying successful strategies to improve communication, performance, and profitability of mobile device projects. The results of this study could increase IT program manager leaders' understanding of successful communication in a business environment and increase the success rate of projects' outcomes. Implications for positive social change of this study could include the potential to contribute to a better understanding of communication values, beliefs, and economic sustainability. The results from higher levels of projects' performance and profitability can increase the quality of life for the local communities.

Nature of the Study

Researchers have used the qualitative research method to explore the nature of the relationship between themes generated from data collected through observation

(Barnham, 2015). As a result, I chose a qualitative methodology for this study. Researchers have used the qualitative method to help with understanding complex emotional responses, and the goal of qualitative research has been to understand why people react the way they do to a stimulus or experience (Jervis & Drake, 2014). A qualitative research method was an appropriate method for studying strategies for improving senior- level IT PMs' and team leaders' strategies for managing communication within the organizations' projects. In using quantitative methods, a researcher focuses on testing hypotheses crafted from his or her assumptions and examination of the relevance of a theoretical framework, rather than gathering and studying individuals' unique experiences in addressing research problems (Yin, 2017). A quantitative research method was not appropriate for this study because I used immeasurable variables to support the assertions and ultimately arrived at the key findings. A mixed method research incorporates elements of quantitative and qualitative methods; researchers use to generalize findings, by collecting data using interviews, observations, and testing theories statistically (Kachouie & Sedighadeli, 2015). Therefore, a mixed method approach was not appropriate for the study's objective of exploring strategies that PMs in the education sector use to strengthen communication within project teams.

A case study research design was the most appropriate for this study, because it enables researchers to use a framework for conducting business research for exploring strategies education sector IT PMs used to improve performance and profitability of mobile device projects. Research through a multiple case design enabled the researcher to

incorporate multiple sites to explore and use qualitative tools to analyze the composite data (Baškarada, 2014). Researchers use a phenomenological design to assess the awareness and interpretations of participants regarding a phenomenon (Terra & Passador, 2015). A phenomenological design was not appropriate for this study because it does not involve documenting participants' experiences. Ethnography involves observing the shared arrangements related to performance, beliefs, and linguistic aspects within a cultural group through reflection (Flick, 2014; Kalou, & Sadler-Smith, 2015). This research design was not suitable for my study because I did not study a culture. A narrative design was also not appropriate for this study as using a narrative design requires full stories of the study participants (Zou, Sunindijo, & Dainty, 2014) and, therefore, did not offer the descriptive focus I needed to answer the research question. My research aim in this study was to identify and explore strategies that successful IT PMs and team leaders use to improve performance and profitability of mobile device projects: phenomenology, ethnography, and narrative designs were therefore not appropriate.

Research Question

What communication strategies do education sector IT PMs use to improve the performance and profitability of mobile device projects?

Interview Questions

1. What communication strategies do you use to improve performance of mobile device projects?
2. How did you implement the strategies to improve profitability of mobile device projects?

3. What barriers did you have to address in implementing the communication strategies?
4. How did you address the barriers to implementing the strategies?
5. How did you measure the strategies' value (or success)?
6. Please share additional information relating to strategies education sector IT PMs use to retain profitable mobile device projects that will add value to this study?

Conceptual Framework

The conceptual framework for this study consisted of the following scholar's theories: McQuail, Craig, and Deming (Deming, 1960; McQuail, 2010). In their theories, McQuail and Craig's emphasized how to obtain positive communication skills (McQuail, 2010). In the 1980s, McQuail (2010) demonstrated the importance of communication methods and that broadcasting had powerful effects on spectators. The focus of Craig's communication theory, developed in 1999, was the dynamic nature of human communication (Craig & Rich, 2012). Craig identified the multiple challenges of communication PMs might encounter. Deming's theory of profound knowledge developed in the 1950s on the circular nature of communication (Kampf & Daskal, 2014; McQuail, 2010). In this study, I sought to gain a better understanding of communication strategies that IT PMs used to implement a strategic communication framework. Applying McQuail, Craig, and Deming theories of communication strategies could provide a lens for understanding the communications strategies that IT PM's use to improve performance and profitability within the workplace.

Operational Definitions

Communication strategy: Communication strategy is a systematic knowledge which measures and close the bridge between corporate responsibilities and creates corporate legitimacy effectively between organization and stakeholders' social values (Colleoni, 2013).

Employee communication: For this research, *employee communication* refers to how employees can process information or search, interpret, and spread information in an active manner (Mazzei, 2014).

Profitability: Profitability is long-run growth in profits, earnings, free cash flows, and dividends measured by gross profits-to-assets that will predict the cross-section of average returns (Novy-Marx, 2013).

Team leader: Growth process for learning, both for oneself and the environment, and the desire to grow as a team leader (Ekström, & Idvall, 2015).

Assumptions, Limitations, and Delimitations

Assumptions are evidence that I consider truth without actual proof. Assumptions are elements of reality and generated knowledge that is communicated (Younas, 2017). The qualitative research study includes assumptions regarding the validity of the study. Assumptions are statements whose validity depends upon the verification of the facts (Foss & Hallberg, 2014). Limitations should be honest but succinct. The researcher must decide whether findings appear to be valid despite the limitations and if he or she can have confidence in the truth of the findings (Polit & Beck, 2014). These areas made the study a scientifically rigorous investigation for future work. The delimitations of the

study involved the researcher's point of view on the study (Levy, Fabian, & Peters, 2015). The delimiting criteria of the study were the focus of study, geographical area, and participants.

Assumptions

In a research study, assumptions are the essential perspectives or perceptions that the researcher considers true but cannot verify (Marshall & Rossman, 2014). I assumed that the selected participants for the study provided valid data to ensure communication strategies to their organization as a profitable education sector. I assumed that the participants were credible and honest with any information that they provided. I also assumed that all interview questions and unlimited data would offer enough evidence and data to answer the study of central research questions. I further assumed that this study would deliver the potential to contribute to a better understanding of communication values, beliefs, and economic sustainability. In addition, I assumed the outcomes from higher levels of projects' performance, and profitability would increase the quality of life for the local communities.

Limitations

Limitations are potential weaknesses in a study beyond a researcher's control (Cunha & Miller, 2014). Researchers also can make suggestions for minimizing or eliminating weaknesses in future work. These recommendations should focus on short-range, immediate opportunities for improvement in future research (Brutus, Aguinis, & Wassmer, 2013). The study has two main limitations: (a) the number of six participants was small; (b) senior- level IT PMs and team leaders were limited to southeastern South

Carolina area and only those who had experience developing and deploying successful strategies to improve communication, performance, and profitability of mobile device projects.

Delimitations

Research delimitations enable researchers to limit the scope and variables of their research study (García, Skotnicka, & Zamora, 2015; Marshall & Rossman, 2016). Delimitations define the research boundaries (Merriam, 2014). As the researcher, delimitations are in my control. In this study, delimitations included the population of six senior-level PMs and team leaders who had successful strategies for communication, performance, and profitability of mobile device projects and included the geographical area of ssoutheastern South Carolina.

Significance of the Study

The significance of my study is that it will be of value to the business practice by enhancing the knowledge of organizational leaders striving to increase IT projects' success rates to increase organizations' performance and profitability in the education sector. Leadership direction enhances project governance for the project outcomes and benefits the project value to align with the organization's strategy (Hodgson & Paton, 2016). The findings from my study could contribute to filling the gap in the communication and knowledge area to maintain or increase IT projects' profitability in this sector. As they deem relevant, business leaders can also use the findings from this study to implement a standard framework for IT PMs practice to provide effective methods to increase the profitability of mobile device projects.

Results of this study may benefit IT workers, team leaders, and businesses. The results of information from a successful organization may positively affect society by more jobs, more capital investments, and increasing the quality of life for communities (Frame, 2013). After reviewing my study's findings, business leaders may be able to develop policies and strategies for managing project communication within an organization.

A Review of the Professional and Academic Literature

The literature review contains a critical analysis of the general information in this research study. The literature review of this case study has content and support of the central research question: What communication strategies do education sector information IT PMs use to improve performance and profitable of mobile device projects? According to Mustata, Andronie, and Barbalata (2014), retaining knowledge and taught knowledge depends on the communication between the givers and receivers those who obtain the knowledge. However, if knowledge is learned, retained, and practiced in the PM domains, there should be a higher success rate of projects. Project communications are considered a soft skill in the environment of PM. Mackey (2015) supported the need to fill the absent communications gap amongst IT professionals and stated, communication, culture, and behavior are intermixed within a person's culture impedes the development of behavior conducive to effective communication. PMs should use positive communication strategies to develop strength in what could be a weak link in the organization. The communication process shows a relationship to the value of accomplishment. PMs view communication as creating trustworthy team leaders in which

members have clarity and are open towards one another and in which clarity about how to communicate (Verburg, Bosch-Sijtsema, & Vartiainen, 2013). These conditions help to increase the speed of the project and create alignment and shared goals. Increasing the speed of product conduct is beneficial for economic reasons (fewer costs for pursuing the project), and the alignment and shared goals create a team which works more closely together which could be beneficial for the team spirit and indirectly for the final results (Verburg et al., 2013). The communication builds a relationship based on credibility and a trust relationship; both are a key factor for managing conflicts.

My purpose in this section is to provide readers with an analysis of previous scholarly research that supports the business problem that some education sector IT PMs lack organizational communication strategies for improving performance and profitability of mobile device projects. I organized the literature review according to the following (ten) themes: (a) McQuail mass communication theory, (b) Craig communication theory, (c) Deming profound knowledge theory, (d) Laswell's theory of communication, (e) Grebner's communication theory, (f) Management communication, (g) project success and failure, (h) team-building effectiveness, (i) gaps in IT project, and (k) knowledge sharing. The literature within the categories, along with the conceptual framework, is the scholarly foundation of this study.

For the literature review, I gathered information related to the central research question from peer-reviewed articles, scholarly journal articles, government citations, published dissertations, and books. I primarily used the Walden University databases and Google Scholar to locate the information. I used the following: EBSCOhost, ProQuest

Central, ProQuest Dissertations, ABI/INFORM Collection, and Emerald Insight as primary sources for collecting journal articles. I used scholarly articles. I used scholarly books to aid in the methodological development of the study. I also used various websites to locate articles and information related to the research topic.

For the database searches, I used various keywords. The primary significant words included *communication models, project management, information technology*, and *communication styles*.

Overall, I cited 247 literature sources in this doctoral study proposal. Of the 247 sources, 210 were peer reviewed and 176 were published within 5 years of the publication of this study. In Table 1, I provide the literature review source statistics for the (a) total number of sources, (b) number of peer-reviewed sources, (c) number of sources published within 5 years of my projected graduation date of June 2019, (d) percentage of peer-reviewed sources related to the total number of sources, and (e) percentage of sources published within 5 years of my projected graduation date of June 2019 related to the total number of sources. My objective was to understand other influential communication skills discussed in the other literature that may lead to successful communication environments and support the concept of communication performance or theory leading to the effective and ineffective communication scenarios.

Table 1

Summary of Literature Review Sources

	Total sources	Peer-reviewed sources	Sources published within 5 years (2014-2018)
Sources (number)	247	210	176
Percentage	100	94	88

Application to the Business Problem

The review of the literature covers the following topics: the conceptual framework for the study and why it was applicable to the research; the strengths, weakness, and limitations of other theories, components of organizational and communication problems for PMs, explanations of employee satisfaction and organizational performance applicable for this study, the reasons that affect a lack of managerial strategies for refining PM's communication abilities; and the rationale and influence of the study.

The Communication Theories Leading to the Study

To address the dynamics of the business environment, I used a conceptual framework that encompasses multiple theories: McQuail's (2010) mass communication theory, Craig's (1999) dynamic nature of human communication, and Deming's (1960) theory of profound knowledge. These three theories create a conceptual lens for

understanding the communication strategies used for IT program managers. The review of literature includes detailing communication behaviors and the lack of communication strategies that will improve IT PM's and leader's communication abilities. The literature review covers the following topics in the following order: the conceptual framework that depicts the areas in which communication takes place in the IT work environment between senior program manager, leader, and skilled workers. The conceptual framework is a reinforcement for the argumentative role of theories that reinforce processes and knowledge structure in the working environment; a collaboration of key elements of organizational and leadership communication problems of IT PMs; descriptions of organizational performance and profitability relevant to this study; and a debate on the rationale and potential influence of the study.

McQuail Mass Communication Theory

A significant among of research into mass media has been stimulated by the concept to apply norms of social and cultural performance within media. Mass communication theory is among many researcher's topics that open the field of inquiry to human communication. Kampf and Daskal (2014) stated that in developing the mass communication theory, McQuail considered the work of many communication theorists, including Lasswell's model, Shannon and Weaver's model, and Grebner's model of communication. Originally, mass communication theory dealt with marketing concepts intended to reach broad media groupings. In later publications, McQuail (2010) noted that mass communication theory applies to many forms of communication flow in business and society. From McQuail's original mass communication theory publication,

through the author's recently published works, he has remained consistent regarding the main points of the field of communication: stay current on research, continue to expand the field, and continually improve and clarify the field of communication.

Communication researchers have previously applied the framework of mass communication theory in qualitative studies. As Craig (1999) noted, researchers have used mass communication theory to explain mediated as well as interpersonal communication because of McQuail's premise that media have powerful effects on audiences. Primary constructs underlying mass communication theory are individualized consideration, intellectual stimulation, inspirational motivation, and idealized influences (McQuail, 2010). Ultimately, improving project management communication will aid in improving the overall effectiveness of project management. Many PMs continue to struggle with completing IT projects. Kampf and Daskal (2014) explained that mass communication requires numerous factors working together as a whole to ensure success. Mass communication theory aligned closely in exploring all of the elements that come together for PMs' to achieve an effective communication strategy.

Craig's Communication Theory

Communication theory potentially is a significant factor in social change. Communication theory cultivates particular ways of understanding human social existence regarding communication processes (Craig, 2013). Prior researchers used theories to approach communication from many different vantage points and often have made different sometimes conflicting fundamental assumptions about the nature of communication (Dennis, Fuller, & Valacich, 2008). Craig (1999) explained that seven

major traditions had created the actual field of communication theory: rhetorical, semiotic, phenomenological, cybernetic, sociopsychological, sociocultural, and critical. Communication is sometimes like a patchy and a heterogeneous universe, with a comparison to a multi-space and multistructure cosmos (Smarandache & Vlăduţescu, 2014). PMs can use communication field theories for personal development. A positive communication process keeps stakeholders engaged, and project teams motivated (Vlăduţescu, n.d.). To bridge the communication gap, organizations must help everyone learn to speak the language of business to communicate how the project will deliver results.

Deming's approach of communication model serves as a first for PMs, and leaders to develop a system in their organization as a strategy for communication knowledge of a system. Foundational to Deming's theories is the notion that top management must initiate, model, and take responsibility for implementing the Deming quality paradigm (Nair, 2016). Managers can use the theory to lead their organization towards performance and profitability. Deming further explained that a system needs an outside view to fully transform itself since the system cannot fully understand itself otherwise (Petit, 2015). The processes, tools, and techniques must be built on the foundational principles first. Otherwise, the processes, tools, and techniques used will be ineffective (Azar, Vashist, & Vashishtha, 2015). Without considering the many factors that contribute to project success, organizations and individuals can implement failure that expends a great deal of time, effort, and expense that yields suboptimal results.

As leaders, PMs need to find ways to improve and develop constantly. Powers (2014) suggested managers acquire knowledge and skills, including leadership skills, through a combination of career and life experiences, development programs, and experience in the current organization. The qualitative case study results may contribute to the body of knowledge by adding to the general attentiveness and intellect about leaders' communication. Adapting to theories of communication is one way to do that. The need for the PM to be an effective communicator is self-evident when considering the number of occasions that PM communication is deemed as a primary cause of project failure. The communications that people have with each other resulted in learning and the transfer of knowledge (Rahman & Muktar, 2014). Ultimately, improving project management communication will aid in improving the overall effectiveness of project management.

Deming's Profound Knowledge Theory

Deming's (1960) management theory is an effective theory of management that provided a framework for thought and action for a business leader wishing to transform and create a thriving organization, with the aim for everybody to win. When PMs appropriately apply the principles and practices of Deming's profound knowledge, a business can concurrently reduce costs through reducing waste, rework, staff attrition and litigation, while increasing quality, customer loyalty, worker satisfaction and, ultimately, profitability. Theory of knowledge reflects the premise that management is prediction and knowledge acquired as a rational prediction based on a theory of what may happen. Theory of knowledge is then revised based on a comparison of prediction with actual

observation. The new knowledge reflects in the new theory of what action is needed to effect change.

Businesses learn only when the people in them learn. Deming (1960) offered that without theory there is not knowledge. From Deming's perspective, only portraying the ability to put forth effort would not substitute for knowledge to improve performance (Best & Neuhauser, 2006). The learning system process constructs are an appreciation of the system, knowledge of communication, the theory of knowledge, and knowledge of psychology. Deming (1993) presented quality driven principles and practices that enabled stronger system resources to support best efforts in a conceptual theory of a system of profound knowledge. As applied to this study, using Deming's theory of profound knowledge theory allowed me to explore communication strategies of how knowledge depends on theory. PMs can use the strategies to share information between projects teams and emphasize that information is not knowledge and experience teaches nothing without theory. Practice makes permanent, not perfect.

Lasswell's Theory of Communication

The field of mass communication offers scholars a multitude of theories and concepts to engage**.** Mass communication sometimes answers the questions *who say what*, *in which channel*, *to whom* and *with what effect* (Lasswell, 1948). Robson and Robinson (2013) stated that identifying key factors affecting the successful communication and use of information; expecting that the model will be of practical value both to information providers and to users. The essential elements of Lasswell's

(1948) communication theory are information source, transmitter, receiver, and destination.

Lasswell's model (1948) represented the earliest and simplest diagram in communication theory. Lasswell's model is often criticized for its weaknesses, and this pushed scholars afterward to bring changes to this model. The intent behind establishing mass communication as a field of study was to create a new channel that could complete the communication cycle. The fate of Lasswell's theory might be associated with a visual model that Lasswell did not create, nor intended to be used in the manner most often associated with him (Sapienza, Iyer, & Veenstra, 2015). The major criticism of Lasswell's Model is that it does not include feedback and it ignores the possibility of noise. Holloway and Brown (2012) stated that qualitative methods are appropriate for theoretical communication research because qualitative methods provide researchers insight into communication processes, along with human social and organizational relationships. Without feedback, a communication process cannot be successful. Lasswell's communication theory concepts are in both McQuail's and Craig's theories; Please note that this theory was not suitable for my study because it did not support qualitative studies.

Grebner's Model of Communication

Grebner (1956) developed a communication theory that details how reliability is compromised by a mass of factors. The factors in play in the aspect during an event (E) regarding the message (M) were selection, context, and availability (Grebner, 1956). Grebner argued that the challenge in the field of communication was not having an in-

depth understanding of its context, for communication lacked a framework to discuss technicalities. Not only did the field at the time lack the understanding above but also missing was a way to make sense of findings that were needed for immediately needed results (Grebner, 1956). In the aspects of the dimension, humans should communicate with a third party and create context around the message to communicate in a variety of ways. The humans have varying degrees of control over the message at this point depending on their capabilities complicated by different receivers with many ways to perceive the message and interpret it (Grebner, 1956). Therefore, Grebner's (1956) model was a foundational theory not only for understanding the depth of basic communication but as it was developed further through the decades, Grebner model was also applied to mass communication (McQuail, 2010). Most communication theorists agree with McQuail and Craig that Grebner's theory does not adequately address the business communication needs of qualitative research. Leaders must determine the group characteristics that will be necessary to comprehend to confirm communication efficiency and uppermost performance. Positive communication between leaders and workers is essential. Although concepts of Grebner's theory are in both McQuail's and Craig's theories, this theory was not suitable for my study as it did not support qualitative studies.

Management Communication

Communication in an organization is a network movement. Voinea, Busu, Opran, and Vladutescu (2015) stated that management communication is not only the ability of transmission and accepting information but also the capability of allowing employees to understand management decisions that drive employees to meet organizational goals.

Communication is the key to keeping team members, managers, and stakeholders informed and on track to pursue the project objectives, as well as to identifying issues, risks, misunderstandings, and all other challenges to project completion. Buono and Subbiah (2014) found that the primary challenge for organizational management was to develop and execute communications strategies that align to convey communicative information. Primarily, the role of a manager involves fostering a climate of innovation and creativity (Chong, 2013; Yoshida, Sendjaya, Hirst, & Cooper, 2014). Therefore, the development of a communication strategy is critical for PMs, to inform the management about communication strategies, project teams about how communication is one of the key concepts to build team improvement, and to minimize communication failure in projects (Espinosa, Nan, & Carmel, 2015). PMs achieve outcomes by creating a collaborative atmosphere for leaders and project teams improved efforts in communication.

Lindhard and Larsen (2016) noted that improvement in communication would help avoid project failure, therefore increasing the chances of project success. Lindhard and Larsen surveyed 87 representatives from construction projects in North Jutland, Denmark. Likewise, Schnetler, Steyn, and van Staden (2015) stated the quality of communication between project team members increased the project success perception. Schnetler et al. surveyed 37 PMs, 30 functional managers, 36 other team members, and three CEOs or executives were working in South African industries. Similarly, Cserhati and Szabo (2014) noted that communication is one of the decisive factors in project success. Mishra, Boynton, and Mishra (2014) described

communication as a two-way exchange of information. Mishra et al. stated further in organizations, this exchange consists of the dissemination of information by the managers to the employees in return for employee engagement. Pozin, Nawi, and Romle (2016) found effective team member communication is fundamental and critical in the performance of any organization.

The success of a project largely depends on the efficiency of its communication network. Carvalho, Patah, and de Souza Bido (2015) examined the communication management in IT projects and the barriers to communication from both an individual and organizational standpoint along with the specific perspectives of PMs, project management office (PMO) staff, IT staff, and business line personnel. Carvalho, Patah, and de Souza Bido. (2015) research included a case study of a large IT service provider that included 78 interviews of managers, IT personnel, and the PMO staff. Carvalho et al. (2015) concluded that although the stakeholders considered communications important, PMs do not follow the communication practices endorsed by the PMO and incorporated within the organizational project management practices. Communication is only dynamic and effective if a consistent method exists in strategizing using all available avenues of communication. Exploring how strategies and managers' role may influence managerial competencies to contribute positively to employees' communication skills is essential (Charoensuk, Wongsurawat, & Khang, 2014). Senior managers sometimes decide how that information disseminates throughout the company. Communication only occurs when those directing that communication consider how their specific subordinates comprehend the message and how those subordinates engage with one another and take

part in the interchange (Yap & Webber, 2015). Management decision making requires clear and adequate information before divisional decision makers should make considerations. The need for vibrant, established and understood communications may improve strategic profits or change parts of the organization moving toward achieving that profitability. Effective communications require managers to disclose information to their subordinates that is understandable and with enough depth to get the job done. Depending on the clarity of the message and the perception of that message by the receiver, effective communication may or may not occur. Engle (2013) postulated that if the quality, clarity, or supervisory information to subordinate employees is not useful or effective, or if the managers do not use it properly, it detracts from the efficiency of the company. Effective communication is necessary to consider the collective nature of message creation because creative acts might involve drafting individual processes to create collective outcomes (Sonenshein, 2014). The importance is that all individual divisional drafts of messages understand the same thing to support the organizational goal and should be in the form of communication that can be clearly understood by those who must perform the work.

Management saw increased challenges for implementing improved communication practices because of language and cultural barriers, challenges of working in different geographic locations and time zone differences (Yagüe, Garbajosa, Díaz, & González, 2016). Zaugg and Davies (2013) established three essential soft skills needed to build successful communication plans in a team, which included: selecting and utilizing quality virtual communication tools, and the scheduling of time to build trusting

relationships refining communication skills. Communication plays a vital role in communication by dealing with global issues through building resilience, developing partnerships, improving intercultural communication, negotiating issues peacefully, and working for social equity (Ziyu et al., 2015). The increase in global teams may change the way the IT PMs look at communication, and how they train their workforce.

Worldwide staff conflicts limit team members' potential to communicate project status properly, and may also necessitate additional project management oversight (Yagüe et al., 2016). Licorish and MacDonell (2015) noted that global teams frequently had had software developers who dominated conversations, which resulted in a decrease in team morale and performance. Communication is a critical success factor for IT projects. Existing research shows that leaders need to adjust communication plans and practices based on global dynamics. Also, teams that communicated well and completed projects successfully have caused lower turnover rates than teams who demonstrated project failures and poor communication (Norizah, Amir, Saw, & Muhammad, 2014). The success of a project depends on the level of communication skills demonstrated by the individuals involved.

As organizations increasingly become more diverse and global, the use of teams distributed across national, cultural, and geographic borders have increased too (Han & Beyerlein, 2016). Killingsworth, Xue, and Liu (2016) stated an increased risk exists of a communication breakdown as the cultural, individual, and geographical diversity of team members increase. According to Bouncken, Brem, and Kraus (2016), cultural differences among team members can potentially create barriers to communication,

relationship building, cooperation, and trust which can adversely influence the innovation process.

Bouncken et al. (2016) created a longitudinal study designed to investigate why many internationals firms do not have robust cultural diversity in their innovation process. Data collection for the study was through semistructured interviews of 70 participants from international firms. In another study designed to that investigated trust formation among multicultural and unicultural teams Cheng, Yin, Azadegan, and Kolfschoten (2016) found trust development and sustaining in multicultural team declined over time more than in unicultural teams. It is incumbent on leaders to understand when cultural diversity can be a benefit and when it can be detrimental. Developing strategies to mitigate these challenges may help IT leaders improve team performance to mitigate negative effects of turnover, supporting the need and rationale for this study.

Project Success and Failure

Success and failure in any organization are relative to the quality of communication being transmitted or received internally and externally. Brones, Monteiro de Carvalho, and de Senzi Zancul (2014) published an investigation of the role of communications in IT projects and noted that project success had different meanings to stakeholder expectations and what expectations that led to project failure. Project success or failure is an elusive concept that means different things to different people. IT projects are complex by nature, and this is primarily because IT projects usually change existing business processes in organizations, which are often faced with high resistance

(Alfaadel, Alawairdhi, Al-zyoud, & Ramzan, 2014). Approximately, 56% of projects are at risk and project and business leaders have linked the risk to poor soft skills and communication failures (Sweeney, Warren, Gardner, Rojek, & Lindquist, 2014). Project management communication strategy is a necessity without strategies; business teams may fail in the most relevant metrics of project success (Eisenbeiss & Knippenberg, 2015). Project leaders enforcing soft skills along with team members' contributing to positive communication is likely to build a successful communication strategy (Klitmøller, Schneider, & Jonsen, 2015). Also, Altahtooh and Emsley (2014) stated completing an IT project on time is one critical element of success criteria. A project completed in the budget should be a priority demand of almost all stakeholders. Communication strategy style and organizational planning result in successful project outcomes (Taherdoost & Keshavarzsaleh, 2016). Effective communication management plan encourages a collaborative culture that develops a cohesive project team (Livesey, 2016) which also promotes active participation in decision making and establish a platform for harvesting project learning.

Project success or failure avoidance is the core business of project management science. Poor project management practices such as lack in creativity and visioning; poor communication and organization skills; unclear work-breakdown; ineffective workload management; accompanied by poor delegation and tracking resulted in project failures (Anthopoulos, Reddick, Giannakidou, & Mavridis, 2016). The use of effective communication should be managed with due care and due diligence to grasp the

maximum value of collaboration and exchange of project experiences in managing to aim at repeatable project delivery success and the ability to meet schedule and budget.

Managers with effective leadership skills increase project success outcomes (Guillaume-Joseph & Wasek, 2016). Managers must also ensure job satisfaction among team members because increased job satisfaction can lead to additional dedication to IT and project success to lower turnover within the organization (Guillaume-Joseph & Wasek, 2016). A PM motivation is a critical factor in successful project culmination. If leaders are successful in designing an IT project, it might increase revenue, increase competitive advantage, and diminish life-cycle costs. Successful IT projects produce competitive and take advantage of economic value (Hughes, Dwivedi, Simintiras, & Rana, 2015). Organizational leaders should recognize this particular goal before beginning any new IT projects to be able to make sure the organization 's renewable development.

IT managers should possess PM skills to attain set goals and objectives, expedite merchandises, and maximize revenue while reducing costs (Chemuturi, 2013; Hughes et al., 2015). Successful IT projects have led to business improvements and longterm benefits like preparing the organization for future challenges, competitive market situations, and long-term development (Idoine & Herschel, 2016; Schwalbe, 2015). For a project to succeed, processes, instruments, and procedures should be evident. To evaluate IT project success, PMs have had to manage project productivity, business success, the effect on end users and long-term sustainable development (Kubilus, 2016). Kubilus (2016) further asserted that business leaders who measured project success need to

manage projects and efficiency of their team members. The success rating of a project may deviate depending on an individual's observation (Idoine & Herschel, 2016). For instance, while a project leader may consider a project effective, team members may consider it a disappointment or failure (Nair, 2011). Likewise, team members may view a project as effective, but leadership may consider it a disappointment or failure if certain conditions were not accomplished (Dede & Ho, 2016). In the assimilated work location, team cohesiveness is essential for both productivity and efficiency. Team construction and interaction are vital to accomplishing project success.

Many reservations can exist in a project, and PMs work with that understanding at any given time. Carvalho and Rabechini (2015) directed an investigation to examine the association between risk management and project success with the contemplation of project complexity, including what type of project can affect project performance. The outcomes revealed the importance of soft skills and hard skills for PMs. Managers, as well as project leaders, overestimate their competences to effectively manage IT project successfully (Dwivedi et al., 2015). Brones et al. (2014) found that the communications area strongly associated with the accomplishment or catastrophe in IT projects. In an effort to combat the high rate of IT project failure, organizational leaders are now combining IT professionals with diverse roles to compensate for project complexity (Rivera-Ruiz & Ferrer-Moreno, 2015). Regardless of the effort shown in research, IT projects are increasingly complex and continue to fail at an increased rate in recent years.

Ineffective communication threatens organization performance, productivity, leadership, competitive advantage, profits, and sustainability. Although organization

leaders and project team members understand the importance of effective communication, comprehending does not mean communication is always transpiring between the people involved in communicating. Voinea et al. (2015) stated that leaders communication is not only the art of conveying and understanding information but also the art of allowing employees to understand management decisions that propel employees to meet organizational objectives. When leaders talk to employees, it is important to ensure employees understand the information. Identifying critical success factors and knowing the early warning signs of opportunity gaps helped eliminate the influence of measures on the IT project (Philbin & Kennedy, 2014). IT leaders' strategies on IT projects can be costly, and companies cannot afford to overrun budgets on IT projects. The failure of IT projects may present organizational leaders with economic challenges and possibly lead to organizational failure. The measurement strategies to determine project success and failure continue to evolve and expand.

Team Building Effectiveness

Team managers can face obstacles when building project teams. A team comprises of three or more individuals who work on a mutual purpose and indirectly and directly relate to the common goal (Imangulova & Kolesnyk, 2016). The interaction of a team can result in a synergistic effect, which means the entire team is more effective than any separate individual (Imangulova & Kolesnyk, 2016). Imangulova and Kolesnyk (2016) suggested that the foundation of project management encompasses the effective management of a team and can be considered a factor in effective project implementation.

Project success is essential in all aspects of team building. Project teams succeed because their leaders have the ability to identify communications strategies that explicitly clarifies, and communicates shared purposes and goals (Lerner, Li, Valdesolo, & Kassam, 2015). Through the effective use of different knowledge sources, employees could increase the competitive advantage of their organizations (Kotabe & Kothari, 2016). Team-based learning is when team members come together to collectively share their intelligence and discuss team activities for effective learning (Nikooravesh, Parpoochi, & Davoudi, 2016). PMs should create a culture in which leaders and project team members expect and accept questions to help eliminate knowledge sharing barriers.

The project team always has the burden to ensure effective communication regardless of who are responsible for communication issues within projects. (Cervone, 2014). Project issues and challenges can be exposed to a comprehensive feedback mechanism. Four areas of communication issues were (a) failure to distinguish stakeholder needs, (b) overlooking cultural differences, (c) assuming too little or too much of stakeholders, and (d) failure to recognize how communication methods change over time (Cervone, 2014).

With the issue that included failure to distinguish stakeholder needs, the project team should consider the most effective methods of communication for the various groups of project stakeholders (Cervone, 2014). With the issue that involved overlooking cultural differences, the project team could have used a variety of techniques that addressed each cultural group where different groups could communicate and work differently (Cervone, 2014). When assuming too little or too much of stakeholders, the

project team should not assume too little or too much of a stakeholder group (Cervone, 2014). In the issue that involved failure to recognize how communication needs change over time, the project team should modify the timing of the communication to the stakeholder group as the involvement of the group fluctuated during the project life cycle (Cervone, 2014). PMs' primary goal should implement effective communication, providing objectives and goals to ensure the project team is doing the right job.

Turner, Kutsch, and Leybourne (2016) addressed the need for project teams to increase knowledge and understanding among team members while improving performance through better solutions. Methods to improve project problem-solving effectiveness include (a) team adaptability, (b) action learning, (c) knowledge, and (d) system thinking (Turner et al., 2016). Many factors can impede or enhance the performance of project management teams. PMs are only as good as their project teams.

Organizational leaders should provide strategies to support their project leaders, and project team members in effectively aiding key programs that will keep alignment to the overall goals, missions, and vision of the organization. The support project management leaders and project team members provide can positively influence the knowledge sharing process within organizations (Hussein, Singh, Farouk, & Sohal, 2016). As project management continues to build knowledge, the process of team building establishes practices within the project organizations to establish a learning community. For instance, project management business leaders can join the Project Management Institute, which sponsors chapters within communities for sharing knowledge locally and globally (Lee, Reinicke, Sarkar, & Anderson, 2015).

Communicating with others result in learning and transferring knowledge (Rahman & Muktar, 2014). With the importance that IT plays in the success of business performance, organizational leaders require project management to execute effective team building effectively.

Organizational leaders require efficient coordination practices to implement IT activities and capabilities effectively. Xia, Dawande, and Mookerjee (2016) identified the importance of creating a shared understanding by increasing coordination activities that lead to effective collaboration and integration functions. Leadership that attains a fit between project management activities and strategy along with interrelationship between using the appropriate management methods offers the best opportunity for success (Acebes, Pajares, Galán, & López-Paredes, 2014). To achieve an effective team communication strategy, each team member must understand the project mission and commit to the project goals (Vidyarthi, Anand, & Linden, 2014). This gap in research is problematic; in many sectors of business, a lack exists of quality processes in team communication; this lack of understanding contributes to financial, project and business failure.

Gaps in IT Project

Many researchers refer to internal problems, poor management, non-effective communication, and mismanagement of the processes as primary causes of IT project opportunity gap (Wallace & Norton, 2014). Lack of senior management support is a contributing factor to project opportunity gap, when networking with project team members fails to create a favorable vendor and client relations in the building stage

(Kutsch, Browning, & Hall, 2014). Brookes, Butler, Dey, and Clark (2014) argued the individual's association with the project should possess the qualities to need to make a project a success. Long, Cunningham, Carswell, and Braithwaite (2014) indicated the significant influence of ambiguity in defining the tasks of stakeholders (merchants, consumers, and specialists) in project opportunity gaps. The bridge of strategies that emerge from this study may provide IT leaders strategies of techniques to manage assets and project teams occasionally incorporated in the IT project.

IT project gaps, opportunity gaps, and lack of knowledge sharing may lead to a positive outcome from the findings of the study. The research may also apply to other parts of the organization. Zabawski (2015) identified the early warning signs of the IT project opportunity gaps by non-effective communication. The risk associated with the success of the IT project divides into three broad categories as (a) an overall procedure, the (b) involvement of a human base, and (c) the technological product (Zabawski, 2015). The categories divide further regarding the lack of management, weak commitment, and a lack of personnel and technical supporting staff (Zabawski, 2015).

Conversely, Croce, D'adda, and Ughetto (2015) explored that such opportunity gaps do not frequently occur with teams that communicate well. Croce et at. (2015) recommended that ongoing processes should manage the early warning signs of opportunity gap, which would aid in saving time clients. A gap in trust, between client and provider, aggravate the situation further (Croce et al., 2015). Croce et al. included a lack of conjoint teams, inadequate understanding, miscommunication, and the absence of a cultural fit between parties. Understanding the strategies that business leaders use may

provide insight into successful and efficient methods to enhance IT project effectiveness (Davies & Brady, 2016). Researchers recognize that bridging the gap as common dynamics associated with IT projects. By investigating strategies to manage IT projects effectively, I can expect the participating IT leaders to identify strategies addressing these identified critical success factors.

Many organizations use current day measure of project success to evaluate IT projects; these are observance to schedule, budget, and quality. Project management researchers and specialized organizations have developed methodologies, and best practices to guide the successful practice of the profession. While those methods and best practices appear to have led to some level of success in other fields such as construction and engineering, things seemed to be different with IT projects (Ram & Corkindale, 2014). Coombs (2015) suggested that the standard definition and measures of success might have contributed to the low success rate of IT projects; this aligned with the argument by Serrador and Turner (2014) that recent measures of project success are not ideal. Many organizations used the modern measures of success to evaluate IT projects; which were adherence to schedule, budget, and quality. In addition to those gaps, Wu, Straub, and Liang, (2015) identified IT governance mechanisms, alignment with business strategy, and business performance as areas requiring further research; they suggested that these might have strong influences on IT project success. The need to study the effect of governance, strategic alignment and organizational performance on IT projects represent knowledge gaps; these are factors that are traditionally addressed before project execution begins. However, other scholars have argued that those

measures might be unsuitable for use in evaluating IT projects; they have proposed the use of measures such as customer satisfaction and benefits realization (Chih & Zwikael, 2015; Coombs, 2015; Serrador & Turner, 2014). Therefore, understanding the elements of how personal knowledge sharing contributes to filling the gaps in an organizational knowledge is essential in producing a concise description of the nature of knowledge sharing within an IT project team's environment.

Knowledge Sharing

Knowledge sharing is challenging, yet it is essential to the success of an IT project teams. Individual's psychological and cognitive processes can create barriers to sharing knowledge. Organizational structures should have processes that require the interaction and participation of employees to obtain knowledge and share the information they learn throughout the entire company for the benefit of all employees (Bashouri & Duncan, 2014). Assuring that a knowledge-sharing environment is in place at an organization helps create employees who actively seek out innovative ideas to improve systems rather than waiting until conflicts have emerged. Organizational leaders and staff gain knowledge by employing the methods of prior experiences of management, shared stories, best practices, and superstition (Lyles, 2014). However, PMs will need to develop daily routines for using these methods (Lyles, 2014). As employees' exchange knowledge, this may result in new knowledge for the organization (Monks et al., 2016). Organization leaders attempting to encourage knowledge sharing between project teams require implementing an appropriate work culture to facilitate that sharing (Mueller, 2014). Senior and lower-level managers can both play essential roles in inspiring

knowledge sharing values. Leaders play a major role in establishing an organizational culture, and culture is critical to project success (Hermano & Martín-Cruz, 2016). Managers can implement schedule training regarding knowledge sharing and encourage greater communication among staff. Organization leadership in the form of management support is critical for facilitating knowledge sharing (Saifi, Dillon, & McQueen, 2016). Increasingly opposing views require more time to meet multiple needs, limiting innovation as cognitive functions focus on meeting demands.

Diversifying the number of employees working on a project helps support innovation to an extent, although attempting to assimilate too many individuals makes it difficult for employees to integrate new knowledge. In the research of an organization, (Lakemond, Bengtsson, Laursen, & Tell, 2016) revealed that while more significant exposure to knowledge from divergent partners can encourage innovation through recombination, an extreme disparity of knowledge brought to the table reduces innovation, requiring a need for matching knowledge for new partners brought onto a project. However, at the organization level, unwanted information leaks could limit the amount of innovation that takes place. Innovation at the organization level mirrored findings within organizations that knowledge sharing promoted innovation (Hussein et al., 2016; Leonardi, 2014). Whenever employees accidentally leaked information or intentionally leaked knowledge against organization leaders' wishes, the negative exchange cancels the relationship between knowledge sharing and innovation.

Team sharing knowledge can be an unlimited accompaniment to traditional coordination mechanisms (Ziek & Anderson, 2015). Ziek and Anderson (2015) examined

three types of team cognition: shared cognition, building trust, and cognition and cognition management. Espinosa, DeLone, and Lee (2006) found that sharing knowledge has had a positive effect on IT project results. Shared knowledge presented mutual grounds for efficient communication with less complex messages and a mutual cognition base that helped team members tap into expert cognition sources within the team (Ziek & Anderson, 2015), which also helps overall team performance.

Enhancing the knowledge sharing practices within an organization improves the collaboration functions throughout the organization. Santos and Baptista (2015) theorized that effective organizational performance involved coordination between the organization's social and economic influences. The level of knowledge includes the processes and functions spreading across the organization's boundaries. Luna and Terra da Silva (2015) noted that team members used coordination mechanisms to integrate the work of other individuals and create mutual reference points. The mechanisms included (a) forming shared goals and objectives, (b) creating shared knowledge, and (c) improving common language. The use of coordination practices improves organizational capabilities through the sharing of knowledge and improving team coordination activities. The principles and practices of coordination apply to the management of IT projects.

The management of IT projects requires the means to coordinate several independent and contingent activities. To manage project activities effectively, IT leaders established coordination procedures spanning countless operational boundaries within an organization (Jiang & Klein, 2014). The success of IT projects continues to play an

important part in sustaining a competitive advantage in universal operations. To achieve IT project success, IT leaders employed coordination practices and principles to enhance organizational performance and improve project effectiveness (Aagaard, Eskerod, & Madsen, (2014). The implementation of IT projects required numerous essential coordination procedures and methods that involved dependent and contingent activities. IT leaders concentrated on integrating and organizing project team actions to achieve organizational goals.

IT project leaders required methods and procedures focused on coordination and cooperation. To achieve organizational goals during the implementation of IT projects, project teams incorporated the actions and knowledge of team members while supporting their specific objectives. Inadequate coordination produced irregularities and mistakes within numerous functionalities of a project team. (Chang, Jiang, Klein, & Want, 2014). As the complexity of projects increased, the requirement for coordinated-related activities increased as well. Xia, Dawande, and Mookerjee (2016) identified the significance of forming a common understanding among members by increasing coordination activities that steered them towards effective collaboration and integration functions. Organizational leaders require efficient coordination practices to implement IT activities and competencies effectively.

Thus, attaining shared understanding within the project team and aligning key documents are both important goals for a project's knowledge management strategy. Reich, Gemino, and Sauer (2014) evaluated the relationship between knowledge management and the performance of IT-enabled organizational projects. Reich et al.

posited that knowledge management is a key factor in project performance when mediated with knowledge alignment. Reich et al. analyzed survey data collected from 212 IT-enabled organizational projects using structural equation modeling. The findings indicated that PMs who achieve knowledge alignment among the organizational change team, the IT team, and the project governance team could have a significant positive influence on obtaining the desired organizational value from the project. A positive outcome of innovating a knowledge sharing culture. Incorporating knowledge sharing in an organization's skill development increases innovation within organizations. At the organization level, external knowledge sharing between organization leaders can also promote innovation within the organizations' employees who engage in the knowledge exchange relationship (Ritala, Olander, Michailova, & Husted, 2015). Employees have the capabilities to share knowledge, communicate and convert acquired knowledge into new practices and procedures. This type of innovation not only occurs as individuals collaborate, but as organizational leaders collaborate. A potential downside sometime exists to largescale levels of information sharing, including the potential for information leaks, which can harm innovation. However, investing every employee as a stakeholder in the knowledge management process and instituting the appropriate security procedures can help to maintain knowledge security and the benefits that arise when utilizing knowledge sharing.

Organizational leaders depend on reliable and efficient knowledge management practice strategies for achieving the goals and objectives of their companies (Ray, 2014). However, many barriers can prevent the implementation of knowledge management

practice strategies such as (a) time, (b) organizational culture, (c) teamwork, (d) trust, (e) leadership, (f) lack of employee participation, and (g) lack of project learning resources (Ray, 2014). Organizational leaders should sustain a knowledge sharing culture amongst staff and management (Tong, Tak, & Wong, 2015). Thus, organizations should have a culture where employees are aware of the organizational values, and the standards of behavior team members should portray (Tong et al., 2015). Establishing a culture where employees are willing to share their knowledge will rely on the leadership within the organization (Tong et al., 2015). Many employees do not want to share their knowledge because of distrust and suspicion (Tong et al., 2015; Waheed, Qureshi, Khan, & Hijazi, 2013). In some organizations, knowledge is a controlled mechanism where employees only reveal certain information for their benefits (Wiewiora, Murphy, Trigunarsyah, & Brown, 2014). Organizations that have a competitive advantage over other organizations have better communication practices for knowledge sharing and have better practices for knowledge management, can leverage technology, and have PMs who are aware of the new technology. Technology is important for knowledge management (Razmerita, Kirchner, & Nielsen, 2016). By using technology, employees can share knowledge throughout their organizations (Razmerita et al., 2016). Organizational leaders must provide organizational support to their project management business leaders, and project management business leaders must provide project support to their project team members. This support will aid project management business leaders and project team members in effectively delivering key programs and initiatives; thus, keeping alignment with the overall goals, missions, and objectives of the organization

Importance of Information Technology Project Management and Projects

Project management incorporated the observation, preparation, organization, and control of a project from the beginning to attain an anticipated outcome (Bresnen, 2016; Yang, Huang, & Hsu, 2014). Project management remains critical to conducting all operations for an organization (Bresnen, 2016). PMs usually embodied an endeavor of strategy, as they designed the structures of control to organize varied practices (Yang et al., 2014). Projects necessitated remote, business-oriented undertakings, which stakeholders are required to join, and focus on the precise activities of the organizational objectives.

Project Management has traditionally defined project success as a completed project that meets the scope requirements within the boundaries of budget and time allotment. Organizations use project management to strive for strategic goals and objectives. In turn, project management can enhance the company's strategic vision, goals, and strategy. Previous research has examined the PM's roles, management tools and strategies, and showed that each of these instruments might contribute to the project's success. Project Management is essential to an effective project. Serra and Kunc (2015) agreed and indicated that projects are essential in converting corporate vision into reality. Projects are a way to move an organization towards their outcome. Sánchez and Schneider (2014) referred to projects as transportation for realizing the organizational strategy. Valčić, Dimitrić, and Dalsaso (2016) explained that projects generate business worth. Therefore, one can conclude that projects provide a business's environment, which generates business core value.

Thus, effective management of projects is of increasing importance. Upright project management has been associated to project success (Carvalho, Patah, & de Souza Bido, 2015), which has led to an increased prevalence in standardized project management methodologies and accreditations, such as those of the Project Management Institute, which now has chapters in more than 70 countries worldwide (Remer & Ross, 2014). Project management is an important field of study because of its significant positive effects on achieving success and positive organizational performance measures (Carvalho et al., 2015). Accurate emphasis on project management has the perspective to enhance the overall performance of organizations, which will have positive implications for its stakeholders and the economy as a whole. With the frequent change in IT, and the business environment, what works well for one IT project might not work for the other; IT projects are increasing in complexity and managers might need to approach each IT project with a different set of strategies. As IT project performance continues to be an issue, it is possible that participants are taking the preparation required during the initiation stage for granted; it is also possible that project leaders need to do more at initiation to prepare the project for success.

Scholars suggested that IT projects be aligned with business strategy (Mullaly, 2014; Petro & Gardiner, 2015; Wu et al., 2015). In addition to aligning business and project strategies, a business may design the project organization with a structure that gives project management some 43 degree of influence in decision making within the organization (Mullaly, 2014; Petro & Gardiner, 2015; Wu et. al., 2015; Xue, Zhang, Ling, & Zhao, 2013). However, it is instructive to note that the business environment and

strategy are factors that often predate the initiation and execution of the project; as Petro and Gardiner noted, these are factors to be considered when designing the project organization. In other words, the nature of the operating environment and the business strategy are input factors required in the design of the project organization, which is done at the project initiation and planning stages. Wu et al. (2015) cited communications and planning as examples of governance mechanisms required to align IT strategy with business strategy. Wu et al. (2015) underscored the importance of a strategic approach to project management, which considers the business environment and seeks to align the project design with organizational strategy while producing business value. However, it is important to note that Wu et al. (2015) identified IT planning methodology as one of the dimensions of IT strategic alignment. Planning for strategic alignment and designing the project's structure are factors that should be explored at project initiation (Project Management Institute, 2017). It is, therefore, possible that the lack of alignment between project and business objectives at project initiation is a factor that inhibits the notion of success with many IT projects.

Organizations manage the knowledge of its people through IT (Foote, 2016). Dao (2016) found out that project complexity had a negative influence on project success. He established a framework that can be used to determine the level of complexity on a project to assist PMs in developing the appropriate complexity management strategies to improve IT project success (Dao, 2016). Sargent (2016) presented a framework to improve PM processes. They established that project leader development, customer focus, standard methodology development, interactive communication, creating a project

office organizational structure, and practicing continuous process improvement enhanced market delivery, reduced costs, and increased profitability. (Sargent, 2016). Brown (2015) examined 12 factors to determine how they affect the success of an agile IT project and found out that project type, project schedule, management commitment, organization commitment, delivery strategy, and project nature were factors that determined the successful implementation of IT agile projects (Brown, 2015). To derive the maximum benefit from the strategy, the organization or IT manager must provide training and delegate clear responsibilities to project members.

Managing an IT project of organizations, as described by Packendorff and Lindgren (2014), is becoming more prevalent as senior executives increasingly utilize IT projects to achieve strategic objectives and maintain a competitive advantage (Giannakopoulos, Sakas, Vlachos, & Nasiopoulos, 2014; Wu et al., 2015). Globally, organizations lose on average $109 million for every $1 billion invested in organizational projects because of poor project performance (Bronte-Stewart, 2015; Project Management Institute, 2017). In 2015 only 29% of 50,000 IT projects reviewed by the Standish Group completed without encountering budget, schedule, or quality issues (Velayudhan & Thomas, 2016). Leading companies are using agile project management techniques to leverage further IT's role in gaining and maintaining a competitive advantage (Lesser & Ban, 2016). These practices should be implemented within organizations to increase knowledge, effectively 98 communicate knowledge with individuals, and share knowledge with organizational leaders, other PMs, and project team members.

Transition

In Section 1, I have provided the problem, the purpose, the central research questions, interview questions, the significance of the study, and a critical review of the related literature. Section 2 includes a restatement of my purpose of this study and discusses the role of the researcher, participants, the research method and design, and the population and sampling. The details of Section 2 will outline data collection instruments, data analysis, and data techniques as well as an explanation of the phases taken to ensure ethical research. In Section 2 of this study, I covered (a) the restatement of the purpose, (b) the role of the researcher, (c) research participants, (d) research method and design, (e) population and sampling, (f) ethical research, (g) data collection instruments, (h) data collection technique, (i) data organization techniques, and (i) reliability and validity of study. In Section 3, I presented the findings of the study. Also, in Section 3, I entailed a presentation of findings, application to the professional practice, implications for social change, recommendations for action and future research, reflections, and study conclusion.

Section 2: The Project

My focus in this qualitative multiple case study was to understand the strategies that senior IT PMs need to retain profitable mobile device projects. Currently, individuals serving in senior level IT leadership positions use data obtained from semistructured interviews and other business documents.. Understanding the communication strategies that senior IT managers demonstrate may assist in retaining profitable mobile device projects, resulting in more IT professional's knowledge of successful communication procedures in a business environment to increase positive project outcomes.

Purpose Statement

My purpose in this qualitative multiple case study was to explore the communication strategies that education sector IT PMs use for improving performance and profitability of mobile device projects. The target population for this study consisted of senior-level IT PMs and team leaders in two small education section organizations in southeastern South Carolina. I selected the participants because they have experience developing and deploying successful strategies to improve communication, performance, and profitability of mobile device projects. The results of this study could increase IT program manager leaders' understanding of successful communication in a business environment and increase the success rate of projects' outcomes. Implications for a positive social change in this study could include the potential to contribute to a better understanding of communication values, beliefs, and economic sustainability. The results from higher levels of projects' performance and profitability, can increase the quality of life for the local communities.

Role of the Researcher

In this qualitative case study, my role as a researcher was the primary data collection and analysis instrument. Yin (2017) explained that in collecting data, the researcher is often the primary data collection instrument. A request for participation from those in senior-level IT leadership positions were employed by me to complete an interview for this study. My role as the researcher in this study included recognizing the methodology and design, selecting participants, notifying each participant about the study process, and gathering and analyzing the data. I am conversant with this topic of this study because I am an IT system support specialist with experience using communication strategies to improve IT projects performance and profitability at an education sector facility. I conducted a doctoral study in a rural area nearby where I reside, but not in my place of employment.

Nonetheless, conducting research involving colleagues and peers can present challenges, particularly about the maintenance of clear boundaries. Although benefits exist in role-duality, Berger (2015) claimed that a researcher's personal experience and experiences of participants could affect details of the research including participant's recruitment, data collection and analysis, and the approach of data thematic. A delicate balance, therefore, exists between academic/researcher credibility and peer/friend accountability (Taylor, 2011). To conduct this study, I used my interviewing skills and personal experience that includes leading different levels of clients and employees in the technology sites within southeastern South Carolina. I have a past professional

relationship with the organization; however, I have no personal or professional relationships with the participants who I interviewed at the time of the study.

When conducting the study, the researcher must have a high degree of self-respect, must be honest, and must be emotionally receptive to impressions and expressions, thus functioning constructively in the exploratory partnership. In qualitative research, the investigator uses an interview protocol to standardize procedures in all interviews (Baille, 2015; Leonidaki, 2015). To mitigate bias, a researcher should minimize bias as a vital consideration of having an ethical duty to outline the limitations of studies and account for potential sources of bias (Smith & Noble, 2014). Berger (2015) stated that the researcher should carefully monitor biases, beliefs, and personal experiences about the research topic to balance preconceived notions with objective findings. I used a purposeful sampling approach to find IT PMs and leaders who have experience using communication strategies to improve performance and profitability within an education sector facility. The individuals involved in the study all provided the voluntary acceptance to participate by via email; each is issued a letter consent form (see Appendix). As the researcher, I adhered to the interview guidelines of Roulston and Shelton (2015), which were to develop the interview questions, listen to the participants' responses, refrain from having any preconceived notions or biases, understand the study issues, and ensure flexibility during the interview process. Palinkas et al. (2013); Suen, Huang, and Lee (2014); and Yin (2011) recommended using interview protocols to establish procedures and rules are critical when conducting qualitative interviews. I completed all of the interviews in person with all participants, and I later analyzed the

data from the interviews to interpret the results as I conducted this study. Structure research questions measure the participant's experience to provide the data for the research. The role of the researcher includes investigating different points of view and perspectives during the data collection process (Kavoura & Bitsani, 2014). I finalized all ethical standards throughout the study by ensuring that I met the protocols outlined in the Belmont Report (Belmont Report, 1979). I completed the Protecting Human Research Participants training offered by the National Institutes of Health (NIH) Office of Extramural Research (Certification Number: 1555627). I followed the principles outlined in the Belmont Report. I conducted the study within the guidelines of the Belmont Report.

Participants

When conducting a qualitative case study, a researcher must assure the unit of analysis studied relates to the research question (Yin, 2017). For this study, interview and focus groups consisted of senior-level IT PMs from education sectors located in southeastern South Carolina, and who work in project management. Participation criteria for interviewees and focus groups included IT certification, and 3 years of project management experience, currently working as a senior-level IT leadership in the education sector. Senior IT leaders who met these criteria are eligible to participate in the study. Chief information officer (CIO), director technology officer (DTO), and system specialist or the equivalent meeting these criteria were eligible to participate in the study.

I used a sampling approach to find IT PMs and leaders who have experience using communication strategies to improve performance and profitability. A purposeful sample

of participants who have experience with the phenomenon under study is appropriate for a rigorous case study (Marshall & Rossman, 2016; Robinson, 2014; Yin, 2017). I sent invitations to the potential participants including an introduction, the purpose of the study, and an explanation of the option to participate. A sample of the consent form is in the Appendix . The email invitation was sent by me to members of the IT department of the education which included two senior IT leaders, and four IT professionals. I established a working relationship with the participants through direct communication by telephone and email once a participant had agreed to participate in the study.

I scheduled the interviews via e-mail request where the participants responded with an accommodating date and time that was feasible to their schedule. The participants reviewed the consent form and electronically signed and returned their response. I assured the participants in the e-mail that their participation in the study was voluntary, and that they could withdraw from the study at any time. Effective communication served as a means to raise employee ingenuity and innovation that increased levels of employee job satisfaction, enhanced levels of perceived supervisor support, and allowed organizations to meet strategic goals that increased information sharing the intended outcome and purpose of the study positively (Škerlavaj, Černe, & Dysvik, 2014). Before permission was granted, I adhered to the Walden University Institutional Review Board (IRB) ethical and legal requirements (Walden University, 2016). I did not contact participants or collect data until IRB approved my study and issued an approval number. Adequate ethical requires researchers to obtain permission from a research ethics board (REB) and ensure compliance is in order with the board guideline such as assuring

participant anonymity and confidentiality (Aluwihare-Samaranayake, 2012). Once I received IRB approval, I contacted the IT department chief executive officer (CEO) of the education section by phone to request a face-to-face meeting. Researchers must establish a close working relationship with participants and ensure a level of comfort during the face-to-face interview to gain adequate information (Yin, 2017). I discussed the purpose of my study and sought written approval to conduct interviews with participants, request relevant company documentation, communicate with participants via e-mail and focus groups, and conduct member checking. In addition, I requested the approval of participants using the organization's website. Accessing the prospective participants' job description on the organization's website provided me the ability to identify the participants who met the study criteria.

Research Method and Design

Research Method

Researchers must choose between three methods of inquiry based on the problem and purpose of the study. The methods available are qualitative, quantitative, and mixed methods studies. The three standard research methods include quantitative, qualitative, and mixed methods (Earley, 2014). Qualitative research enables researchers to recognize the familiarities or perceptions about the implication people give to a specific occurrence (Astin & Long, 2014). Social scientists use the qualitative approach to explore human behavior and shared experiences and to seek solutions to business problems (Morse, 2015). The main goal of qualitative research is to understand the phenomenon under study as perceived by the participants (Astin & Long, 2014; Doody & Noonan, 2013;

Peredaryenko & Krauss, 2013). For this study, I aligned the criteria using the qualitative approach as described by Yin, (2017), use of open-ended questions to provide the participants' view base on their personal experience as an IT PM. Khan (2014) explained that the qualitative research method is flexible and allows the researcher to work with a more open structure. Qualitative studies derive themes using the researcher's work in coding data obtained from participants (Yin, 2017). A qualitative method is best suited for exploring communication strategies senior IT PMs in the education sectors need to improve performance and profitability of mobile device projects.

With a quantitative study, the focus is on numbers (Gaskin, 2014). Researchers employ quantitative methods to test theories by examining relationships between dependent and independent variables by stating hypotheses in advance (Bettany-Saltikov & Whittaker, 2014). The purpose of my study was to explore strategies senior IT PMs need to improve communication to retain profitable mobile device projects than to test ideas or hypothesis. Also, researchers must control the experimental environment when using a quantitative method. A quantitative method was not appropriate for this study because I did not test a hypothesis or examine relationships or differences between variables. A mixed method approach is a combination of qualitative and quantitative methods (Ozawa & Pongpirul, 2014). Researchers rely on a mixed method to assist with examining an organizational problem quantitatively and exploring solutions qualitatively (Chiang-Hanisko, Newman, Dyess, Piyakong, & Lieher, 2016). A mixed method is not appropriate for studies that do not require quantitative data (McCusker & Gunaydin, 2015). A mixed method was not appropriate for this study since I did not combine

qualitative and quantitative approaches associations or variances. I sought only to explore the strategies that the participants have grasped with communicating to improve performance and profitability of mobile device projects.

Research Design

Yin (2017) made the difference between the following qualitative designs: (a) phenomenology, (b) ethnography, (c) narrative, and (d) case studies. The phenomenological researchers define the meaning of several individuals of their lived experiences of a phenomenon (Deepa & Panicker, 2016). Prior concepts that could distort the understanding of the events resistance when using the phenomenological design (Yin, 2017). Researchers who use the phenomenological design are interested in the individual experiences of people (Khan, Kolts, Thase, Krishnan, & Brown, 2015). I did not research personal life experiences; therefore, phenomenology was not an appropriate research design.

In contrast, ethnographic qualitative designs focus on immersive data collection over a protracted period (Gill, 2014). Ethnographic researchers become immersed in exploring the culture of the study setting (MacLeod, 2016). My focus of this study is on strategies senior level IT PMs use to succeed in the education sector. Since no cultural groups were involved, ethnography was not an appropriate design for this study.

Narrative design is reminiscent of storytelling, whereas the goal is sharing and organizing knowledge and experience (Schmidt, 2014). In narrative inquiry, the researcher constructs a narrative rendition of findings from the real-world setting, a study of experience providing a sense of being there (Kahlke, 2014). The narrative research

was not an appropriate design for this research, as my purpose of this research was not in the rendition of an individual personal real-world setting of senior IT PMs, but on exploring strategies use to manage communication to retain profitable mobile device projects.

A multiple case study requires the researcher to assume additional time, resources, and skill to collect, manage, analyze, and interpret the multiple data sources (Duff & Anderson, n.d.). I found the multiple case study design the most appropriate for this research. Multiple case research looks at similarities and differences across cases — the qualitative methodology using multiple case studies for otherwise unobservable effects on business strategy and performance (Dasgupta, 2015). Multiple case study design allows for clear and structured observation and overall research within the case study. With a case study design approach, the researcher can ask questions related to *how* and *what* in a real-time environment (Yin, 2017). A multiple case study design was more appropriate than the other qualitative designs because of the results revealed a variety of issues and allowed for the participants or group analysis to be a voice.

Data saturation describes the point at which a researcher discerns continued data collection will supply minimal if any, new information about a particular matter (Morse, Lowery, & Steury, 2014). To achieve data saturation, I used a purposive sample of participants who have experiences of serving as senior leaders with hiring responsibilities using leadership qualities which are successful in communicating with IT professional staff and client. Data saturation occurs in research when participants' interview information becomes redundant and reveals no new information. Data saturation is key to

performing first-rate qualitative research (Marshall, Cardon, Poddar, & Fontenot, 2013; Morse et al., 2014; Sandelowski, 2015). Data organization included data analysis and coding concurrently with data collection to acknowledge trends and determine data saturation. In this study, information was gathered from multiple sources to determine data completeness as well as confirm that the sources provide a complete picture of the phenomena (Houghton, Casey, Shaw, & Murphy, 2013). I continued to collect data through interviews with the participants until reaching a point of data saturation. When the data became repetitive, saturation was achieved. This section is an extension of the Nature of the Study in Section 1. The second paragraph of the Nature of the Study section required description and justification of the design.

Population and Sampling

Although an exact number of the participants is difficult to determine before conducting the research, an initial range is necessary to allow for research planning (Robinson, 2014). The population consisted of six senior levels IT PMs and team members that work for the two local education facilities in the southeastern South Carolina area. Dialogue of the level of analysis in a qualitative study aids the researcher in subsequent data collection decisions (Marshall & Rossman, 2016). The guideline of population selection for this study was participant work abilities, access to participants, and geographic location to the researcher and consist of those living in southeastern South Carolina. Participants in this study met the following criteria: (a) Over the age of 18, (b) has at least 1 year experience with the current employer, (c) employed by an education sector facility in the southeastern South Carolina area, and (d) employed full-

time. Managers who participated in this study met the following criteria: must have directly supervised a minimum of four employees and have a minimum of 3 years of experience as a PM with a current project management certification. The participants of the study aligned with the theory of communication will, in turn, support the local community where the organization is located. The alignment and understanding of communication theory helped the participants to perform their work duties effectively.

For this study, I implemented a nonrandom, purposive participant sampling method to choose participants who met the study criteria and signified the population for the study. Cleary, Horsfall, and Hayter (2014) stated, there should be a clear rationale and a specific purpose for the selection - related to the central research question. Yin (2017) assert that defining a type of sample in a case study might be misleading and inadvertently mimic statistical generalization. Research with a participant interview focus typically utilizes a sample size small enough to allow for an individual voice within the study (Robinson, 2014). The qualitative researcher determines the size of the sample based on the type of research conducted (Khan, 2014). Small group size will offer lesser qualitative data compared to the larger group size (Roy, Zvonkovic, Goldberg, Sharp, & LaRossa, 2015). To ensure depth of information, I used a sample size of a minimum of 6 participants. The sample size for this study was within published study collections relation to qualitative single case studies in the existing literature. I monitored data collection and should an anticipation need arise to change the sample size base on the needs of the study; I made changes accordingly (Robinson, 2014). The knowledge or

expertise from IT PMs increased the level of understanding regarding the research problem and questions, as well as specific issues related to the study.

As noted by Marshall et al. (2013), there seemed to be no tangible way to explain sample size within qualitative research. I explained that a minimum of 6 semistructured interviews with open-ended questions would provide the data for a researchable study. Saturation will determine how many participants would be used for the interview. Data saturation is an important aspect of the quality of research (Fusch & Ness, 2015; Roy et al., 2015). I conducted interviews until achieving sufficient data saturation. The researchers utilize strategies such as member checking to assist in finalizing a precise representation of participants' views (Ando, Cousins, & Young, 2014; Morse et al., 2014; Wagstaff & Williams, 2014). I continued member checking until achieving data saturation. I validated both between and among the data sources to reassure data saturation.

Each participant received an email from me explaining the purpose, background of the study, the consent form and ensured that confidentiality and rejection to withdraw from the study at any time is guaranteed. Once a participant provided consent, the scheduling of the interview occurred. I interviewed the six participants using a semistructured interview approach with each participant asking open-ended questions. Mitropolitski (2015) had the participants choose locations and times for interviews to assure participants were comfortable. Also, I scheduled the interviews during a convenient time at safe haven locations.

Ethical Research

Ethics is an important element of any research study. Researchers are widely acknowledging to have an ethical and a legal obligation to protect the confidentiality of information that participants share with them (Wolf et al., 2015). To aligned with ethical standards for the participants in this study; I received permission from Walden IRB before the initiation of the research. Also, permission was obtained from the technology department of human resource. Once IRB approval number was granted approval number (10-22-18-0229352) and permission, I sent an email containing the consent form to the potential participants who met criteria. When I received the email confirmation from the potential participants, I scheduled a phone call to go over the details of the consent form. A researcher should ensure participant confidentiality and privacy in the research process (Khan, 2014). The conversation addressed the details of the study, confidentiality and any other concerns that the participants have to the relation of the study.

I obtained an official sign copy of the document from the eligible participants indicating their voluntary consent to participate in this study (see Appendix). The indication is made in the informed consent form, that the participants participate voluntarily and can withdraw their participation by giving verbal notice at any time during the study without any negative consequences. Consent should not only be obtained by an independent researcher, but the researcher should also emphasize the voluntary nature of participation to prevent compromises to participant voluntary informed consent (Dekking, van der Graaf, & van Delden, 2014). I provided participants a copy of the informed consent form to retain for their records. Jennings et al., (2015)

stated that offering incentives to participate in a study can also introduce coercion. I did not offer monetary or other incentives for participating in this study. Drake (2013) recommended I informed potential study participants that they could withdraw from the study for any reason including personal commitments, concerns, or disagreements of the outcomes or methods of the study. The participants could withdraw either by telephone or via email.

I will retain and secure all electronic and document copies of the collected data for 5 years locked in a secure private location to which I only have access. After the 5 years, I will destroy all hard and electronic copies by shredding and erasing all electronic data. The Walden University IRB approval number for my study is 10-22-18-022935. To ensure confidentiality and privacy, I used alphanumeric codes (e.g., P1 to P6) to identify participants and to conceal the organization.

Data Collection Instruments

Interviews and review of organization documents were my primary data collection methods while using qualitative techniques. In this qualitative case study, the data collection instrument is the researcher (Pezalla, Pettigrew, & Miller-Day, 2012). As the researcher, I was the data collection instrument, using semistructured face-to-face instruments and organization documentation as resources for data collection. An interview is the most commonly used data collection source in qualitative research (Yin, 2017).

To collect data, researchers should develop trust from participants to influence comfort for sharing data and resources (Denzin, 2013). In a qualitative interview, the

researcher asks pre-determine open-ended questions, and the participants respond to their words (Doody & Noonan, 2013). Interviews are effective methods for researchers seeking to collect data (Hedlund, Börjesson, & Österberg, 2015). Qualitative researchers should use semistructured interviews with open-ended questions to collect data (Morse, 2015). Yin (2017) suggested using an interview protocol as a guide during the data collection process. An interview protocol, which is a detailed plan of the data collection process, enhances transparency and the quality of the research (Sarma, 2015). I used a semistructured interview protocol (see Appendix) to implement the same structure for each participant, that contains steps of the data collection process and performed member checking, to enhance reliability and validity of the data collection process. I followed the interview protocol by setting a time, date, and location for the interview that is convenient for the participant, as well as answering any privacy and ease concerns of the participant. I used a digital recorder, with permission from the participant, to aid in transcribing interview data. In concurrence with interviews, I reviewed organizational documentation relate to IT PMs and senior-level leader's selection and performance management to aid in triangulation.

I also collected data by reviewing organizations websites, and project documents that interviewees share are two reasons why document reviews are appropriate. First, interviews and document review are standard techniques to gather information (Wang, 2016). Cho and Lee (2014) and Padgett, Gossett, Mayer, Chien, & Turner, 2017) also used document review to triangulate and confirm information obtained through interviews, which enhances the quality of research. According to Wu et al. (2015) and

Fish et al., 2016) many case study researchers, especially when using qualitative research approach, review company documents and other publicly available organizational reports as sources of data. In this regard, I searched for a wide range of relevant company documents, including organizations' strategic plans, companies' annual reports, and legislative reports that are relevant to the topic of the study and incorporate key concepts regarding effective communication strategies in project management from the documents into the study. Siegel (2016) stated that the review of company documents gives firsthand information on the topic of study since it provides an overview of the strategies adopted by the company and the outcomes of these strategies. Thence, with the review of organization documents as a method for data collection, I managed to gather the most appropriate information on the communication strategies embraced by IT PMs within the education sector, and incorporate these ideas in the research report. However, to attain credibility and reliability in the findings, Davis, Sunderland, and Bernstein (2018) and Beckley, Rajaniemi, and Varga (2016) reiterated that the researcher ought to be sure to review only relevant and up-to-date company documents for data collection for a study. Thus, I ensured that I reviewed internal company documents within the past 5 years and discuss communication strategies adoptable for project management. By so doing, I managed to achieve high levels of credibility and reliability in the findings of the study. As a qualitative researcher, I derived meaningful information from complex and ambiguous data retrieved from company documents and interview sessions. Although methodological texts give useful frameworks to channel the process of converting filed data to credible conclusions, analysis and interpretation of qualitative data will involve

me, the researcher, as the primary tool for deriving rationality from the phenomenon under research. In other words, I had the main role in collecting different categories of qualitative data. Like the instrument, a researcher must use proper judgment to gather and analyze collected research data (Pezalla et al., 2012).

After the interview, I scheduled a member checking follow-up interview. Morse (2015) reasoned that researchers use member checking to reduce the probability of unreliable data in a study. Member checking allows participants to verify information or research analysis accuracy and provide clarification (Morse, 2015). Carrington, Neville, & Whitwell, 2014) posited that member checking is useful for checking researchers' interpretations of data. Morse (2015) indicated that researchers could provide the raw data or the completed analysis (or both) to participants. I described member checking in greater detail in the Data Collection Technique section. I triangulated data using project documents. Triangulation involves collecting data using multiple sources to enhance the researchers understanding of the topic (Wang, 2016). My experience and communication skills enabled me to ask the proper questions to the interviewees. By doing so, I was able to arrive at significant findings that are credible and valid, with a minimum shortcoming.

Data Collection Technique

In this study, I collected data through semistructured face-to-face interviews using open-ended questions and other organizational documents. Kallio, Pietilä, Johnson, and Kangasniemi, (2016) stated that researchers could use the interview as a mechanism to build reliable and valid results from a collection of data. The data collection instruments I used was an interview. The disadvantage to semistructured interviews is the potential for

the researcher to steer, or manipulate, participants to obtain data (Elo et al., 2014). Data collection commenced following approval of this study by the Walden University IRB (Walden University, 2016). Once approval was received from IRB, I contacted the human resources of the technology department to email the participants a copy of the letter of content. McDermid, Peters, Jackson, and Daly (2014) underlined the importance of coordinating the recruitment of participants in a non-convincing manner for participants not to feel pressured to participate in a study. The selection of participants were conducted in a non-convincing manner. I selected participants from senior- level and team leaders provided by information on their LinkedIn profile and organization website.

After approval of the senior CEO, I contacted each participant via phone to schedule the interview 3 weeks in advance and do a follow-up call to the participants three days before the interview to confirm the location, date, and time. Two days before the interview, I emailed the participant the consent form with an outline agenda of the interview, so the participants knew the expectation. The interviews will occur face-to-face and entailed using open-ended interview questions. Dilshad and Latif (2013) suggested small talk could make participants feel at ease. I made sure the participants were greeted with sincerity and make sure the environment is comfortable. Following an explanation of consent, I started recording the interview using my laptop and mobile phone with a recorder application with audio. For each interview, I recorded and wrote notes from the answers provided by the participant.

Member checking also served as a valuable tool to increase the accuracy and credibility of the data. Member checking is participants reviewing your analysis of their responses to determine if your analysis is what they intended and adequately represents their responses. (Darawsheh, 2014; Harvey, 2015; Morse & Coulehan, 2015). After the interview, I replayed the audio recording to have the participants to approve the accuracy of the responses. The qualitative case study uses interviews to collect data, which is a normal method of collecting data (Yin, 2017). Triangulating the data is necessary for this case study that involves numerous sources that include journal articles, organization documents, and archival records. Before the collection of data, I obtained IRB approval, and participants signed informed consent forms.

Data Organization Technique

The tool I used for organizing and collecting data is Excel researchers use this tool import data and examining the data that is imported. Yin (2017) emphasized that the case study database to store all data collected from the study field in an orderly manner would enhance the reliability of the study. I used Excel to help maintain the organization and study the collection of data. I stored all electronic (digital), and hard copy materials secure in a locked and fireproof safe in my office to which I have exclusive access. For this case study, Excel contained interview data. Digital recording devices reduce time and cost for data management and assist in a loss of data (Anyan, 2013; Marshall & Rossman, 2016). Excel was used for transcribing the recorded interviews. I used a cloud-based server, Dropbox as a secure secondary backup. I securely retained the data using password-protected folders on the encrypted cloud-based server while conducting the

research. When the research is completed, I deleted the data files from the server including all archived copies. I will retain and secure all hard and electronic copies of the collected data for 5 years. After 5 years, I will erase the case study database and shred all hard copy notes and documentation.

Data Analysis

This study is an indicator of the specific business problem expanded in the central research question and guided by the conceptual framework. My purpose of this qualitative, multiple case study is to explore what communication strategies education sector IT PMs use for improving performance and profitability of mobile device projects. The conceptual framework McQuail (2010), Craig (1999), and Deming (1960) informed the study exploring strategies IT PMs and leaders utilized to improve communication, performance, and profitability of mobile device projects.

The McQuail, Craig and Deming theories were appropriate as a communication skill. Holloway and Brown (2012) stated that qualitative methods are appropriate for theoretical communication research because qualitative methods provide researchers with insights into communication processes, human social, and organizational relationships. McQuail, Craig, and Deming's theories appear to align with my study's purpose because PMs have to integrate multiple processes and strategies to achieve successful team communication. McQuail, Craig, and Deming's theories can help with this understanding. I conducted semistructured interviews guide by open-end interview questions. The interview questions elaborate on the central research question of the study (Kaczynski, Salmona, & Smith, 2014; Yin, 2017). The interview questions aligned with

the research question and guide the study to explore how IT PMs successfully manage the effects related to communication in the education sector facilities. Participants of the case study shared insight into the communication problem. I collected data from multiple sources including the semistructured face-to-face interviews and company documents. Carter, Bryant-Lukosius, DiCenso, Blythe, and Neville (2014) and Yin (2014) identified four types of triangulation, including: (a) method triangulation, (b) investigator triangulation, (c) theory triangulation, and (d) data triangulation. The use of methodological triangulation allows for collecting and comparing findings from multiple types of data (Carter et al., 2014; Denzin, 2012; Fusch, & Ness, 2015). Methodological triangulation is the appropriate data analysis process for this study to guide the analysis of data from interviews, organization case documents.

Using Yin's five-step interview protocol, I analyzed data to identify and outline strategies IT leaders used to plan and execute projects under budget and on time successfully. Data analysis involves categorizing, testing evidence, determining a conclusion, and analyzing a collection of data (Yin, 2017). Imamura and Zhang (2014) stated that data analysis approach involved a researcher working with the research data to discover meaningful themes and descriptions that answer the central research question. Yin (2017) explained that researchers describe the participants' experiences to explore the phenomenon in a real-life setting. Nielsen and Hjørland (2014) suggested that audio and videotaping can be appropriate methods for recording data in case studies to help with data analysis. Yin (2017) explained that transcribed interviews facilitate theme identification and categorization for an inquiry. I reviewed and analyzed the transcribed

recordings of the interviews, reflective journal notes, and company documentation to identify and categorize patterns and themes regarding IT leader's strategies for successfully planning and executing projects under budget and on time to engage in methodological triangulation. Following Yin's five-step interview protocol, I observed the following configuration and order: (1) compiling, (2) disassembling, (3) reassembling, (4) interpreting, and (5) drawing conclusions from the data. I uploaded the audio recording using google play, and Microsoft excels documents and PDF files.

Compiling

Compilation of data takes place before analysis and occurs by collecting data from face-to-face interviews using an interview protocol, transcribing each interview, reviewing company documents, and coding the interview transcripts (Yin, 2017). A qualitative researcher needs to search for promising patterns and concepts in the raw data as well as write notes of data observation (Nielsen & Hjørland, 2014; Sarros, Luca, Densten, & Santora, 2014; Yin, 2017). During the face-to-face interview, I took notes regarding participants' nonverbal reactions to questions, hesitancy in responding, demeanor, and completeness of their answers. I compiled data from the face-to-face interviews conducted using Yin's (2017) protocol, transcribed each interview, reviewed and compiled company documents, coded the transcripts, and searched for patterns in observed data.

Disassembling

Qualitative researchers also disassemble data into fragments, followed by labeling and coding the data (Yin, 2017). Next, researchers reorganize the fragment data

into subscores and core themes, move codes to create interpretations among codes or the combination of codes, and identify conceptual patterns (Denzin & Lincoln, 2011; Unkovic, Sen, & Quinn, 2016; Xiao, Xie, & Hu, 2013). I alphanumerically coded participants using P1 thru P6. I separated the fragment data into subscore and core themes, moved codes to create relationships among codes or combination of codes and identified conceptual patterns in the data.

Reassembling

Reassembling data involves clustering and categorizing data into groups, typically using computer-assisted software such as Microsoft Excel's. Researchers can use software code data, apply matrix functionality, categorize themes, display categorizations, compare patterns in the data, and organize the data using colors or symbols to assist with interpretation (Denzin & Lincoln, 2011; Sarros et al., 2014; Xiao et al., 2013). I used Microsoft Excel's pivot table functionality to identify insignificant and significant levels of codes to reference material by interview questions responses, conceptual framework, and participant number during the final reassembly step. I looked for a link that exists between the conceptual framework, the data, and contrasted signals. The use of Microsoft Excel's help facilitates the objective interpretation of the data and will assist in identifying and analyzing key themes. The software also aids in the outcomes of the study since it will provide a higher degree of dependability and credibility. Before finalizing the data from the interviews, I provided each participant with a summary of their responses to each interview questions to have them check for accuracy and completeness.

Interpreting

Qualitative researchers interpret data by capturing and organizing themes associated with the purpose of the study; they also review the analyses of primary and secondary data for comparative and contrast patterns and themes and seek to provide a descriptive interpretation (Nielsen & Hjørland, 2014; Sarros et al., 2014; Yin, 2017). After capturing and organizing themes within the data, I provided a descriptive interpretation of comparative and contrasting patterns and themes drawn from the interview data and the secondary company documentation data. I identified and interpreted the connections between the primary and secondary data, the literature within multiple communication theories that lead the study. I used the narrative information within analyzed interview transcripts, company documents, and scholarly studies to interpret sub-core, core, and main themes through the lens of the communication theory.

Drawing Conclusions

Finally, qualitative researchers conclude data analysis through a series of steps that describe the outcome of the study and report its findings (Palinkas et al., 2013; Perez, Nie, Ardern, Radhu, & Ritvo, 2013). The concluding steps of data analysis include: linking the interpretation of core themes and patterns from primary and secondary data to the research question for reporting the findings, linking interpreted data to the literature, reflective notes, and the conceptual framework to ensure methodological triangulation occurs (Denzin & Lincoln, 2011; Nielsen & Hjørland, 2014; Sarros et al., 2014). I linked the interpreted interview and company documentation data to the research question, scholarly literature, reflective notes, and to the communication theory. I described the

outcome of the study and reported the findings to give insights and to confirm the actor-network theory further.

Key Themes

A qualitative researcher links key themes from the data to support, confirm, and provide insight into a conceptual framework and relevant scholarly literature (Sarros et al., 2014; Unkovic et al., 2016; Xiao et al., 2013). I used the key themes drawn from interpreted interview and company documentation data to support, confirm, and provide insight into multiple communication theories. Comparing the frequency of themes found in previous research can: enhance validity in the findings, determine key themes, and correlate themes to the literature review and conceptual framework (Pringle, Collins, & Santry, 2013). I compared the frequency of the themes found in my study, linked sub core and core themes from the interpreted data drawn company documents and participants' interviews to support, confirm, and add insight to existing and future studies. I used the sub-core, core, and main themes to answer the research question and report the findings of the study of the IT leaders' strategies for IT projects through the lenses of the multiple communication theories.

Reliability and Validity

Reliability

A qualitative researcher utilizes multiple strategies to demonstrates quality and rigor in a study. Reliability refers to the extent to which a measure, procedure, or instrument yields the same results on repeated trials (Kihn & Ihantola, 2015). Dependability refers to the constancy of the data over similar conditions (Cope, 2014).

Researchers found a connection between dependability and reliability (Munn, Porritt, Lockwood, Aromataris, & Pearson, 2014). The researcher must ensure the integrity and proper care during the data collection and analysis process (Farrelly, 2013).

To ensure reliability, I conducted a case study that is guided by following an interview protocol (see Appendix). To provide dependability, I created and maintain a case study database containing all interview data, audio recordings, transcripts, and field notes of the research process. To enhance reliability, I performed member checking by providing the transcripts and concise synthesis of the interpretation of each of the interview questions to allow each participant to check for correctness. Member-checking technique seeks to mitigate possible misinterpretation because the interviewee reads the interview transcripts for confirmation (Harvey, 2015). The case study would have a potential bias; it will be possible to conduct an unbiased document. The processes of member checking are beneficial for developing trust between researchers and study participants by assuring both reliability and validity (Milosevic, Bass, & Combs, 2015). I mitigated my personal biases by following the standardized research interview protocol.

Validity

Demonstrating credibility, transferability, dependability, and confirmability are criteria for assuring validity in qualitative research studies (Kim & Li, 2013). Credibility is a measure of the truthfulness of the data and results of the study (Kemparaj & Chavan, 2013; Sarma, 2015). I requested each participant to review the interpretation of the responses to the interview questions and the interview transcript for accuracy, during the follow-up meeting. Transferability is when study findings have applicability in other

contexts (Erlingsson & Brysiewicz, 2013). I left the assessment of transferability to the reader and discussion of transferability related to the findings of this study is left to the reader to make decisions about usefulness in other contexts and future research, as suggested by Marshall and Rossman (2016). Confirmability occurred after demonstrating credibility, transferability, and dependability (Thomas & Magilvy, 2011). Appropriate strategies to demonstrate confirmability might include creating an audit trail, member checking, triangulation, and reflexive journaling (Anney, 2014; Kemparaj & Chavan, 2013; Marshall & Rossman, 2016). I created an audit trail by producing a reflexive journal. I used confirmability to assist in preventing bias.

Methods for enhancing confirmability include methodological triangulation and reflexivity (Farrelly, 2013; Sarma, 2015). Triangulation types consist of (a) data triangulation, which refers to the collection of data from different types of people, (b) investigator triangulation includes using multiple researchers to analyze data, (c) theoretical triangulation involves analyzing data using from different theoretical perspectives, and (d) methodological triangulation which includes using different sources of data (Carter et al., 2014). Since collected data from various sources, I followed the suggestion of Carter et al. to use methodological triangulation to enhance the validity of this study, by using multiple data types and member checking to demonstrate data saturation until no new information emerges. An advantage of using a triangulation approach was to help IT PMs affirm data and confirm the credibility of the study (Carter et al., 2014). To ensure that I adhered to proper triangulation and validity methods, after

completing the interview and transcribing the results, I utilized member checking for assuring the study's accuracy and validity.

Researchers using a qualitative research design often experience data saturation when interviewing case study participants and must determine how many interviews are enough to reach data saturation (Fusch & Ness, 2015). For the mean of data saturation, it is crucial to conduct interviews until the progress of new or different themes and patterns terminates (Murgatroyd, Lockwood, Garth, & Cameron, 2015). I pursued data saturation by interviewing participants until no new data and themes emerged, and until I collected enough data to make it possible for other researchers to replicate the study. I incorporated the use of methodological triangulation to help me reach data saturation and applied the personal lens process to identify my personal views and perceptions of the research topic to mitigate bias and to achieve data saturation. Fusch and Ness (2015) suggested that when researchers recognize their personal views of world issues and acknowledge the presence of a personal lens, they may be able to listen and decode better the thoughts and behaviors of research participants, which could lead to data saturation. I attained reliability and validity for the current qualitative case study by achieving data saturation, and by using the interview protocol (see Appendix), the member checking process, and methodological triangulation.

Transition and Summary

Section 2 describes and justify the design of the case study. In addition, Section 2 includes headings describing the (a) purpose statement, (b) role of the researcher, (c) participants of the study, (d) research methodology and design, (e) population and

sampling, (f) ethical research, (g) data instrument and collection, (h) data organization and analysis, and (J) reliability and validity. In Section 3, I provided a presentation of my findings. Implications for social change, recommendations for action and research, and the reflections from completing my study will lead to the conclusions will also be provided in Section 3. I presented and organized the study findings by the main heading.

Section 3: Application to Professional Practice and Implications for Change

Introduction

My purpose in this qualitative multiple case study was to explore the communication strategies that education sector IT PMs use for improving performance and profitability of mobile device projects. The specific targeted population of the study consisted of six organizational IT PMs in southeastern South Carolina who have executed effective communication strategies in their management of IT projects. After interviewing the participants, I performed methodological triangulation analysis on the six interview transcripts, organization documents, and website to determine whether I had attained data saturation. I used Microsoft Excel to assist in the systematic tabulation of the manually coded themes. This software was vital in determining the hierarchy of the themes. From the analysis, the findings from interview data provided by the participant organization (hereafter referred to as O1 (P1-P4) and O2 (P1-P2) and document review indicated that a successful IT project completion results from a combination of these factors. The methodological triangulation led to the discovery of three major themes from the IT PMs' interviews. In Section 3, I describe the research problem and also included the following: (a) discussion of the findings, (b) application of findings to professional practice, (c) implications for social change, (d) recommendations for actions and future research, (e) reflections, and (f) conclusions. As captured in the themes, the six participants interviewed enhance standard communication methodology and team building as well as positive customer focus in their use of specific communication strategies in their IT project management organization.

Presentation of the Findings

In this study, I aimed to explore the following research question: What communication strategies do education sector IT PMs use to improve the performance and profitability of mobile device projects? My purpose in this study was to explore the communication strategies that education sector IT PMs use for improving the performance and profitability of mobile device projects. Based on the study results, three themes emerged: (a) providing a standard communication methodology for IT projects, (b) team building, and (c) providing a positive customer focus. The research participants were able to share their responses through semistructured interviews with six predetermined questions and a review of organizational documents. I integrated their responses with the findings from existing literature as well as the study's conceptual framework, which consisted of McQuail's (2010) mass communication theory, Craig's (1999) communication theory, and Deming's (1960) theory of profound knowledge.

Various participant responses and data from the organization's documentation identify various themes depicted in this particular qualitative research study. Having a clear knowledge of data saturation was important while conducting this research. A researcher conducting a qualitative study must recognize that data saturation is an important concept in managing information, according to Saunders et al., 2017). Hence, the identification of the three themes was an important undertaking that enabled me to ascertain consistency in data analysis. Each of the three identified themes encompasses strategies that can be used to strengthen communication for a project team. Eventually, I compared the findings from the interviews with those from the reviewed organization

documents, such as annual reports and organizations' strategic plans to determine similarities and differences and to find out if I had attained data saturation. The organization participant's view of the importance of providing standard communication methodology for IT projects, team building, and positive customer focus was noted during the interviews and during the analysis of the website and annual report, as shown in Table 2, Table 3, and Table 4. The first column specifies the words/phrases of responses to the interview questions and documents in the archival company records. The second column indicates the source of the words/phrases that tied into the themes and was contained in the archival company records. Through the overall results of this research study, I managed to understand the communication methods adoptable extensively to improve the results of the projects.

Theme 1: Standardized Project Communication.

The first theme to emerge was the significance of standardized project communication strategies. The theme specifically revolved around the idea that PMs must be responsible for incorporating a standardized method to promote a collaborative environment with IT, project members and stakeholders. Interview Questions 1, 2, 3, 4, and 5 were useful in constructing and clarifying the theme (see Table 2). All participants emphasized the need for standardized project communication strategies to increase productivity. Effective communication is an essential strategy to project management because a lack of it is linked to project failure (Dwivedi et al., 2015; Stanley & Uden, 2013). Standardized project communication strategies increase project success when

communication strategies include clear direction, goals, templates, communication planning, and stakeholder identification (Craig & Rich, 2012).

Moreover, the interview responses and the organization strategic plans, and website, as shown in Table 2 that the management at O1 and O2 uses a standardized communication methodology and a clear PM plan that is essential to assisting managers' complete IT projects.

In addition, McQuail (2010) noted to deliver key messages effectively a communication strategy should include a communication action plan. Project teams succeed because their leaders identify a standardized project communication strategy that explicitly clarifies, and communicates a shared purpose and goal (Lerner et al., 2015). The theme of providing a standard communication methodology was consistent with McQuail's mass communication theory because the communication strategies include methods to prevent IT projects from failing.

To achieve an efficient project communication strategy, each team member must understand the project charter and commit to the project goals (Vidyarthi et al., 2014). Through PMs identifying a standardized project communication strategy that explicitly clarifies, and communicates a shared purpose, project teams succeed (Lerner et al., 2015). Experienced PMs know that a relationship exists between communication strategies and organizational project success, particularly in businesses with a strong global presence. For the six participants, they explained that having a template of processes and standards helps in maintaining and ensuring the consistency of the project members and their outputs. Standard template documents included a project charter, work breakdown

structure and a Microsoft project plan. Yang, Huang, and Hsu (2014) identified how leaders must implement strategic and standardized plans to perform the project successfully.

In this case, communicating to ensure preparedness and calculated actions would lead to improved project outcomes. Based on experience in project management, Participant O1P4 proposed, "Project communication strategies provide critical links and information that are necessary for project success." Participants of O1 and O2 thought that with a standardized project communication strategy, everyone involved in the project is better prepared to provide communications in the project language. The development of a standardized project communication strategy is critical in minimizing communication disconnects in projects (Espinosa et al., 2015). All of the participants reported that organizations need project communication strategies. Participant O2P2 explained, "The development of a template containing all the important requirements in completing a project." The template is crucial in guaranteeing that all members of the team are aware of their goals and are working toward one mission.

Further, the participant O2P1shared how the template promotes communication and transparency:

> We had to have shared documentation that consider all project communication. Without proper communication, changes and other needs or resources are not conveyed to the other parties accordingly. IT PM use communication management plan and change management documentation to execute against changes introduced into projects.

Burga and Rezania (2017) posited that project success hinges on project accountability, and project accountability on effective social interaction. Through collaboration and ongoing dialogue, stakeholders are kept abreast of salient issues (Stanciu, Condrea, & Zamfir, 2016; Thamhain, 2013). Thamhain (2013) argued that a cross-functional communication framework also serves as an early risk identification system. On a more specific project level, Mastrogiacomo, Missonier, and Bonazzi (2014) proposed using conversational guides to improve the quality of real-time project coordination. These guides included a structured approach to communication, covering concepts such as (a) joint objectives, (b) joint commitments, (c) joint resources, and (d) joint risks (Mastrogiacomo et al., 2014). Mastrogiacomo et al. (2014) finding regarding the need to communicate about joint resources relates to Chang's (2017) ideas that resource planning systems are necessary to coordinate and share project resources. In other words, resource-planning systems become communication mechanisms (Chang, 2017). Mastrogiacomo et al. (2014) found that this structured approach to communication resulted in (a) fewer unfavorable surprises, (b) increased early detection of potential project failures, and (c) helped strengthen peoples' commitment to the project by emphasizing the alignment of each parties' purpose to the overall organizational strategy. Cheung, Yiu, and Lam (2013) concurred on Mastrogiacomo et al.'s last point, citing that trust affects communication, thereby influencing project performance. Therefore, using tools such as structured conversational guides may structure communication best practice.

Although no panacea for project communication exists, leaders should understand the critical role communication plays in ensuring alignment (Cheung et al., 2013; Mastrogiacomo et al., 2014; Stanciu et al., 2016; Thamhain, 2013). Given the availability of different types of communication methods and the flexibility of where communication can occur, leaders should consider deliberate communication strategies as part of their project strategy. Furthermore, Senescu, Aranda-Mena, and Haymaker (2013) determined that a direct relationship exists between project complexity and communication challenges. This means that as project complexity increases, communication challenges arise as well (Senescu et al., 2013). Leaders need to understand this relationship and adjust resources and infrastructure accordingly (Senescu, Aranda-Mena, & Haymaker, 2013). As observed from the responses of Participants O1P1, O2P1, and O2P2 in this study, standard project methodology relates to a project-standardized methodology and a PM plan (Winter & Silveira Chaves, 2017). Pimchangthong and Boonjing (2017) noted how important it is for IT PMs to keep track of the planning process for a global IT project and organize the resources needed to stay on time and budget with a standard project methodology.

As shown in Table 2, management and leaders at O1and O2 uses a standard methodology and clear and concise PM plan that is vital to helping managers complete IT projects. The theme of providing a standard project methodology was consistent with Craig and Rich (2012) observation in which business initiatives that implement a standardized project communication strategy create project success and in-turn generate new business opportunities. To align the responses, I performed an intensive review of

the organization's annual reports for FY17. As evident in the report, the organization continuously makes available information to all employees and stakeholders through a variety of communication channels. For instance, O2 actively read the newsletter and viewed social media to keep their employees and stakeholders informed of the latest developments.

My review confirmed the notion that communication is critical to the development of an organization. In the IT education sector, shared information should flow and be well structured, organized, and planned to enhance its effectiveness. Often, human communication integrates the whole communication system to avoid potential interactional failures (Knapp, Vangelisti, & Caughlin, 2014). McQuail (2010) explored the role of mass communication theory in establishing appropriate communication flow channels and personal traits that facilitate the development of communication strategies. Communication does not take place in a vacuum; therefore, meeting several parameters are critical to making communication efficient. For this, standard communication methodology for IT projects to create a firm foundation for studying real-life occurrences and challenges of communication in project teams.

Monitoring staffing cost is another aspect of monitor and control. de Moraes, Sanchez, and Terlizzi (2017) deduced from survey results that successful IT projects incorporate robust monitor and control processes that include reporting cost metrics. Successful PMs employed to monitor and control techniques to ensure that the project progresses as planned (Bashir, Kanwal, & Zafar, 2017). Participant O1P4 shared that "cost monitoring allows the PM to reduce or add staff as appropriate to stay within

budget." Participant O1P3 added, "Monthly milestones were met through monitoring and meeting weekly goals." PMs help to verify cost controls and schedule progress through monitor and control techniques (van der Horn & Whitty, 2017). Participant O2P1 stated, "They regularly communicate the level of effort pertaining to hours worked expectations to the employees." Each PM ensured that employees only worked the approved number of hours on a project. Participant O1P1 distributed the organization's labor resources as required among projects to maximize cost and meter the efforts throughout the life of the project. Participant O1P4 repeatedly expressed the importance that their organization places upon comparing the level of effort to the integrated master schedule to ensure that the project team performed efforts according to the planned work.

Member checking did not yield any additional information for Theme 1. The review of the archival organizational documents demonstrated that tools are in place to support leadership competencies such as engaging a plan of communication to improve project outcome. Documents include PMs and team members can complete a self-audit/project checklist for each project to include project charter, project closure form, lessons learned, schedule, and project requirements. The lessons learned is one of the organization's "mechanism to communicate acquired knowledge more effectively and ensure relevant information is factored into planning, work processes, and activities." The steps for the organization's lessons learned include the following: (a) defining the project, (b) collecting information, (c) verifying applicability, (d) storage, and (e) dissemination. To ensure the lessons learned are communicated consistently, the PMs and team

members of the organization are required to use a template and post to an organizational project server that PMs and team members have access.

Table 2

Participants' Responses of Standard Communication Methodology for IT Project

Source	No. References	Percentage[a]
Participant O1P1, Interview Questions 1, 3, 4, 5, 6	10	85
Participant O1P2, Interview Questions 1, 2, 3, 4, 5	8	80
Participant O1P3, Interview Questions 1, 2, 3, 4, 6	7	73
Participant O1P4, Interview Questions 1, 3, 4, 5, 6	6	78
Participant O2P1, Interview Questions 2, 3, 4,5	6	43
Participant O2P2, Interview Questions 2, 3, 4, 5	5	48

Note. *Percentage values are rounded off to the nearest whole number.

Theme 2: Communication Team Building.

The responses to questions 2, 3, 4, and 5 of the interview questions (see Table 3); all of the participants emphasized the importance of teams working effectively together for successful project communication. PMs, who form partnerships with project teams, enhance the team members' attitudes and motivations and result in improved project success rates (Costantino, Di Gravio, & Nonino, 2015). Similarities existed between the theme and concepts proposed by Deming (1960), whereas PMs may build on ethical decisions to profit while leveraging the full-cycle learning system. Mir and Pinnington (2013) noted various indicators exist of whether a team is working effectively together. Goldkind and Pardasani (2012) posited successful team characteristics include clear

communication, problem-solving, project commitment, and team member positive working relationships. Craig and Rich (2012) found project team building was a decisive factor in developing a successful standardized project communication strategy and increased project success rates. I analyzed data to understand the significant factors of project team building. From the results, I found 100% (6/6) of participants thought project team building was critical for PMs to increase project success rates. Teams that are not working effectively together will not succeed, the more efficiently the team works together, the more likely the project is to end successfully (Participant O2P1).

Internal communication research conducted at Ericsson Goteborg indicated that creating learning networks and sharing knowledge is essential in improving project communication. Most PMs understand the role of effective team communication. However, many PMs expend little effort in developing winning strategies to streamline the process (Tushman, 2017). The primary reasons why workers do not enjoy teamwork is due to communication disconnects at the organizational and team levels (Tushman, 2017). In this study, I used empirical evidence from a wide range of sources to analyze the strategies that PMs in the IT organizations used to strengthen communication within project teams.

All participants clarified that communication is a tool that allows for effective service delivery in various projects. Active engagement among major stakeholders of a project prompts an increased level of collaboration, boosts the performance of the success rate of a project, and facilitated a reduced level of risk (PMI, 2018, “Pulse of the Profession”). The explanation here is that an approach to strengthening communication

among PMs is ensured through an analysis of the extent to which team members can collaborate because of the intended project outcomes. Communication is a tool that promotes interactions in a group through coordination. According to O1P1, "Team engagement is a necessary element to promote communication planning." The findings highlighted the importance of embracing teamwork during communication processes.

Interestingly, all six research participants stated that teambuilding interventions are effective ways to promote performance within a group is consistent with what McEwan, Ruissen, Eys, Zumbo, and Beauchamp (2017), who stated the necessity for teambuilding interventions is for the welfare of all members since this strategy is crucial in enhancing team effectiveness within project teams. McEwan et al. (2017) noted that teams should make sure that maintaining the operations of a project occurs through team build. Collectively, the findings presented by respondents and the explored literature mirror the observations made by the used conceptual framework. McQuail's mass communication theory concurred with research findings by advocating for the importance of addressing the integration of multiple factors during communication processes. The theory provides the lens to explore different elements for developing and implementing successful strategies that PMs can embrace to strengthen communication within project teams.

The findings also provide feedback to support PMs in their efforts to increase project success in a constantly evolving global business environment (Mir & Pinnington, 2013). Deming's theory of *profound knowledge* defines and addresses both the

behavioral and technical dimensions of leadership and suggests leaders solve problems and help employees by knowing how a system functions, and what the system delivers. Deming (1960) found that this knowledge is crucial for transforming an organization and taking actions based on continuous learning. Individuals and agencies should encourage continuous learning to promote positive transformation in individuals, organizations, industries, and societies (Benavides-Velasco, Quintana-García, & Marchante-Lara, 2014). All six participants shared that personnel training in project management tools and techniques was a critical component to a successful project. I reviewed documentation from participant O2P2 that favored one-on-one targeted associate training. Gather external knowledge and then apply that knowledge to help improve the incidence of project success (Chen & Hung, 2016). An organization's ability to learn from project failures and lessons learned contribute to future project success (Coners & Matthies, 2017). I reviewed training documentation from participants that expressed the importance of recurring training for project success. Showing support and advocacy is important considering that insufficient project sponsorship by top-level leaders contributes to project failure (Dwivedi et al., 2015). O2P2 agreed with O1P3's comments about supporting the work of leaders who are the most knowledgeable about daily operations. Therefore, O2P2 said he made sure to plan time to listen to his project team's concerns regularly so that he could adequately convey issues or resource needs on behalf of his team.

Project leader presence can also be a form of demonstrating care and affirmation

for the project team. O1P1 showed this in making himself readily available to this team, "I met with them all at least once a week but most of the time more frequently than that." Similarly, O1P3 stated:

> I think, too, being on the ground with them in challenging times–I wasn't walking out the door at 4:00 or my lead tech wasn't either. We were here for them and telling them how much we appreciated them and what they were doing.

O2P1 was present with her team by making sure they had fun as a team, "I tend to feed people. I tend to use humor quite a bit or try to, and relax with them and get them to understand this was arduous work." These examples illustrate that project leader presence can be in the form of availability, physical presence, and the quality of the interactions when present creates a team building a relationship. Project leader presence aligns with Iacob's (2013) description of leader attention being equivalent to leaders' level of project engagement.

Supporting the project team can also be celebrating their successes which is valuable to communication team building. O1P4 remembered giving credit to the project team at a board meeting, which included the superintendent of the organization and some of the board of trustees and community members. O1P4 said, "I think it gave a lot more pride to the team, to say that they had a role in all of that, acknowledging that publicly." As O1P4 alluded, a greater sense of ownership in a project when team members believe they were part of the decision-making process and that their ideas and opinions mattered and were supported by the project leader. O2P1 used similar strategies, by acknowledging the hard work of her team, asserting her pride in their project work,

and celebrating.

Table 3

Participants' Responses of Project Team Building

Source	No. References	Percentage[a]
Participant O1P1, Interview Questions 1, 2, 3, 4, 5	5	54
Participant O1P2, Interview Questions 2, 3, 4, 5, 6	4	71
Participant O1P3, Interview Questions 1, 2, 3, 5	4	48
Participant O1P4, Interview Questions 1, 2, 3, 4, 5	5	83
Participant O2P1, Interview Questions 2, 3, 4, 5	6	43
Participant O2P2, Interview Questions 2, 3, 4, 5	5	48

Note. *Percentage values are rounded off to the nearest whole number.

Theme 3: Positive Customer Focus

Successful IT managers use a clearly defined strategy to engage consumers in the decision-making process (Bathallath, Smedberg, & Kjellin, 2016). Palshikar, Pawar, and Ramrakhiyani (2016) added that the net effect of resolution time on quality also depends on the customers' perceived level of significance of the issue. Dai, Luo, Liao, and Cao (2015) and Liu, Chang, and Tsai (2015) posited that customer satisfaction is a combination of perceived value and trust. Developing customer-focused, process-based approaches to PM improves innovation and project flexibility through quality services (El Yamami, Ahriz, Mansouri, Qbadou, & Illousamen, 2017). Customer focus helps to influence customer retention (Peppers & Rogers, 2016). Participant O1P1 stated that "Rely upon communication to listen to the project team members to help ensure that the organization's leadership understood their challenges and aspirations was to satisfy the customer." Participant O2P1 found it particularly useful to communicate with all

associates at every level of the project. Participant O1P3 and later Participant O1P4 echoed the sentiment that effective communication is critical to successful project execution and understanding customer requirements.

In responses to 1, 2, 3, 4, 5, and 6 interview questions (see Table 4) as well as document review of O1 and O2; participants elaborated that customer focus was a priority to consider providing positive customer service during the project process. Interview responses included statements such as O1P2, "customer focus must start on day one to get a clear understanding of all the stakeholders regarding (a) scope, schedule, and quality of performance; (b) identification of the deliverables; and (c) a detailed project plan" and "nowadays, our focus has actually shifted to customer satisfaction." Hirzel, Leyer, and Moormann (2017) stated that a customer-focused strategy is a core element of IT project initiatives. The O1 and O2 leaders' view of the importance of building relationships with customers was noted throughout the interviews, website, and annual report.

As Cheng, Ioannou, and Serafeim (2014) noted, better relationships with customers drive the long-term focus needed for sustainability. Relationships with customers are a key aspect of the sustainability strategy at O1 and O2 compels their long-term focus, which is necessary for successful project completion, and Ooi (2015) noted that customer focus remains an essential component for improving the success of IT projects. Interview responses such as O1P3 "our chief of technology has been driving us to start focusing on the customer" and "drive towards getting quality to the customer" indicated that O1 benefits from long-term customer focus.

Customer focus is an important factor from the beginning of a project throughout Its lifecycle. Shanmugasundaram and Vikram (2015) concluded that customers view conformance to specifications as one of many aspects of a product that drive satisfaction. According to interview responses and the organization's website, O1 and O2 management is aware that customer focus during the completion of projects has real short-term and long-term ramifications to the company. The O2P2 management indicated that "listening to and recognizing a customer's needs help to make the project process easier, and this approach encourages the customer to be an active participant in the project." Interview responses such as O1P4 stated, "I sit with them (customers) to decide what their top priority is" and O1P1 suggested, "knowing what the customers want and need makes the process easier for all parties involved" supported this point. According to Kroll and Moynihan (2015), PMs must have a communication aspect working effectively to inform customers and stakeholders regarding schedules and timelines.

Interview responses, company documents, the company's website, and the company's annual report indicated the ways O1 and O2 work diligently with customers during a project. The organization strives to make customer focus a part of its trademark and highlights project strategies throughout its website. According to the website, management at O1 attempts to be sustainable through every business practice and puts customer focus at the center of project completion. Interview responses such as O1P4, "sit with them (customer) to decide what their top priority is" and "a key element to keep in the equation of producing a successful project" supported this point. Exceptional customer service can elevate an organization above the competition.

Dissatisfied customers cost businesses millions of dollars in profits each year (Clinning & Marnewick, 2017). O1P1 and O1P3 remarked that establishing accountability and follow through were key management attributes in project management contributes to making happy stakeholders. For example, O1P3 explained that in meetings, project leaders could ask for updates, "Well, [Name], last week when we met you were going to work on updating the stakeholders on the timeline and addressing any feedbacks. So, can you provide the team with feedback"? The purpose of directing targeted questions to specific individuals was not to embarrass them or to be malicious (O1P3). Rather, it was to establish accountability for stakeholder expectations for everyone, including "other people in the room" (O1P3). O2P2 agreed, adding that making project participants provide verbal and written reports about their project contributions also gives project stakeholders a shared sense of ownership in the project allowing "everyone to know what the big picture is." O2P1 explained that her role was to point out when leaders failed to be accountable for project decisions they made. If the leaders complained about how workflows were designed, she would remind them of their responsibility to have made thoughtful decisions during the project, "When you showed them the future state workflow and said, 'Well, this is what we agreed to, and this is what we did, and this is what it does,' that took a lot of excuses out of the atmosphere." O1P3 provided an example of holding project vendors accountable when the project was not meeting their expectations: So we would have weekly calls where everybody knew what they were accountable for, and also the vendor was always on those calls. I am just a straight shooter. I'm honest with people. I try to hold them accountable. And a lot of times I was

giving feedback to [Vendor] to the point where I just was not happy about how it was going. We tried to hold them accountable to what they had said they would do. O1P4 also provided a leadership action plan timeline that used specific language to convey accountability that every stakeholder was given access. For example, "As a leader, it is your responsibility to determine how information is cascaded down and throughout your departments" and "Please note that an expectation is that you will need to meet the predetermined target completion dates" (O1P4).

These examples represent the idea that project leaders take ownership for holding project participants accountable for their contributions to project success to provide customer satisfaction. Aviles (2015) stated that customer focus is an enabler of collaborative relationships, which aligned with the findings in my study. PMs of organizations have an ethical responsibility to all stakeholder groups, to review and confirm the success rate of project communication. The confirmation of the level and type of relationship also includes information to assist decision-makers in the processes of whether to continue with current communication strategy and innovation, research, and development of communication strategies (Bose, 2012). In addition, the PM and business should take into consideration the audience of the communication (Goldkind & Pardasani, 2012).

Deming's (1960) theory of profound knowledge concept supports managers of organizations engaging in socially responsible activities without violating the rights of any stakeholder groups. An examination of the relationship between project success and standardized communication strategies provide managers and other interested parties

with valuable information to assist in evaluating the achievement of organizational project goals as well as goals related to socially responsible activities (Mir & Pinnington, 2013). These study findings accurately provide evidence to support the continued development of standardized communication strategies in business in the meeting or exceeding organizational and success project goals (Goldkind & Pardasani, 2012). Also, since some scholars consider standardized communication strategies as an essential element of the sustainability of organizations (Craig & Rich, 2012).

Based on the context of the conceptual framework, Craig's communication theory, Deming's theory of profound knowledge, and McQuail's mass communication theory are relevant principles. The general assumptions of the concept of the project communication implies that an implicit contract exists between business and society (Benedek & Takács-György, 2014), and it is because of this assumption that the success the rate of project communication considerations is of interest to all stakeholder groups while relating to the findings of this study. Within the scope of this study, the results specifically align with Craig's communication theory, Deming's theory of profound knowledge, and McQuail's mass communication theory.

Table 4

Participants' Responses of Positive Customer Focus

Source	No. References	Percentage[a]
Participant O1P1, Interview Questions 1, 2, 3, 4, 5	5	54
Participant O1P2, Interview Questions 2, 3, 4, 5, 6	4	71
Participant O1P3, Interview Questions 1, 2, 3, 5	4	48
Participant O1P4, Interview Questions 1, 2, 3, 4, 5	5	83
Participant O2P1, Interview Questions 2, 3,4, 5	6	43
Participant O2P2, Interview Questions 2, 3, 4, 5	5	48

Note. *Percentage values are rounded off to the nearest whole number.

In summary, based on research findings, participants identified strategies project managers can use to enhance communication between project teams three-primary themes emerged from the study leading to a better understanding of project communication strategies. In the PM in the education sector of a leading technology organization, a positive relationship exists between standardized project communication strategies represented by study participants. However, the strength of the relationship supporting a moderate or high positive relationship is specific to these research findings. The results correlate with some previous studies where researchers presented findings of an active communication strategy relationship (Goldkind & Pardasani, 2012). The positive correlation results support the assumption that social practices can positively influence the performance of organizations (Deswal & Raghav, 2014). Building knowledge about successful communication strategies, increasing competencies about team building through the enhancement of organizational

efficiency, and improving team building will improve relationships with both internal and external stakeholders (Berg, 2012).

Craig's (1999) communication theory central two principles: the constitutive model of communication as a metamodel and theory as a metadiscursive practice are relevant when addressed to a practical project communication strategy. Each tradition of communication theory derives from an appeals rhetorically to business beliefs about communication strategy (Crowne, 2013). The complementarities among communication theory traditions potentially inform society and business of the traditions of communication theory distinguished by characteristic ways of defining communication strategies and problems of communication vocabularies and distinct challenges considered across cultures and suggested implications for theoretical work and disciplinary practice in the field (Craig & Rich, 2012). PMs and business leaders could benefit from understanding the strategies successful firms employ to reduce cost overruns and improve on-time delivery.

Applications to Professional Practice

IT projects continue to fail at a rapid rate, but some IT PMs have developed strategies reducing the rate of failure. The findings of this study may have a positive influence on IT organizations executing improving the performance and profitability of mobile device projects. This study may help IT PMs discover why IT projects fail and more importantly, what strategies they may use to improve IT project performance.

The findings of this study are relevant to professional practice because the study contains the documented the strategies of successful IT PMs. A review of this study

reveals the successful strategies to overcome the difficulties that perplex IT PMs in this business and lead to IT project failure. IT PMs may implement the practical strategies found within this study to improve the outcome of their education sector IT projects.

Implications for Social Change

The necessity for project communication strategies is that these techniques prompt an increased level of positive social change through raised motivation capacity, high level of business profits, and overall benefits to communities. When PMs enhance a meaningful communication arrangement, they can inform the stakeholders of a project and hence motivate them to support the proposed plan. Eventually, the team members can develop positive attitudes to the resulting changes. To mobile people, a leader is required to have effective mobilization ability (Korbi, 2015). The findings from the current study assist PMs to identify that creating collaboration is an approach geared towards generating a significant level of business profits. PMs have to engage in constructive association with the external relevant stakeholders of a project for better performance.

The present study entailed the researcher to interact with participants who shared their firsthand experiences about ways to strengthen communication strategies within project teams. By the help of the interview questions, the six professional respondents gave a deep insight into the strategies they employ to enhance effective communication within their respective projects. Furthermore, the participants were able to highlight some social implications that their previous strategies bore after application in the IT project management organization. All six research participants were able to distinguish communication as a skill to enhance social sustainability. PMs receive pressure from

internal and external stakeholders regarding the need for improved project communication strategies (Mignerat & Rivard, 2012). PMs who ignore the needs of internal and external stakeholders can jeopardize the success of a project (Jugdev & Mathur, 2012). The knowledge gained from this study may direct business leaders to collaborate with PMs, and local project management associations to increase project success rates and potential profits.

Strategies shared by participants may assist business leaders considering collaboration with PMs and local project management organizations. Adding sustainability to strategic planning helps to prioritize sustainability efforts within all projects. Successful sustainability plans are performance-based, involves senior management, and has an operational influence (MacLean, 2013; Reynolds & Yetton, 2015). When corporations add sustainability to the overall strategic plan, then operational elements develop sustainability plans to execute strategic goals and objectives.

The results of this study may serve as an encouragement to PMs to implement and to enhance their understanding of successful communication processes and procedures in business groups to increase positive project outcomes. The results of the increased success of projects may lead to increased sustainability of the business, technological maturity, and a more competitive, stable economic environment (Popescu & Crenicean, 2013). The results of information from a successful organization may positively affect society with more jobs, more capital investments, and increasing the quality of life for the community (Qubaisi, Elanain, Badri, & Ajmal, 2015). The results of a more vibrant and strong community base affect and influences economic sustainability, which supports the

growth of new business opportunities and the improvement of business practices (Qubaisi et al., 2015). Implementing successful IT project strategies has broad implications for social change. Therefore, adopting desirable strategies that enhance proper communication during the project implementation will result in positive social influences.

Recommendations for Action

The current work provided significant findings that IT PMs might implement to improve project success rates by using effective communication during the project implementation processes. The findings of this study are of potential benefit for the PMs more so in IT education sector because of subjection to a myriad of important strategies that can enhance effective communication while managing their projects. Notably, the crucial role is for PMs to identify ways to strengthen communication strategies that will result in the attainment of the project goals. A similar approach leads to improved business profitability and positive growth for business in addition to increased appreciation of affected communities. The three major themes were (a) standardized project communication, (b) communication team building, and (c) positive customer focus provided the foundation with recommended actions for PMs to strengthen their communication strategies to ensure the significant success of a project. The lack of communication within a team results in disconnected organizational levels (Zerfass, Verčič, & Volk, 2017). Each participant developed successful IT project strategies and the peer reviewed literature provided support for those strategies. The following are the refined recommendations for action:

PMs might struggle to achieve success without considering the active involvement of major stakeholders through effective communication. The recommendation is that PMs can ensure efficient and strengthened communication strategy through analysis of project outcomes. Hence, standardized communication planning becomes a decisive action since the process can enhance the ability to achieve and sustain team engagement. Participant O1P2, O1P4, and O2P2 agreed that PMs could not exert influence if they fail to share the intended objectives of a project in the most appropriate manner.

Similarly, McQuail's theory of communication outlines that an individual exercises dominance with the sole intention to facilitate an expressed response to intended project goals (McQuail, 2010). Therefore, PMs must explicitly coordinate the performance of team members to ensure beneficial gains. The arrangement of communication planning also incorporates teamwork interventions through which PMs are responsible for enhancing team effectiveness. The theme of standardized project communication I identified in the study supports the recommendation that PMs needs to understand communication system, methods, and styles as strategies to strengthen project communication. A significant benefit of this recommendation according to Zulch (2014), planned times to meet as a team, discuss, as well as maintain communication records and avail them to team members promote communication. PMs are responsible for improved communication to ensure effective decision-making to influence the level of quality for a project (Zulch, 2014). I recommend that PMs develop an effective organizational structure that assists in identifying, managing, and acting upon stakeholders' opinions as

indicated by Zulch (2014) since they are at the heart of information control system. Communication is a tool that influences productivity.

Considering the findings of the study, I recommend that IT PMs create a plan to understand customer requirements thoroughly. The plan should include a review with the customer to ensure that the customer removes any abstruse language and provide agreed upon verbiage. The IT PM should provide an opportunity for the project team to review the requirements for clarity and to understand the customer's expectations. IT project associates provide functional expertise for IT projects. Participative decision making motivates employees to perform (Fang, Li, & Li, 2015). Involving employees in decision making contributes towards transparency, ownership, and collective responsibility in the organization and employees will trust each other as a family and feel motivated to perform.

To maintain cooperation, PMs must understand that a project team requires a collaborative environment to achieve effective communication. The value of team building is important since its leaders can influence changes. Project development entails the ability to convince stakeholders to pursue a certain path due to resulting benefits. I recommend that PMs understand their level of competencies to manage a situation. Zulch (2014) articulated that PMs must recognize their style of leadership, its effect, and influences on project management as these attributes play a central role in promoting effective project completion.

Similarly, McQuail's theory of communication outlines that an individual exercises dominance with the sole intention to facilitate an expressed response to

intended project goals (McQuail, 2010). Therefore, PMs must explicitly coordinate the performance of team members to ensure beneficial gains. Also, I recommend expanding associate training to include training on some of the project management tools and techniques as well. If project teams better understood requirements, gathering then the customer interactions may be more substantial. Another aspect of team building training in project management is project scheduling. Project teams may provide more timely alerts in the event a project experiences a delay which would reduce budget lost and increase profitability.

The findings on various strategies to develop a strengthened communication approach for IT PMs are significant. In the same manner, the results affect different types of audiences since communicating effectively within a team is an initiative that facilitates personal and organizational growth. The findings of this study may be significant to IT PMs and business leaders because the strategies led to successful IT project execution. The need for them to be interested in the study is to ensure that these professionals understand how they can deliver IT projects through an effective communication strategy.

Further, academicians and researchers might need the current study to advance their knowledge on ways to ensure a strengthened communication strategy for an education IT project success. Moreover, I will disseminate the results in other ways. I will have the opportunity to present the findings of this study before the DBA Doctoral Study Oral Conference. In particular, I will have the chance to present the findings of this study before the DBA Oral Conference to convince them of my academic credentials. In

addition, I intend for all the participants from this study will receive a copy to reference the successful IT project strategies. Additionally, I intend to submit articles for publication in a peer-reviewed journal such, as a peer-reviewed journal, Research Journal of Project Management and to share the study findings with the Palmetto Chapter of the Project Management Institute.

Recommendations for Further Research

I confined the current research to an investigation of the strategies that PMs in the education IT sector use to strengthen communication within project teams. Therefore, my purpose of this particular study serves as a primary limitation for this qualitative study. Specifically, the study failed to address other strategies appropriate for adoption by IT PMs in the education sector while trying to strengthen communication during the project implementation process. A limitation exists of the reliability of the study findings due to the small population size of only six senior-level IT PMs and team leaders in two education sectors in the southeastern region of South Carolina. Therefore, a recommendation for a future study conducted is to use a larger sample of subjects with project management skills as PMs and non-PMs from different sectors and geographical location. A future study ought to show how data saturation of its sample shared divergent perspectives or experiences of their inquiry. Wu, Thompson, Aroian, McQuaid, and Deatrick (2016) argued that the need to decide on the effect of sample size is based on its context of evaluating and determining its influence on findings. In this case, a future qualitative study can contribute to an understanding of how PMs can employ communication strategies for increased project success.

Furthermore, the use of a case study represents a generalized way in which PMs consider project communication as an effective strategy for achieving project success. A solution should be to consider using different professions with project management skills to understand complex situations in which they have been able to promote effective performance through strengthened communication strategies.

Moreover, the results of quantitative research can enhance an understanding of communication strategies that PMs can employ to boost employees' engagement, productivity, and overall profitability. The current study aimed to clarify the experiences and influences of communication strategies for PMs. A phonological study could be required to ensure that the participants engage in the discussion in a most meaningful manner. The subjects here can express their firsthand experiences and thus the phonological approach assists to capture crucial knowledge on effective communication strategies that result in sustainable project gains.

Reflections

A famous quote by Maya Angelou stipulates, “All great achievements require time.” It could be a challenge for me to reflect on the entire time it took me to complete research for the doctoral study; however, the quote above adequately defines my journey. My primary objective was to present a high-quality doctoral study based on the DBA Doctoral Study document. Hence, it took me an ample amount of time because I wasn’t keen on these components. I developed and structured a research question to depict the communication strategies that IT PMs in education sector use in their project management task. Precisely, this research aimed to answer the question: what

communication strategies do education sector IT PMs use to improve the performance and profitability of mobile device projects? Preliminary results confirmed my presumption that IT PMs facilitate the communication process among project teams. To maintain the scope of the study, I limited the strategies that PMs can utilize to boost the employees' engagement, productivity, and overall profitability. Meanwhile, I had to explore the influence of communication strategies to employees' engagement, productivity, and profitability.

While conducting the DBA Doctoral Study was quite an advanced development of research work that I had performed, the process not only subjected me to understanding approaches to conducting a research study but also my areas for improvement. The project was a foundation to advance my skills in research methods, conceptual framework and research designs, as well as data analysis for qualitative research. Regarding data collection procedure, I presumed that conducting an interview and presenting semistructured interviews were straightforward methods. Unfortunately, this preconception was inaccurate because I experienced challenges in scheduling timelines with PMs Professionals, let alone interview them. The actual moment of conducting the interviews was an interesting one. Besides, I was able to ensure consistency in maintaining the required interview protocol (see Appendix). All the involved participants positively responded to the presented questions. As I had prepared well to capture their responses, I took note of their answers in addition to recording them to ascertain that I maintained accuracy.

Moreover, I was keen to note their emotions and behaviors when I asked them various questions. To avoid the lack of focus, I was able to control the interviewee's during the interaction session until its end. Furthermore, I was able to capture the details of standardized project communication, communication team building and positive customer focus as strategies for strengthening communication by IT PMs. The interviewed professionals were not new to project management as they were interested in working in this field. In addition, I eliminated cases of tedium since the professionals were keen to share their experiences in project management and how they felt communication was fundamental to facilitate project success. In the end, I was excited to note that PMs need to strengthen communication within project teams as a strategy to boost the employees' engagement, productivity, and overall profitability.

Conclusion

The present study advances the literature on strategies for IT PMs to strengthen communication among team members and stakeholders of a project. Ramazani and Jergeas (2015) indicated that projects fail at an alarming rate. The findings from this qualitative multiple case study revealed that achieving project success does not have to be elusive. Another interesting fact is that the current findings contribute towards knowledge through which PMs can rely on evidence-based information to enhance the strategic management of communication and attain increased productivity and profitability in projects which may eventually benefit the local communities.

The participants in this study conducted were IT project management within the southeastern South Carolina area and shared the successful strategies that they used to

execute IT projects. I used member checking and triangulation to help clarify and verify much of the data collected. The participant's experiences united into several themes. The three major themes were (a) standardized project communication, (b) communication team building, and (c) positive customer focus. I searched the relevant peer-reviewed literature that supported the strategies of the emerged themes.

The data contained within this study may contribute to the effective practice of organizations by providing strategies IT PMs use to reduce cost overruns and improve on-time delivery. Education sector IT PMs also have a liability to be worthy overseers of taxpayer dollars. Unfortunately, failed education sector IT projects represents wasted public funds. I endeavored to find and share the strategies that IT PMs used to reduce the instances of IT project failure. I recommend that education sector IT PMs use the successful strategies within this study to execute their IT projects on time and within budget to retaining profitability for an education sector IT project.

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Appendix: Interview Protocol

Research Question: What communication strategies do education sector information technology project managers use to improve the performance and profitability of mobile device projects?

Interview Purpose: In this study, the interview contained 6 open-ended questions, and additional follow-up questions to determine communication strategies do education sector information technology project managers use to improve performance and profitability of mobile device projects.

Participant Selection Process:

- Contacted HR of the technology department for approval of the list of the participant(s) via email or phone.
- Selected participants from senior- level and team leaders provided by information on their LinkedIn profile.
- Participants received a copy of the consent form upon agreement to participate.
- Participants were instructed to confirm their participation by replying to the email, "I consent."
- Participants received a copy of the interview questions and interview protocol before the interview.

Interview Setting:

- Interviews took place in a private setting desired by the participant.
- The researcher reviewed and reiterated the terms of the informed consent form and gave the participant the opportunity to ask any questions.

- Researcher reminded each participant of the study's purpose and reminded them that participating in the interview was voluntary and the interview was confidential.
- Participants received reminders; there would be no compensation, and they may withdraw at any time.

Recording the interview:

- The researcher reminded each participant of the recording and received a confirmation.
- The researcher alerted each participant that a journal was a secondary way of capturing notes from the interview and to mitigate bias.

After the Interview:

- A thank-you card was sent to each participant one day after the interview along with an email
- The researcher transcribed the recorded interview of each participant and send a copy of their interview for the feed back
- Member checking occurred by contacting each participant in person or by telephone to review the recorded information for accuracy
- A determination occurred to identify the need for follow-up questions or the need for a second interview after the translation of data occurs
- All electronic information will be stored on a password protected USB flash drive, and all documents related to the study will remain in a fireproof combination safe that only I will have access. Also, for backup, I will use a cloud-

based server, Dropbox as a secure secondary backup. I securely will retain the data using password-protected folders on the encrypted cloud-based server while conducting the research. When the research is completed, I will delete the data files from the server including all archived copies. I will retain and secure all hard and electronic copies of the collected data for a period of 5 years. After 5 years, I will erase the case study database and shred all hard copy notes and documentation.

- Each participant will receive a copy of the published study.
- The appendices must adhere to the same margin specifications as the body of the dissertation. Photocopied or previously printed material may have to be shifted on the page or reduced in size to fit within the area bounded by the margins.