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Strategies for Successful Healthcare Information Technology Projects

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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2020

Abstract

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MPM, Keller University, 2015

MBA, Kaplan University, 2013

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Abstract

Without successful information technology (IT) implementations, IT managers and project managers (PMs) would fail to support their customers' and patients' technological needs. IT managers in healthcare organizations who improve IT project success rates will enhance the organization's financial health. Grounded in the transformational leadership model, the purpose of this qualitative multiple case study was to explore strategies some IT managers in healthcare organizations use to deliver IT projects meeting deliverable requirements. The participants were 5 IT managers and PMs in healthcare organizations in a metropolitan area of California who effectively used strategies to successfully deliver IT projects for health organizations. Data were collected from semistructured interviews, archived company documentation, and project management documents from PMI archives. Yin's 5-step analysis was used to analyze the data from which 5 themes emerged: defined scope, defined project plan, stakeholder management, communication, and the selected software development lifecycle. A key recommendation includes adopting agile or hybrid methodology to incorporate iterative development practices into information technology project implementations. The implications for positive social change include a potential reduction in healthcare costs to patients, improvement in the work environment by reducing employee stress related to failed projects, and a possible increase in funding of healthcare jobs and research to improve patient care.

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Dedication

I dedicate this doctoral study to my family, specifically my niece and nephews: Dakota, Dillon, Reid, and Dallas. To my significant other, Kevin Thompson, who encouraged me with love and support, I love you for your patience and understanding. I also dedicate it to my friends, all the young boys and girls who seek higher education, and African American women and men who want more out of life. If you want it go, get it. I missed a lot of family events and dedicated the last 4 years of my life to this effort, and I did it. You can do it too if you want to. Reach for the stars. Wake up each day and do something different, evolve.

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Table of Contents

List of Tables

List of Figures

Section 1: Foundation of the Study

Hughes, Dwivedi, Rana, and Siminatiras (2016) suggested that information technology (IT) managers fail to deliver IT implementations on time and within the required scope and budget. The failure of an organization's IT department to deliver implementations depletes the organization's capital budget. Sanchez, Terlizzi, and de Moraes (2017) asserted that successful implementations of IT projects allow organizations to remain competitive in their industries and, conversely, that the failure of organizations to deliver IT projects causes a loss of competitive edge. The purpose of this study was to explore strategies that may be useful to IT managers in healthcare organizations to improve project success rates and protect the organizations investments in IT implementations.

Background of the Problem

Organizations use technology to improve business, gain market share, and remain cutting edge in their industries (Hughes et al., 2016). IT projects directly impact economic growth, with 50% of capital investments over the last 10 years made in IT projects (Bhutani, Kumar, Garg, & Aggarwal, 2016). However, 31% of IT projects are unsuccessful, ending in cancellation before completion (Qin, Guangping, & Xuyan, 2017). Over 50% of IT projects are characterized by budget overruns and a failure to be completed on schedule (Qin et al., 2017). Managers fail to deliver projects that meet the original requirements for scope, schedule, and budget due to a lack of effective strategies that provide a mechanism to provide the project deliverables requested by stakeholders (Hughes et al., 2016). IT managers' inability to complete technological implementations

is a problem for organizations across all industries and creates losses in revenue and the depletion of capital budgets.

The failure rate of IT projects within the healthcare sector has been increasing over the past 10 years and contributes to an annual loss of $150 billion from capital budgets for IT projects in the United States (Qin et al., 2017). High IT project failure rates have led to a need for healthcare business leaders to develop strategies for how to make the right decisions regarding the integration of new technology in their businesses and workflows. The identification of strategies for lowering healthcare IT project failure rates may provide healthcare IT managers with the tools they need to ensure that IT projects meet scope requirements and are delivered on schedule and within budget.

Problem Statement

IT projects have an enormous impact on economic growth, with approximately 50% of all capital investments devoted to IT projects (Bhutani et al., 2016). However, 32% of IT managers fail to deliver projects that meet the original requirements for scope, schedule, and budget due to managers and PMs lacking knowledge regarding effective strategies for achieving project deliverables (Hughes et al., 2016). The general business problem was that some organizations experience a loss of revenue and capital asset value because of a lack of effective IT project management strategies. The specific business problem was that some IT managers in healthcare organizations lack strategies to deliver IT projects meeting deliverable requirements.

Purpose Statement

The purpose of this qualitative multiple case study was to explore strategies that some IT managers in healthcare organizations use to deliver IT projects meeting deliverable requirements. The targeted population consisted of IT managers in two healthcare organizations in California who successfully implemented strategies to deliver IT projects meeting deliverable requirements. The implications for social change include the potential for healthcare leaders to realize the financial benefits of successful IT project implementations, thereby increasing their companies' market share and competitive advantage and allowing for the accrual of additional funds that might be used to support the health and growth of local communities.

Nature of the Study

The qualitative methodology can be used by a researcher to analyze and understand individuals in their work environment (Marshall & Rossman, 2016). Qualitative researchers gain insight and identify new strategies or concepts through the evaluation of a current phenomenon in a typical business environment (Marshall & Rossman, 2016). I used the qualitative method to gain insight and a deeper understanding of strategies to deliver healthcare IT projects meeting deliverable requirements. Quantitative research incorporates a deductive review of data based on a hypothesis and requires the use of numerical values of data components (Almalki, 2016). A quantitative approach was not an appropriate method for this study because I did not use numeric data to test hypotheses. A researcher conducting a mixed method study combines and integrates elements of a quantitative and a qualitative approach (Tashakkori & Creswell,

2007). A mixed method research approach was not suitable for this study because I did not use any quantitative elements.

Researchers use the case study design to investigate phenomena within a real-life context (Yin, 2016). The truth is relative and understanding is dependent on the perspective of the individual (Yin, 2016). Researchers conducting a case study explore contemporary events and similar behavior through the use of interviews and direct observations of study participants (Yin, 2016). The phenomenological and ethnographic designs did not fit this study because researchers use these designs to provide data centered around lived experiences (see Adams & Van Manen, 2017) or the experiences of large groups or cultures (see Mumford, 2016), respectively. A case study design was the most appropriate method for this study because I sought to explore a phenomenon within a real-world, contextual setting.

Research Question

What strategies do some IT managers in healthcare organizations use to deliver IT projects meeting deliverable requirements?

Interview Questions

1. What strategies did you use to deliver IT projects meeting deliverable requirements?
2. What were the primary elements of strategies for the delivery of IT projects meeting deliverable requirements?
3. What strategies were most effective for the delivery of IT projects that met the deliverable requirements?

4. How did you measure the effectiveness of the strategies used to deliver IT projects that met the deliverable requirements?
5. Which strategies did not work for the delivery of IT projects that met the deliverable requirements?
6. What were the key challenges to implementing strategies for the delivery of IT projects that met the deliverable requirements?
7. How did you address the key challenges for implementing strategies for the delivery of IT projects that met deliverable requirements?
8. What additional information would you like to share related to strategies for delivering IT projects that met the deliverable requirements that we have not discussed previously?

Conceptual Framework

I used the transformational leadership theory, developed by Bass (1985), as the conceptual framework for this study. Bass's transformational leadership theory consists of four components: charisma, inspiration, intellectual stimulation, and consideration. When leaders expand and heighten the interests of their followers and encourage acceptance and cognizance of the organizational mission, team members are encouraged to focus on the good of the whole (Bass, 1990). Transformational leaders seek to improve processes using their charismatic personality traits to apply the four core components of transformational leadership: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1985). Transformational leaders inspire innovation and, thus, may support the implementation of strategies to ensure the

delivery of IT projects meeting deliverable requirements. The transformational leadership framework provided an effective lens through which to explore the strategies necessary for the successful delivery of IT projects.

Operational Definitions

E-interviews: Interviews conducted with research participants using electronic tools such as Skype (Deakin & Wakefield, 2014).

Health information technology (HIT): The execution of information processing involving both computer hardware and software, including the storage, retrieval, sharing, and use of healthcare information, data, and knowledge for communication and decision-making (Pinsonneault, Addas, Qian, Dakshinamoorthy, & Tamblyn, 2017).

Project management: A discipline used to aid in the rapid change relating to a project, including a set of strategies and processes to assist in the completion of initiatives efficiently (Gardner, Bennett, Hyatt, & Stoker, 2017).

Software development life cycle (SDLC): A process that enables standardization for facilitating cost estimation, organization, and planning of IT projects (Kramer, Sahinoglu, & Ang, 2015).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are problems or issues that are out of the control of the researcher (Kirkwood & Price, 2013). In this study, I assumed that the interview sample represents the population of HIT managers and employees with healthcare project experience.

Another assumption was that all participants understood the interview questions and had the necessary expertise to respond to the questions. I also assumed that interview respondents answered the questions honestly instead of answering how they believed I, as the researcher, wished them to respond. Finally, it was assumed that the data from the interviews provided sufficient information to address the study research question.

Limitations

Limitations are the potential weaknesses of a study identified by the researcher (Babbie, 2014). I gathered data from the IT departments of three healthcare organizations, which may limit the study findings to a subset of all healthcare organizations. Data were collected from interviews with IT managers only, which may correspond to a lack of diversity in perspectives and opinions held by healthcare personnel. Finally, because I gathered information from healthcare organization IT departments only, the study findings may not apply to other organizations or other types of industries.

Delimitations

Study delimitations include the choice of objectives, research questions, variables of interest, theoretical perspectives selected, and the chosen population that establish the scope of the study (Yin, 2016). The first delimitation related to the analysis of the data available within the IT departments of the three healthcare organizations under study. I assumed that the data from these three organizations may not apply to all healthcare organizations outside of California. Second, I focused the study on healthcare

organizations within California and did not include participants from healthcare IT organizations in other states.

Significance of the Study

Contribution to Business Practice

IT managers within healthcare organizations deal with high project failure rates (Blaskovics, 2016). Therefore, healthcare IT leaders seek to identify strategies that positively impact project delivery success rates. The strategies identified in the findings will enable IT managers to determine methods to plan, gain knowledge, and understand how to deliver IT projects that meet the original requirements and increase project delivery success rates. Companies invest significant amounts of their capital budgets into IT innovations (Bhutani et al., 2016). The identification of strategies for improving success rates for IT projects might enable healthcare organization leaders to spend their capital budgets more effectively and, consequently, improve the financial position and stability of their organizations.

Implications for Social Change

Increasing IT project success rates may allow organizations to grow and innovate, providing business leaders with the ability to gain profitability, hire more employees, and support growth and development in local communities. Organizational leaders must link the benefits from IT project implementations to the organizational vision to obtain positive results from IT project implementations (Marnewick, 2016). By linking new IT project implementations to the organizational vision, healthcare leaders may increase their company's market share and maintain a competitive advantage in their industry that

allows for the accrual of additional funds that might be used to support the health and growth of local communities.

A Review of the Professional and Academic Literature

In this review of the literature, I explore gaps in the present understanding of IT project strategies that may lower the project success rates in healthcare organizations and across industries. To understand the topic of IT project failure rates, I explored the extant literature on IT project strategies that increase project success within the IT departments of healthcare organizations. By applying these strategies, IT managers may obtain the ability to improve their project success rates and limit project failures. As indicated by Alami (2016), organizations wanting to investigate and integrate modern technology into their companies may create difficulties for management and impact the successful execution of highly technical projects.

Within this section, I provide a critical review of the existing literature on the topic of IT project failure rates and the core competencies necessary for IT project success. I gathered information related to the research question from peer-reviewed articles, books, and dissertations. To locate the information, I primarily used databases accessible through the Walden University Library and Google Scholar, including Business Source Complete, ABI/INFORM Collection, Emerald Insight, SAGE Journal, Business Market Research Collection, ProQuest Central, and ProQuest Dissertations & Theses Global databases. Scholarly books were also used to aid in the methodological development of the study, and various websites were used to locate articles and information related to the research topic. I used the following keyword search terms:

project success, project failure, project management, information technology, information technology project management, information technology projects, information systems, healthcare information technology, software development life cycles, and *project teams*. Overall, I cited 135 literature sources in this study. Of the 135 sources, 91 are peer-reviewed, and 80 were published within 5 years of the completion of this study.

In Table 1, I provide the literature source statistics for the (a) total number of sources, (b) number of peer-reviewed sources, (c) number of sources published within 5 years of the projected graduation date of July 2020, (d) percentage of peer-reviewed sources related to the total number of sources, and (e) percentage of sources published within 5 years of the projected graduation date of July 2020 related to the total number of sources.

Table 1

Literature Review Sources

Sources	Seminal studies	Between the years of 2015–2018	Total
Books (seminal)	6	0	6
Conceptual framework articles	5	0	5
Dissertations	0	5	5
Non-peer reviewed	0	2	2
Peer-reviewed journal articles	5	105	110
Total	16	112	118

Percentage of total	5%	95%	100%

Note. Seminal publications contain information used before the current year and later recognized as being relevant and of primary influence in the current year.

To explore strategies for improving IT project success rates in the healthcare sector, I used the transformational leadership theory as the conceptual framework. Transformational leadership theory, often used by charismatic leaders, provides a platform for researchers to examine and understand IT project failure rates and the impact of the project failures on healthcare organizations. The transformational leadership framework offered an effective lens through which to explore strategies necessary for the successful delivery of IT projects.

Transformational Leadership Theory

Transformational leaders work with subordinates to identify needed changes and create a vision where the leader guides the changes using inspiration and executes the changes with the group that is committed to the change (Bass, 1990). Bass (1985) proposed that the transformational leadership theory includes four key components: charisma, inspiration, intellectual stimulation, and consideration. Transformational leaders work toward improving processes and use their influence and charismatic personalities to apply the four core areas of transformational leadership: idealized control, inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1990). The name transformational leadership suggests changing or transforming a process or situation (Raziq, Borini, Malik, Ahmad, & Shabaz, 2018). Using the four core areas, transformational leaders may develop strategies that positively impact IT project

delivery rates, which, in turn, positively affect the leader and followers and may enhance the organization's innovation.

Individuals working on IT projects require direction and effective leadership to achieve successful outcomes (Qin et al., 2017). Transformational leadership refers to a process where leaders engage followers to create connections that result in increased productivity and motivation in followers and leader performance (Garrison & Vaughan, 2013). Bass (1990) defined a transformational leader as a person who can transform an organization and seek out ways to improve relationships with followers without focusing on self-interest. Transformational leaders encourage and stimulate optimistic and idealistic outlooks by communicating focus and lofty expectations (Bass, 1990).

Transformational leaders provide the motivation and leadership that promote creativity and innovation among followers (Bass, 1990) Through charismatic persuasion, transformational leaders convince followers to go beyond self-interest in exchange for organizational rewards (Effelsberg, Solga, & Gurt, 2014). Hater and Bass (1998) agreed, stating that transformational leaders compel followers to transcend their self-interest for the sake of the company. Followers who demonstrate loyalty and dedication to the organization or team may support the charismatic, transformational leader and may contribute to the successful delivery of IT projects.

Researchers have provided different examples of transformational leadership and how it relates to employees that vary depending on the scope of their research. Effelsberg et al. (2014) found that a positive relationship exists between the willingness of employees to engage in pro-organization follower behavior within the guidelines of

transformational leadership. Dinh et al. (2014) posited that leaders determine the fate of organizations through their strategies, decisions, and ability to influence others. Dinh et al. also presented a review of leadership developments in which they identified 66 different leadership domains.

To solve complex problems, IT managers seek out cutting-edge technologies to streamline or modify current workflow, cut costs, and create efficient methods to complete required tasks. The managers transform the current processes and motivate their followers to accept the new techniques and apply them to existing workflows. Ashyby's law of requisite variety requires that internal and external complexity align when addressing issues in complex systems (Klein, Biesenthal, & Dehlin, 2015). When seeking a resolution to complex issues, managers need to identify a set of tools that contains as much variety as the problem he or she is trying to resolve (Klein, Biesenthal, & Dehlin, 2015). Dao, Kermanshachi, Shane, Anderson, and Hare (2016) considered project complexity as a variable that complicates and makes projects challenging to manage. Complicated projects require efficient strategies and technologies that allow managers to use technology to monitor and control the project.

Transformational leaders receive elevated levels of loyalty, commitment, and trust by demonstrating that they care about their followers (Bass, 1990). Aga, Noorderhaven, and Vallejo (2016) observed that transformational leaders might use intellectual stimulation, idealized influence, inspirational motivation, and individualized consideration to impact the actions of followers positively. Bass (1990) believed in the improvement of the organization and that the transformational leader would ultimately

help the follower and themselves. To stimulate optimistic and idealist outlooks on the future, transformational leaders communicate elevated expectations and create long-term visions they can use to facilitate the acceptance of new methods to promote positive organizational changes (Hsu, Felfe, Wiggerich, & Schnieder, 2016). These leaders transform the environment by inspiring their followers to put forth their best efforts and support the goals of the organization. Transformational leaders differ from transactional leaders by creating an environment in which followers can obtain rewards for objectives that they accomplish (Bass, 1990).

Transactional Leadership

Transactional and transformational leaders possess characteristics that support the temporary and unique nature of projects within organizations. Both transactional and transformational leaders work well in projects that require the execution of leadership in a temporary setting (Tyssen, Wald, & Spieth, 2014). Blanchard and Sargent (1984) indicated that one characteristic of an effective leader is their ability to enter into an agreement or understanding with their followers regarding the amount of direction required and assigned tasks. Transactional leaders expect their followers to establish a close link between the effort they put in and the rewards they obtain (Burns, 1978). Sutterfield, Friday-Stroud, and Shivers-Blackwell (2006) noted that the transformational leader articulates a future vision and shares it with subordinates or followers and successfully stimulates their interest. Transactional leaders exchange processes with subordinates to ensure that subordinates complete contractual commitments efficiently (Raziq et al., 2018). Transactional leaders monitor their followers' activities and control

any deviation from the expected standard to meet the required performance levels (Raziq et al., 2018). Transactional and transformational leaders support their followers in separate ways, with transactional leaders rewarding their followers and transformational leaders motivating their followers.

Transactional leaders focus on rewarding subordinates rather than stimulating their interests (Raziq et al., 2018). Transactional leaders retain all power to evaluate, correct, and train subordinates when a need to improve arises (Antonakis & House, 2014). The transactional leader provides rewards when the subordinates correctly complete assigned tasks (Burns, 1978). Therefore, transactional leaders may not offer innovative ideas that can change the landscape of the organization and improve IT project failure rates. The transformational leader creates an environment where the followers are motivated, flexible, and open to changes that may contribute to increased project success rates.

Situational Leadership

Situational leaders and transformational leaders use different tools to enlist and motivate their followers, primarily since situational leaders focus only on a situation. The situational leadership theory (SLT) consists of the following components: telling (i.e., high directive behavior and low supportive behavior), selling (i.e., high directive behavior and high supportive behavior), participating (i.e., low directive behavior and high supportive behavior), and delegating (i.e., low directive behavior and low supportive behavior; Salehzadeh, 2017). According to May (2011), situational leaders combine various managerial styles that can cater to diverse people within an organization. Hersey

and Blanchard (1969) developed SLT to characterize a leader's behavior using the situational factors and additional criteria of psychological maturity, job maturity, and the ability of the follower to perform the assignment or task.

Situational leaders must possess a rational understanding of the situation and provide a response that is appropriate; conversely, transformational leaders use their charismatic leadership style to guide and control their followers (McCleskey, 2014). Leaders can use either transformational or situational leadership techniques to implement successful projects; however, transformational leaders may be able to support followers or team members and put the project ahead of their personal goals (Burns, 1978).

Within the SLT framework, leaders base their approach on the task completed rather than the functions required to complete the project (Tyssen et al., 2014). When exploring strategies impacting the success of IT projects, the transformational leadership framework serves as a lens through which to view the relationships that exist between leaders and their followers and that are necessary for the successful delivery projects (Tyssen et al., 2014). The SLT may not provide an accurate framework for identifying reasons why project failure rates continue to increase because focusing on one situation does not provide the data required to evaluate why IT project failure rates continue to increase. Situational leaders' hone in on the current situation (May, 2011). However, the situation may not be consistent across projects because each project may encompass different problems or situations.

Applications of Transformational Leadership Theory in Research

Researchers have used transformational leadership theory to identify strategies for implementing change in a variety of industries, including, but not limited to, the IT sector. Okoye (2017) used transformational leadership and general systems theory to explore strategies to reduce the effects of information system security threats on business performance. Information security projects are like IT projects, and there are always risks to any systems security, so Okoye conducted the study to identify possible strategies to eliminate potential threats.

Through the lens of transformational leadership, Liu, Sheng, and Marston (2015) identified potential threats to internal and external systems. Pyrooz, Decker, and Moule Jr. (2015) found that a lack of guardians with knowledge and ability, an identified target, and a possible offender are the three aspects of predatory breaches in the routine activity theory. Implementation of formal strategies requires at least a basic awareness of opportunities that could be considered tempting to the business leader. To understand the formal strategies better, the four properties that determine a suitable attack target must be recognized: value, inertia, visibility, and accessibility (Yoon, 2015. Moon, Morash, Jeong, and Yoon (2015) argued that criminals attack targets that have high visibility, easy accessibility, and hold significant value.

Long (2017) employed the transformational leadership theory during an exploration of how leaders support millennials in the workplace to determine whether transformational leadership or ethical leadership better facilitates the encouragement and motivation of millennial employees. Long used transformational leadership, ethical

leadership, and servant leadership theories and found that the three overlapping frameworks encompass the components that establish the characteristics of management needed to meet the expectations of millennial employees, which include motivation and leading by example.

Transformational leadership consists of raising the level of consciousness of the followers and leading through influence to meet the desired achievements (McCleskey, 2014). Transformational leadership supports modifications to improve and motivate followers from all eras including millennials. Long (2017) identified the characteristics of leaders and the behaviors that motivate employees in the millennial generations and how the behaviors correlate to specific leadership styles. Long used the concept of transformational leadership as a theory where the person functioning in the role of a leader to motivate and inspire millennial employees where they facilitate the buy in of the team is working towards a common goal (Long, 2017). In this instance transformational leadership is the most popular theory. Long decided against transformational leadership alone and went with a combination of three conceptual frameworks: transformational leadership, servant leadership, and the social learning theory founded by Bandura (1977).

Transformational leadership also supports quantitative studies in behavioral science as a theoretical framework in quantitative studies. Businsky (2018) compared transformational leadership with emotional intelligence as a leadership style. Businsky identified the effects of IT professional emotional intelligence on the reactions of internal and external customers who become dissatisfied with the communication provided. There are several theoretical frameworks in this study, the author evaluated the type of leaders

that can implement strategies across the team to improve communication with internal and external customers. The author used a multiple regression analysis to separate the leadership behaviors into the following areas: transformational, transactional and laissez-faire and joined five emotional intelligence and the total Emotional Intelligence score, without a statistical significance (Businsky, 2018).

The transformational leader inspires and stimulates interest with colleagues that creates a different outlook on work and the desired organizations goals. In varying degrees transformational leadership encompasses idealized influence, intellectual stimulation, inspirational motivation and individualized consideration to bring about the desired outcome of the organization (McCleskey, 2014). To improve communications, the transformational leader can implement communications strategies that may improve the relationship between IT professionals and their internal and external customer by using their charismatic leadership style. Businsky (2018) found that transformational leadership significantly improved the emotional intelligence of IT professionals. Through the study, (Businsky, 2018) found a higher level of emotional intelligence among information technology professionals than the general population and these managers demonstrated a conistent use of transformational leadership behavior.

Employee retention is a costly problem for most organizations and can be affected by a lack of managerial skills in retaining employees. Haney (2018) used transformational leadership as a lens to identify strategies leaders in a grocery store chain use to retain employees. Transformational leaders or managers that are equipped with skills to provide employees with job satisfaction are difficult to acquire. In this single

case study, the transformational leadership framework is utilized to identify strategies to reduce the turnover rate at a single store in a national grocery store chain in the Midwestern United States.

Haney (2018) identified three main themes from the research approachable leadership style, planning for future employee attraction and maintaining job satisfaction. According to study findings, transformational leadership style, was successful and had a positive impact on employee retention. The strategies positively impacted social change by using managers that were supportive of their staff and reducing employee turnowver. The transformational leadership framework supports management in many industires including employee retention in grocery store chains. Ruggieri and Abbate (2013) suggested transformational leadership often surrender personal gratification in to see followers or others prosper. Transformational leadership is employed by leaders who use compassion to motivate their followers. Ruggieri and Abbate suggested transformational leaders tend to surrender personal gratification in favor of seeing others prosper. Transformational leadership has a positive impact on leaders across organizaations where leaders put their own needs aside for the good of the organization.

Factors Contributing to Project Failure

Researchers have identified several reasons why IT projects fail, based on their perspective of what the actual parameters of a project failure include. Project failure is difficult to define and the absence of a consensus on the definition of project failure does not provide the manager with the ability to clarify what causes the project to fail (Serra & Kunc, 2015). Alami (2016) identified three factors that contribute to IT project success or

failure: the unknown, uncertainty, and volatility. Managers identify three elements that control how managers label a project as either a success or a failure. Depending on the evaluator, a project may succeed or fail based on the success criteria that the provides the business partner.

Many factors contribute to the failure of IT projects in organizations across industries. IT leaders have observed that that if any of the three elements within the triple threat (cost, time, and scope) fail the project has a high potential of failure (Cecez-Kecmanovic, Kautz, & Abrahall, 2014). The path to project success differs which identifies successful and unsuccessful projects. Kamp (2014) believed that individuals who replace human labor with technology instead of identifying and resolving workflow issues or problems could cause of IT project failures. Project management researchers acknowledge the duality that exists between the project participants' satisfaction and project success (Usher & Whitty, 2017). In contrast, Vaidyanathan (2017) posited that how the manager executes a project directly impacts whether the project succeeds or fails. Carvalho (2014) believed that project management is a subjective activity dependent on the individual that is evaluating the project.

Insufficient project sponsorship by leadership. Projects need appropriate sponsorship to be successful and complete on time, within budget, and with quality. Albliwi, Antony, Abdul Halim Lim, and Van der Wiele (2014) indicated that the lack of clear senior leadership, sponsorship and ownership had a direct impact on the success or failure of the project. The PMI (2017) indicated that projects must have senior management support to complete successfully and support the company's objectives

effectively. Obeidat and North (2014) posited that the risk of an IT project failing increased when executive management was not committed to the project and did not provide support the project or supply to complete the project. Without appropriate backing IT projects fail more than they succeed.

If leadership supports the project, it is less likely to fail. When obstacles arise management will often step in and mitigate the problems quickly to get the project back on track (Parker, Parsons, & Isharyanto, 2015). As indicated in the Project Management Book of Knowledge (PMBOK; Project Management Institute [PMI], 2017), projects without management support are more likely to be neglected regarding the provision of funding or resources.

IT project uncertainty and risks. IT project risks and uncertainties potentially impact the ability of PMs to successfully deliver projects. PMs initiate risk management strategies to prepare and mitigate any issues that may occur. Organizations must prepare for unforeseen risks and uncertainties when seeking to implement IT projects, which create situations or events which present threats and opportunities for successful completion of technology projects. The management of information is the nucleus of an organization's business activities (Chinyamurindi, 2017). Rodríguez, Ortega and Concepción (2016) believed the way to reduce project risk is to lay out a method of risk assessment and base it on a combination of fuzzy analytic hierarchy process and fuzzy inference system. Rodríguez et al. (2016) assessed that evaluating the model and dealing with the hierarchy using expert knowledge of risk assessment may be useful for IT project management. PMs who forecast risks and uncertainties may be able to identify

options useful to maintain effective project performance. If another risk factor occurs during the project the PM must provide the information to the to the stakeholders.

The success or failure rates of IT projects are dependent on how the manager defines success. Managers use the triple constraint to identify the state of a project and why it is failing. When assessing reasons for project failure, researchers may consider the elements of the iron triangle (scope, time, and cost) instead of considering each element individually (Aranyossy, Blaskovics, & Horváth, 2018). The PMBOK includes a separate risk management section to prioritize and monitor current and projected risks. When managers identify risks and risk management is applied (PMI, 2017), the PM can project risks and create mitigation plans to work around the risks and keep the project on track. Risk management is one of the PMBOK's eight knowledge areas.

IT Projects Leadership

Organizations apply technology to streamline and simplify business processes to obtain and maintain cutting-edge business processes and to achieve sustainability. IT is a term used to identify technology including, but not limited to, computers, software, hardware, and data systems (Hemmati & Hosseini, 2016). IT is a broad science that includes hardware and software components, which incorporate network communication between systems (Hemmati & Hosseini, 2016). Metz, Burke, Hultgren, Kogan and Schwartz (2016) indicated that innovations and sustainability provide organizations with the ability to obtain and maintain their market share. IT managers must understand the latest technologies and determine if the technologies support the current workflows, will improve the process, and implemented.

The implementation of an IT project must provide a benefit to the organization and be sustainable over time. Franken, Edwards, and Lambert (2009) identified an eight-strategy approach for successfully implementing change in an organization. Franken et al. used an in-depth analysis of strategic change portfolios, strategic change execution, and change capability improvement to identify strategies used to create sustainable technologies (Hughes & Harris, 2015). The elements include attracting, allocating and managing the affected resources to deliver the change and determining how to implement the strategy provides a clear indication as to whether it will provide a mechanism to adopt or implement an organizational change needed for a successful project. McKinley, Latham, and Braun (2014) observed that innovation equates to novel services or production service that departs from past products and services of the organization.

Researchers identify innovation flexibility as a concept that identifies the level of the malleability of the innovation after its introduction to the market. While an inflexible innovation is an innovation where the range of post introductions configurations is relatively small and the speed between process is slow (McKinley et al., 2014). When implementing innovation in an organization, a potential problem is the rigidity of the innovation. Rigidity is the opposite of innovation regardless of whether the innovations are flexible or inflexible. A state of rigidity indicates that innovations are on hold or suppressed and the organization functions as is with normal processes. Arif, Zahid, Kashif, and Sindhu (2017) described the main aspects of change as content and people and process, where content refers to the strategy including system, technologies and strategies.

Managers must research the type of innovation and examine current processes before selecting innovations. IT managers must understand the difference between innovation and rigidity and how to strategize when implementing innovations to the current organization's objectives for success. Pressures to innovate may create risks for transformational leaders, who seek to transform and utilize innovative technologies that they may not fully understand. Hughes and Harris (2015) indicated that leaders might understand the new concept, but the leaders often have difficulty implementing it successfully to improve the organization's processes. McKinley et al. (2014) identified the leader-member exchange theory which explains the supervisor employee relationship. Global organizations that have dynamic positions to remain successful must protect their existence and success by modifying their policies, procedures, rules, and regulations to meet the current climate. Protecting the organizations' environment often entails changing their organizational structure, management and ownership structures (Hughes & Harris, 2015). External factors are often the cause of these organizational changes, which forces leaders of organizations to make changes to meet the needs of their stakeholders.

IT project implementations can be costly and include a significant amount of risk for the organization. The ability to successfully manage risks within IT projects is a consistent problem for companies, whether the projects are managed internally or outsourced to another company (Taherdoost & Keshavarzsaleh, 2015). Organizations strive to stay ahead of rapidly changing technologies and spend significant amounts of money funding IT project implementations in hopes of remaining competitive and profitable (Rivera-Ruiz & Ferrer-Moreno, 2015). The effects of risk management

performance are different across IT projects and the higher the complexity of the project, the higher the risk of project failure (Liu & Wang, 2014). With any IT project implementation, risk management may impact the success or failure of the project.

The failure rates of IT projects have consistently increased over the last few years. With the growing demand for IT projects, managers must implement new models including implementing virtual teams (Melina Pereira, 2015). As indicated by Alsharo, Gregg, and Ramirez (2017), organizations use virtual teams to gather experts who collaborate online to accomplish organizational tasks. Virtual teams also apply a creative approach to projects that may not exist in traditional team structures (Gibbs, Sivunen, & Boyraz, 2017; SangWoo, 2017). The nature of remote or virtual teams creates challenges in effective collaboration and team outcomes. As indicated by Jorge and Mário (2017), hospital administrators initiate substantial investments in IT and information system projects with a goal of improving patient care and cutting costs. The implementation of IT projects requires an elevated level of strategic planning, business process and operation process knowledge when implementing teams which are onshore and offshore, with a higher onsite presence (Mishra & Mahanty, 2015). IT managers look at the project team strategically and identify the type of team required and the technology required to make the project team successful.

Project Teams

The level of maturity of the team often relates to the length of time the team members have worked together, the strength of team communications, and the ability of the team to complete deliverables on time. An organization's level of maturity impacts

the success or failure of an IT project implementations (Jorge & Mário, 2017). Trust among project team members plays a significant role in increasing IT project success rates (Ettlie, Tucci, & Gianiodis, 2017). Transformational leaders who engage in team building efforts can positively influence IT project successes rates (Aga et al., 2016). IT managers use a variety of team structures to create a project team depending on the type of project including virtual teams, global teams, and the traditional team structure. The manager must also consider the kind of technology required for the type of team selected.

Virtual (global) teams. Virtual teams allow geographically dispersed talent to work together to deliver quality IT projects and act as a centralized unit through various methods of communication. Other team structures are restricted to the types of local resources available, while virtual teams bring a creative element to project. (Gibbs et al., 2017; SangWoo, 2017). The nature of virtual teams creates challenges for team members who work from various locations. As indicated by Alsharo et al. (2017), organizations use virtual teams to gather experts who collaborate online to accomplish organizational tasks. By selecting a virtual, managers apply virtual technologies and strategies to ensure successful communication among the team members.

Leaders of organizations create training mechanisms for global virtual teams to encourage effective communication among team members. IT managers provide training and technical tools, shared across global teams online, or over the phone (Malhotra & Majchrzak, 2014). Errors in communication impact all teams including virtual teams and global teams. Global teams who experience errors in communication can impact the organization and teams across global teams and can negatively impact the team members'

ability to deliver IT projects successfully (Vasile & Nicolescu, 2016). Communication is key to completing IT projects that are global in scope and require the input of personnel from various cultures (Carrison, 2017; Hart, 2016). Virtual teams provide robust technical staff and are often cost-effective allowing companies the funding to invest in their communities and hire additional resources (SangWoo, 2017). IT leaders strategically set up teams to deliver quality products and processes, the leaders must ensure that the communication channels function correctly to provide the team with the tools needed to deliver as a cohesive group.

The implementation of virtual teams within organizations requires management to provide strategies specifically related to virtual teams with diverse cultures, creating an environment that supports teamwork. Lisak, Erez, Sui, and Lee (2016) posited the ideas of the consideration of teamwork and trust characteristics using a team process. Lisak et al. found that participants with the highest scores of global characteristics are the emergent leaders. Leaders must understand the aspect of the team and the skills of team members and effective communication methods to build and maintain a successful project team with the necessary teamwork perspective (Matthews & McLees, 2015). Managed must not only consider communication, but they must also consider cultural differences among the team members on the project team.

IT projects can have limited timelines and virtual teams provide the ability of a team to encompass 24-hour efforts, which may shorten timelines and lower costs depending on the resources required. Virtual teams provide benefits and limitations for the implementation of IT projects that relate to costs and communications (SangWoo,

2017). Applying communication methods and tools to lower the cost of the project and enable companies to hire additional resources or invest these savings into their local communities. Lower overhead cost may provide organizations with additional capital and the ability to remain competitive in their markets. Traditional teams have an existing structure, while virtual teams require methods of applying effective strategies to communicate goals and objectives and appropriate communication tools to implement global communication (Gibbs et al., 2017). These global teams are often in different counties, in different time zones. Implementing virtual teams allows organizations to save money on resources and overhead, which includes office space or rent. Lower overhead cost provides organizations with the ability to remain agile and competitive in their markets.

Traditional teams. Traditional IT project team members reside in the same location and can communicate face-to-face regularly. Team members participating in face-to-face meetings can continuously communicate without using technology. Tuuli (2018) found that individual team members working in dynamic team environments where teams are highly integrated can create interdependence of project tasks and experience more empowerment. The ability to communicate face-to-face allows team members to feel psychologically empowered and make effective decisions through communication and may promote successful project delivery.

Traditional teams and global teams have positive and negative impacts on IT projects. The challenge among global team members relates to the location of the team and consists of team members that have cultural values that differ and diverse

backgrounds, ethics, values, norms and other cultural aspects (Abyad, 2017; Usher & Whitty, 2017; Frimpong & Oluwoye, 2018). To answer to increasing demands, healthcare organizations must improve their internal business practices and strategies to lower the project failure rate (Gomes & Romão, 2019). These healthcare organizations use virtual teams to shorten their project timelines by using offshore resources at a lower cost and work during off hours creating teams that span over 24 hours.

Project Communication

Global teams working in different countries and in different time zones may encounter communication problems if they do not manage communications appropriately. Traditional teams have an existing structure, while virtual teams require methods of applying effective strategies to communicate goals and objectives and appropriate communication tools to implement global communication (Gibbs et al., 2017). Organizations that use virtual teams may save money on resources and overhead, including office space and rent. However, virtual teams may not be as productive due to breaks in communication within and across teams. PMs select the type of communication plan according to the project complexity, the team dynamics, the objectives of the project and the attributes of the project (Kennedy, Sommer, & Nguyen, 2017). IT managers must provide direction to ensure that team members understand their roles and responsibility about communication.

Effective team dynamics may provide teams with the tools required for effective collaboration. Communication is key to completing information technology projects that are global and use human resources from various cultures (Carrison, 2017; Hart, 2016).

Leaders of global teams who commit communication errors impact their organization's ability to deliver projects successfully (Vasile & Nicolescu, 2016). Leaders of organizations create training mechanisms for global virtual teams through the implementation of training and testing packages shared across global teams online or over the phone (SangWoo, 2017). Virtual teams provide robust technical staff and are often a cost-effective means for companies to invest in their communities and hire additional resources (SangWoo, 2017). The implementation of virtual teams within organizations management must provide strategies specifically related to virtual teams with diverse cultures. These virtual teams provide a robust base of knowledge and experience to support successful IT project delivery.

Communication errors among virtual team members contribute to high project failure rates may be one of the causes of IT project failure rates. Errors communicating across global teams impacts the organization's ability to deliver the project successfully (Vasile & Nicolescu, 2016). Communication is key to completing information technology projects that span globally with resources of various cultures (Carrison, 2017; Hart, 2016). One way that organizations are creating training mechanisms for global virtual teams is the implementation of training and testing packages. These packages shared across global teams online or over the phone. Virtual teams provide robust technical staff and are often cost-effective allowing companies the funding to invest in their communities and hire additional resources (SangWoo, 2017). Strategically, managers decide the type of team required to complete the project regardless of the location of the team members.

Healthcare IT Projects

Healthcare organizations implement IT projects to keep up with current technology and streamline existing workflows. The adoption of information and communication technologies is a strategy that healthcare organizations use to meet challenges associated with rising costs and limited resources due to workforce shortages (Gomes & Romão, 2019). As indicated by Georgiou et al. (2009) healthcare professionals that use healthcare systems are globally dealing with increasing demands for highly sophisticated and automated services through cutting edge IT implementations. Leaders of healthcare organizations face various issues with the main issue of limited resources and projected shortages of healthcare IT professionals to support the need. Implementing new systems is a requirement to remain competitive in the healthcare industry, therefore IT managers must identify resources to meet the need.

IT managers must also focus on pharmacy system improvements to remain competitive. Industry standards change often managers responsible for pharmacy systems must move towards implementations of new technologies to improve or streamline the workflow for patients (Muhammad, Safaei, & Muhammad, 2019; Okumus, Bilgihan, Bulent, Xinyuan & Zhao, 2017). There are significant global and local challenges for healthcare access and technology is useful to alleviate this problem in most cases. Limited skilled resources, time and budget inhibits their ability to implement successful systems that may potentially improve workflow. IT departments in healthcare organizations lack appropriate strategies to implement new technologies (Okumus et al., 2017).

Project Management Methodology

Project management is a method of implementing projects using knowledge areas described in the project management body of knowledge. The overarching goal of project management is to ensure that the project is successful and meets the expectations of the project stakeholders (Abyad, 2017; Usher & Whitty, 2017). Researchers of project management describe a project as a temporary event with a beginning and an end with a defined set of objectives or requirements (Abyad, 2017; Paton & Andrew, 2019). The length of IT projects differs across organizations based on stakeholder needs.

Transforming organizations' technologies using information technology is the job of IT managers and PMs. Managers and PMs transform organizations by implementing enhancements and new IT technologies which provide new capabilities and increases organizational expectations (Berman & Marshall, 2016; Bilgihan & Wang, 2016). These innovative technologies may streamline the workflow and allow the team members to efficiently complete business processes. Management must focus on the primary areas that may impact the delivery of the implementation. Implementing modern technologies includes handling risks by completing risk analysis (Rodríguez et al., 2016) and planning for potential risks through mitigation (PMI, 2017). Without planning for potential issues, managers may encounter problems that can cause project failure.

To implement successful projects, management must monitor, manage and control project-related activities to measure the efficiencies of the project. Successful project management methods can lead to project success; however, the same methods align with critisim when failures occur and can align with poor project management

(Vaidyanathan, 2017). The understanding of project success theory, which evolved from the historical simplistic triple constraint concept, encompasses the three main elements of cost, time and quality in addition to knowledge management and shareholder management (Joslin & Müller, 2016). Balancing of these elements may provide managers with a framework to implement a successful project on time, within budget, and with quality.

IT Project Research Gaps

The IT project failure rate is a topic that all companies face when embarking on designing and implementing a new project. Regardless of the industry, the implementation of a project impacts an organization's budgets and business models. Project success and failure rates have historically been a focus of research in the fields of IT and project management (Cecez-Kecmanovic et al., 2014; Jonas, Kock, & Gemünden, 2013). IT managers and PMs seek out strategies and methodologies to somehow ensure that their projects succeed and positively impact their organizations. Different organizations define project success in various ways which complicates the task of comparing project success and failure across organizations.

Project management researchers and other professional organizations have identified methodologies and best practices that PMs can use to guide successful IT project implementations. While these methods and best practices appear to have led to some level of success in fields such as construction and engineering, IT project failure rates continue to be an issue (Ram & Corkindale, 2014; Wells, 2012). Despite the benefits of project management methodologies and best practices, when applied to IT

projects the methods are not as effective and appear to be lacking when applied to IS projects.

Some researchers have advocated for the use of different methodologies for IT projects. Each researcher uncovers the benefits, of his or her approach over others; however, other researchers have found that there is more to IT project success using a variety of strategies instead of using any single methodology (Ram & Corkindale, 2014; Wells, 2012). Despite the use of methodologies and best practices, a knowledge gap remains as many IT projects become unsuccessful or are at risk of failure at some point during the project lifecycle (Stoica & Brouse, 2014; Vrhovec, Hovelja, Vavpotič, & Krisper, 2015). For organizations to be successful when delivering complex implementations, each phase of the project lifecycle must meet defined success criteria (Shariatfar, Beigi, & Mortaheb, 2018). The dichotomy of how organizations identify project success depends on how the organization measures project success. Coombs (2015) posited that conventional definitions and measures of success might have contributed to the low success rate of IS projects. Similarly, Serrador and Turner (2014) observed that traditional measures of project success are not ideal.

Clear gaps exist in the literature regarding the identification of successful project strategies and the exploration of the success rate of IT projects versus projects in other industries. Researchers conduct a literature review to identify possible gaps that might be worthy of further study and establish a framework of knowledge (Walliman, 2016). The strategies identified for non-IT projects may not prove effective for IT projects that span across industries. In this literature review, I identify potential strategies to improve

success rates of information technology projects in information technology departments of healthcare organizations. Through the research for this study, I analyzed multiple dissertations to identify potential strategies to increase IT project success rates. Using change management Okumus et al., (2017) identified generic change management processes that contribute to potential problems in IT implementations and found that the following issues are often the cause: (a) time limitations, (b) lack of skills, (c) high costs, (d) time limitations, (e) priorities of other business practices, and (f) current organizational culture. Okumus et al. discovered potential strategies to improve the success rates of IT projects within hotel systems and these strategies also apply to healthcare and pharmacy IT projects.

Information technology project implementations are gaining popularity with manufacturing organizations around the world. However, companies face significant challenges with the delivery of the actual systems. As indicated by Allen, Golden, and Shockley, (2015), managers must focus on a variety of technology-based solutions, since using project management as a methodology does not guarantee success of the implementation in any industry. Manufacturing organizations seek strategies to ensure project success. IT managers and PMs are willing to employ any success strategies to ensure the success of the implementation. The success of the project depends on a range of critical success factors (Allen et al., 2015). Shariatfar et al. (2018) posited that in recent years managers have realized that traditional criteria for success such as the golden triangle (time, cost, quality) no longer serve as an adequate measure since the actual success differs from one industry to another. Depending on the complexity of the

industry, strategies for achieving project success may work in one industry and fail in other industries. A clear gap in identifying and applying effective strategies across organizations exists (Allen et al., 2015; Shariatfar et al., 2018).

Transition

In Section 1, I provided a discussion of the foundation of the study, the analysis of the problem, and the purpose of this research, which is to explore the strategies IT managers and PMs may use to decrease the failure rates of IT projects in healthcare organizations. I selected the qualitative method for this study because the intent was to explore a process and elicit comments or obtain strategies from the participants. I also presented transformational leadership as my conceptual framework and included the implications of the study for a positive social change. Other key elements covered in Section 1 contains the problem statement, purpose statement, the nature of the study, the research question, and the significance of the study. In Section 1, I also included a review of literature related to this study. The review of the literature included an examination of previous research about IT project failure rates. I also discussed the conceptual framework, other frameworks of potential relevance to the study, and literature relevant to project success and failure.

In Section 2, I expand on the research and design in Section 1. In Section 2, I include a detailed analysis of topics related to the study. Section 2 contains the following areas: the purpose statement, role of the researcher, participants, research methods and designs, population sampling, ethical research, data collection instruments, data

collection technique, data organization technique, data analysis, study validity and the transition and summary.

In Section 3, I provide a succinct review of the study topic including the purpose statement and the research question. I include detailed findings from the study and discusse how the study findings are related to the literature and conceptual framework. I finish Section 3 with recommendations for action, recommendations for future research, a discussion of implications for social change, my reflections, and study conclusions.

Section 2: The Project

Section 2 begins with a restatement of the purpose of the study and discussion of the role of the researcher. I then describe the participants, explain the participant selection process and the population and sampling method, and justify and discuss the design and research methods. Finally, I describe the ethical considerations; data collection and analysis process; and the plan followed to ensure study credibility, confirmability, dependability, and data saturation.

Purpose Statement

The purpose of this qualitative multiple case study was to explore strategies that some IT managers in healthcare organizations use to deliver IT projects meeting deliverable requirements. The targeted population consisted of IT managers from three healthcare organizations in California who successfully implemented strategies to deliver IT projects meeting deliverable requirements. The implications for social change include the potential for healthcare leaders to realize the financial benefits of successful IT project implementations, thereby increasing their companies' market share and competitive advantage as well as allowing for the accrual of additional funds that might be used to support the health and growth of local communities.

Role of the Researcher

My role as a researcher in this qualitative study was to design and to facilitate data collection, conduct data analysis, and present the findings as reliable information. Researchers must consistently remain aware of ethical issues that potentially arise during the research process (Wester & Borders, 2014). My 28 years working within project

teams and my 7 years managing healthcare projects created a familiarity with IT project management challenges, successes, and failures. My experience with IT project management includes applying strategies to support successful project implementations across industries. I have seen projects succeed and fail; however, the data identified during this study are the only reference point. I had no direct relationship with the participants, and accordingly, no such ethical issues existed in this research. Additional responsibilities of a qualitative researcher include (a) review of available information or data, (b) identification and engagement with the participants, (c) data collection, (d) organization of the data, (e) analysis of the data, (f) interpretation of the data, and (g) data storage and security (Yin, 2016).

In this qualitative study, I followed the protocols established by *The Belmont Report* to ensure that I collected and analyzed data correctly. *The Belmont Report* underlines principles including justice, beneficence, and respect to all the participants of the study (Van Praag & Sanchez, 2015). *The Belmont Report* also includes discussion of a researcher's assessment of risk and benefits when his or her research involves human subjects, informed consent, and researcher-subject selection (Duric & Ivanovic, 2014).

As the qualitative researcher, I ensured that there is transparency in the research process regarding the use of my viewpoint or lens. Following the suggestion of Judkins-Cohn, Kielwasser-Withrow, Owen, and Ward (2014), I avoided using professional or personal colleagues as participants in my study and did not offer subjective opinions to the participants interviewed. Following the recommendation of Yin (2016), I put aside personal biases, beliefs, and knowledge as a part of the research procedure.

The requirements of *The Belmont Report* indicate that all data gathered must be appropriate for the study. As the researcher, I adhered to all the protocols and basic ethical principles of *The Belmont Report* throughout my study. Additionally, I also followed Walden University's protocols and regulations for research involving human subjects. Following the recommendation of Peters and Halcomb (2015), I ensured that participants understood their rights as well as the potential risks and benefits of participating in the study. All participants were treated equally while they participated in this study.

Because researchers serve as the primary data collection instrument (Chan, Fung, & Chien, 2013), it is essential for them to analyze and identify potential biases. If the researcher does not account for the biases, they may cloud the judgement, interpretation, and understanding during the data collection process (Chan, Fung, & Chien, 2013). To prevent bias, I examined my personal lens, which includes values, experiences, and other ideologies that may have influenced my analysis during data collection. Being aware of personal biases can be the first proactive step to avoiding them.

I have a master's degree in project management, I am a member of the PMI, and I often take on the role of a PM on projects. To eliminate bias, I solicited project participants who work in the same professional capacity as I do. As PMs or functional IT managers, some participants were also current members of the PMI. I guarded against bias with the use of transcription and member checking. These functions involve transcribing notes from the interviews and providing the study findings to the participants

for their review and validation (Birt, Scott, Cavers, Campbell, & Walter, 2016). I also took notes and used a journal to document my thoughts and decisions at the time of the interview.

As an IT manager for a large healthcare organization and a large insurance organization, I have a direct impact on project management. I have managed several projects, including those related to conversion to electronic health records, insurance financial applications, and other small projects. Based on these professional experiences, there was a risk of identifying with the participants' experiences and potentially interjecting my personal feelings or prejudices into the study. From a value and ideological perspective, my educational and professional backgrounds are in managerial IT and business implementations. My educational and professional backgrounds make me partial to concepts of efficiency, productivity, and cost-effectiveness.

I used a semistructured interview protocol (see Appendix A) with open-ended questions to gain insight and probe deeper into the strategies that IT leaders use to effectively manage their IT projects. The use of semistructured interviews allows researchers to develop a nonthreatening environment and create an open dialogue in which participants offer their perspectives with few or no limitations (Burgess & Wake, 2013). Using semistructured interview protocols, qualitative researchers encourage participants to discuss their experiences with a phenomenon and capture rich information by probing their experiences (Hohl, Gonzalez, Carosso, Ibarra, & Thompson, 2014). Using this interview protocol allowed for a deeper investigation into the strategies IT PMs and managers use to manage projects effectively. I transcribed, coded, and analyzed

the qualitative data collected from the interviews to determine the major themes and findings of this study.

Participants

I selected participants with the extensive experience and competence to provide appropriate answers to the interview questions. To answer interview questions knowledgeably, the chosen participants had to meet the eligibility requirements established for the study, and no participants was unfairly excluded (see Ellard-Gray, Jeffrey, Choubak, & Crann, 2015; Lo Iacono, Symonds, & Brown, 2016; Nathan, Braithewaite, & Stephenson, 2014; Yin, 2016).

The eligibility requirement for the participants of this study consisted of a minimum of 5 years of experience in managing IT projects with successful or unsuccessful outcomes. An IT project leader is a person with extensive IT experience who architects and implements strategies as well as makes decisions associated with IT software and hardware projects while employed by a company (En-Jian, Jun-Jie, & Liang-Cheng, 2013; Philbin & Kennedy, 2014; Zabawski, 2015). As indicated by Lo Iacono et al. (2016), the occupation or line of work for each of the participants must meet required specifications of this study. Yin (2016) stated that qualitative researchers select participants because of their knowledge and experience with the phenomenon and their capacity to meet the established research criteria. I chose five participants who (a) were IT leaders from California who previously worked for or currently worked for healthcare organizations, (b) were knowledgeable about the topic of the study, and (c) met the established eligibility requirements.

I used the LinkedIn professional network to gain access to potential participants and identify IT managers from healthcare organizations. Potential participants were contacted using the messaging system through LinkedIn. Researchers may use professional networks to identify participants using selective eligibility appropriate to answer the research question (Behar, 1996; Maramwidze-Merrison, 2016; Patton, 2015). I explained my overarching research question to the potential participants and how they met the research criteria as a participant. Once individuals stated their willingness to participate in the study, I contacted them via e-mail to explain the study and request their participation in interviews. Braun and Clarke (2013) suggested using e-mails to contact potential participants. After I received IRB approval, I contacted the participants via e-mail and set up appointments for interviews.

I introduced myself to each of the potential participants via e-mail before conducting the online Zoom.com interview with them. I also explained the purpose of the study and the benefits of improving the success rate of IT projects in healthcare organization. In my introduction, each participant received an informed consent document explaining the details of the study before the interview session. Haahr, Norlyk, and Hall (2014) posited that the procedure for establishing a cordial working relationship with the participants is to ensure respect, honesty, and maintain transparency in the engagement process. Haahr et al., Ellard-Gray et al. (2015), and Marshall and Rossman (2016) recommended that creating and building a sense of trust allows the participants to share their understandings and perspectives as well as maintain a good relationship between the participant and the interviewer.

To build a working relationship with the participants, I provided each of them with detailed objectives of the study and the interview protocol as well as informed them that all the information each participant provided would be kept confidential. I also answered honestly any questions that the participants had. Check, Wolf, Dame, and Beskow (2014) indicated that qualitative researchers build a working relationship and earn trust by disclosing relevant information to the participants. I used the informed consent form to demonstrate adequate compliance with published ethical standards and ensure the legitimacy of this study. Using consent forms, allows qualitative researchers to gain the trust of the participants and create a strong working relationship (Check et al., 2014; Miltgen & Peyrat-Guillard, 2014).

Research Method and Design

During the review of possible research methods and designs, I identified that the best approach to answer the research question would be a qualitative multiple case study. Yin (2016) advised that qualitative research is a beneficial approach in order to learn from personal work experiences. I used a qualitative approach to explore the strategies some IT managers in healthcare organizations use to deliver IT projects meeting deliverable requirements.

Research Method

The qualitative research method was appropriate for this study because it aligned with the purpose and was adequate for exploring open-ended themes in complex business settings (see Thamhain, 2014). The researcher needs to identify the research method that is appropriate for acquiring knowledge about a topic (Khan, 2014). Qualitative

researchers explore and gain a broader understanding of the phenomena while identifying emerging themes and patterns (Houghton, Casey, Shaw, & Murphy, 2013). The use of qualitative methodology does not limit researchers with a set of assumptions and offers flexibility in understanding the research phenomenon (Cohanier, 2014). Qualitative researchers construct a scientific understanding of participants' experiences (Medico & Santiago-Delefosse, 2014). The use of qualitative methodology allowed me to explore the experience of participants and identify themes and patterns for IT project delivery strategies.

The quantitative research approach was not an appropriate because I did not use numeric data to test a hypothesis. Quantitative researchers seek to gather a large variety of information quickly, enabling the researchers to apply the results to a large number of cases (Baille, 2015). For this reason, a quantitative approach would not have been conducive to identify strategies used by IT managers and PMs to improve IT project failure rates.

Mixed methods research includes a combination of both quantitative and qualitative elements (Venkatesh, Brown, & Sullivan, 2016). Researchers use mixed method research to (a) explore and identify interventions, knowledge, and skills for management areas, including successful project management and (b) to increase project effectiveness and other subjects (Baptista, Santos, Pascoa, & Sandig, 2016; Duffuaa & Hadidi, 2017). Mixed methods research involves the researcher investigating both exploratory (i.e., qualitative) and confirmatory (i.e., quantitative) research questions at the same time (Venkatesh et al., 2016). I did not choose the mixed methods approach for

this study because exploratory questions to identify which specific strategies IT managers and PMs used to improve IT project outcomes in previous projects were addressed.

Research Design

The research design serves as a balanced plan to collect and analyze data pertinent to the research question to strengthen the validity and accuracy of the findings (Palinkas et al., 2015). Case study researchers explore events and programs over an extended period to gain knowledge on the subject matter from the participants. The nature of a case study inquiry is precisely suited for addressing research questions that require a thorough understanding of social or organizational processes (McIntosh & Morse, 2015). Case study research is most appropriate when a researcher is conducting evaluations, studying a phenomenon in a natural setting, or defining what happened or why it happened (Yin, 2016). The main advantage of a case study is the opportunity to get close to the individuals and study day-to-day practice (Lang et al., 2012). As indicated by Lang et al. (2012), the use of a case study approach requires that the researcher could evaluate and consider within the confines of work, which is the intent of this study.

Researchers use the case study to explore a phenomenon within a real-world context and within the confines of the manifested phenomenon (Yin, 2016). Multiple case study design is the best choice when exploring participant experiences from multiple organizations within a particular industry (Yin). In this study healthcare organizations IT departments will be evaluated. This multiple case study design is appropriate for this study because participants shared strategies used to successfully

complete IT projects on time, with complete scope and within budget. A case study design was appropriate for this study because I interviewed IT managers and PMs to identify the best strategies that when applied to an IT project within a healthcare IT department may ensure success.

Moustakas (1994) identified phenomenological research design as a way to effectively understand lived experiences of larger groups. I did not study the lived experiences of study participants, so a phenomenological design was not appropriate. Researchers use an ethnographic design to gather data using observation as a primary source (Pfadenhauer & Grenz, 2015; Spencer, 2014). Researchers using an ethnographic design gather data from observations of naturally occurring events in the participants' environment rather than from observations of participants' behaviors created by the researcher in a controlled environment (Borman, LeCompte, & Goetz, 1986). Ethnography is also systematic study of people and cultures (Maggs-Rapport, 2019). In contrast to a cultural-sharing view of an ethnographical approach, the case study approach does not include the collection of only ethnographic or participant-observer data (Yin, 2016). Since this study did not involve the observation of participants, ethnographic design was not appropriate for this study.

Researchers use a grounded theory design to dissect and dilute an event while simplifying the complexity of the event in a real-world setting (Ruppel & Mey, 2015), which is not appropriate for this study. I also did not select narrative inquiry because in this design the researcher had participants tell stories to relay their personal experiences

and personalize their experiences (Clandinin, Cave, & Berendonk, 2016). Neither grounded theory nor narrative inquiry theory were appropriate for this study.

To ensure the quality of the data collected I checked for data saturation. Morse, Lowery, and Steury (2014) described data saturation as a technique to ensure adequate and quality data exists within a study. Data saturation occurs when no new themes or patterns emerge from the data (Morse, et al., 2014; Murgatroyd, Lockwood, Garth, & Cameron, 2015). I ensured data saturation by asking the participants to expand on their open-ended answers and ask additional questions to expand on their answers and explored the meaning until no new information is added by participants. A researcher attains data saturation when adding more participants to the study does not result in additional perspectives or information (Dresch, Lacerda, Cauchick, & Augusto, 2015). If I found that when I was analyzing the data and I saw additional themes I would have added more participants to the study until I achieved data saturation. I did not have to add participants. Qualitative researchers provide confirmation of the quality of the data collected by ensuring data saturation occurs (Hyett, Kenny, & Dickson-Swift, 2014). I also used member checking, follow-up interviews, and triangulation to ensure data saturation. Member checking and follow-up interviews offer researchers a method to achieve data saturation (Marshall & Rossman, 2016). Data triangulation provides a valid method to achieve data saturation (Fusch & Ness, 2015).

Population and Sampling

The target population for this study includes HIT managers and employees with healthcare project experience. Poor decisions of researchers may compromise the data

and credibility of a study; therefore, researchers must provide validation for all sampling decisions (Saunders & Townsend, 2016). It is difficult for researchers to anticipate every variable that may influence the outcome of a study; therefore, researchers must avoid the arbitrary selection of participants (Fugard & Potts, 2015). As posited by Malterud, Siersma, and Guassora (2015), each study participant must add value to the qualitative study by providing information that supports the phenomenon of interest. The method of transparency of the sampling method and all subsequent choices is important to the credibility of the study (Morse et al., 2014).

The target population for this qualitative multiple case study included IT managers and PMs who work for healthcare organizations within IT departments and have experience managing IT projects in California. The target population aligns with the research question for this study. As indicated by (Leedy & Ormrod, 2013; Merriam & Tisdell, 2015), qualitative researchers select participants based on the idea that the participants (a) have a great deal of knowledge in the subject matter area that relates to the overarching research question, (b) have the ability to answer the research question, and (c) are able to demonstrate familiarity with the research phenomenon. The target population consisted of IT leaders with a minimum of 5 years of experience in managing IT projects and either managed or were currently managing IT projects.

Based on these requirements, the target population for this study was knowledgeable in the subject matter area, have the ability to answer the research question, and be familiar with the research phenomenon. The target population consisted of five IT leaders who manage or managed IT projects in the past or currently manage IT

projects in California. This target population aligned with the research question. To be selected as a participant, each business leader had at least 5 years of experience leading or managing IT projects within a healthcare organizations IT department. These projects delivered on time within scope and within budget or viewed a successful implementation.

I solicited IT healthcare business leaders using LinkedIn.com to establish initial communication to request participation in the study. Once the potential interviewee agreed to participate, I provided a list of possible electronic applications that support audio video meetings via the internet. Purposeful sampling was most appropriate for this study. Researchers can use a multitude of sampling methods, including snowball sampling, random sampling, criterion sampling, and stratified sampling (Eitkan, Musa, & Alkassim, 2015). However, I used the sampling strategy that is designed to address the research question appropriate for the study. Purposeful sampling method is one of the most shared sampling methods used by qualitative researchers, it is also known as purposive sampling (Eitkan et al., 2015; Robinson, 2014).

As indicated by Palinkas et al. (2015), using purposeful sampling required that all participants meet eligibility criteria and are able to answer the research question. When purposeful sampling is used in qualitative studies the emphasis is on the savings of time and money (Barratt, Ferris, & Lenton, 2015). Palinkas et al. also noted that purposive sampling is a common choice for qualitative studies because of the emphasis on rich data collection and minimal requirement for resources, largely because of a small sample size. One weakness of purposive sampling is the analysis of data does not lead to empirical generalizability (Mikkonen, Kyngas, & Kääriäinen, 2015). For example, if two IT

managers or PMs in Los Angeles California provide data related to successful IT strategies, this does not prove that additional related strategies do not exist.

I used purposeful sampling for this case study. As indicated by (Duan, Bhaumik, Palinkas, & Hoagwood, 2015; Paveglio, Abrams, & Ellison, 2016) qualitative researchers use a purposeful sampling strategy when the identified participants have interest in the study and have the expertise and a clear understanding of the phenomenon. By selecting IT managers and PMs within healthcare IT departments who have knowledge regarding the effectiveness project management strategies, I was able to obtain rich data for this study. The fundamentals of purposeful sampling are to select information-rich situations cases for the most effective use of limited resources (Duan, et al., (2015).

Snowball sampling is a nonrandom sampling technique in which the researcher asks the primary study subjects to recruit or identify participants among their associates, making the sample grow like a rolling snowball (Kristensen & Ravn, 2015). A snowball sample would be adequate because the possibility exists that one person who experienced the phenomenon might share experiences with someone else who experienced the same phenomenon (Palinkas et al., 2015). I used the snowball sampling technique by asking participants to recommend other individuals with the appropriate expertise to participate in the study. To recruit the individuals recommended by the participant I solicited their help by e-mail, telephone, and word-of-mouth IT managers and PM within healthcare organizations IT departments.

To determine the sample size in a qualitative study, the researcher must identify the point of data saturation. Data saturation is where the collection of data from research

fails to provide any additional insights into the problem investigated. Depending on the quality of the data discovered, a sample size of as few as one may be useful (Eitkan et al., 2015). The objective of determining sample size in a qualitative study is to achieve data saturation, the point at which new data no longer provides additional insights to the problem which is under investigation (Mikkonen et al., 2015; Morse et al., 2014). However, Yin (2016) emphasized that having at least two would be beneficial with respect to analysis. Having multiple cases facilitates replication to gather data from reinforces and strengthens the study (Yin) Yin. The minimum sample size should be five, with the goal of capturing data from any combination of IT business leaders with experience managing projects in healthcare organizations within their IT departments located in California. I selected a small sample size for this qualitative case study because similar studies have used a maximum of five. As indicated by Yin researchers must use a large enough sample size for replication and redundancy of response. I have targeted an initial sample size of 5, but I continued to solicit participants and collect data until I achieved data saturation. Adequate participation along with the sufficient research design is the requirement for reaching data saturation (Yin).

As indicated by Jordan (2014) and Wallace and Sheldon (2015), researchers must identify and locate the possible interview setting for all of the participants involved in the study, because the selection of the site may influence the comfort level of the interviewees and influence how they respond to the questions asked. Researchers select the location based on the risk and quality or credibility of the data obtained from the participants (Jordan, 2014). The selection of the best interview locations by the researcher

allows the interviewer to provide a secure location where the interviewees have open access for entry (Jordan, 2014).

Since the potential research participants will live across California in different geographical locations, I conducted interviews using the Zoom.com via telephone and recorded audio from these interviews for transcription. These phone interviews had a video component. The video phone interviews, as opposed to face-to-face interviews, were practical, convenient, and comfortable for participants because they do not have to incur any travel time or expenses (Deakin & Wakefield, 2014; Drabble, Trocki, Salcedo, Walker, & Korcha, 2015; Seitz, 2016). Interviewees participated in interviews at a time most convenient to them (Lewis, 2015) either by phone or via a video protocol. Skype interview was an appropriate alternative to phone interview depending on the participants preference and access to technology. Interviews for this study occurred via Web Ex, Zoom.com, Go To Meeting or Skype (Deakin & Wakefield, 2014). I provided the participants with a visual method of open communication to ensure the privacy of the participants and obtained confidential answers to the questions in my study. Through the use of electronic interviews, I provided the participants with secured access to the meeting and provided a mechanism to record the audio and visual interview. The interviewee could have requested a phone call instead of a visual interview if they did have a compatible software to access the visual contact or would prefer an audio interview only.

Ethical Research

Ethical research requires informed consent. The idea of informed consent ensures that participants understand the nature of the study and the extent of their participation within the study (Akhavan, Ramezan, & Moghaddam, 2013). As indicated by Knepp (2014), each participant must receive an informed consent form concerning their participation. I provided each participant with an informed consent form (see Appendix B), which included information about that study and also informs participants of their ability to withdraw or remove themselves from the study at any time without retribution. Each participant was required to sign a consent form prior to scheduling the interview. The aim of the informed consent form was to ensure adherence to ethical standards while protecting and respecting the rights of the participants (Chiumento, Khan, Rahman, & Frith, 2016). After I received the Walden University Institutional Review Board (IRB) approval I included the approval number here: 08-19-19-0525250.

Participation in this study were voluntary and no incentive or payment provided to the participant for his or her contribution to this study. Each participant was free to withdraw from the study at any time by giving a formal letter, via e-mail or a phone call. As the researcher, I was the only person who identified the participants and the organizations for whom participants currently or previously worked. As indicated by Yin (2016), participant anonymity is imperative in case study research. Killawi et al. (2014) detailed the need for researchers to protect identifiable information about participants in their studies. To ensure confidentiality, I coded each participant's name and organization. As indicated by Elger, Handtke, and Wangmo (2015). researchers must code the names

and organizations to securely hide the participant and organization names. When organizing each person's interviews plan to use random numbering and labels for each participant and organization to protect the identity of each participant. I encrypted data files on my personal computer and locked any documents in the file cabinet within my home for 5 years to ensure that the participants' identities are protected. Protecting the identity of participants is vital to the research as well as the requirement to safeguard the research (Marshall & Rossman, 2016). After 5 years, I will destroy the information by shredding the hard copies and deleting the encrypted files from my personal computer.

Data Collection Instruments

In this qualitative multicase study, as the researcher, I was the primary data collection instrument. Pezalla, Pettigrew and Miller-Day (2012) and Yilmaz (2013) noted that the researcher is the data collection instrument in the semistructured interview technique. Pezalla et al. and Yilmaz (2013) also posited that this technique enables the researcher to sway the collection of data techniques for collecting data. The two primary methods for data collection I used for this study were semistructured interviews and archived company documents. During the virtual interviews, I evaluated non-verbal cues from each participant. Observation of the participant during the interview were also be a part of my process. As indicated by Yin (2016) the interviewer needs to be aware of the tone of voice and reactions during the semistructured interviews. Most researchers believe conducting interviews only focused on verbal data while omitting the rich information that could be available from nonverbal communication data (Onwuegbuzie & Byers, 2014).

In qualitative research the following tools are used to collect data: archival records, interviews, participant observations, site visits, documents review, and physical artifacts (Hurst et al., 2015; Tellado, Lopez-Calvo, & Alonso-Olea, 2014; Yin, 2016). For this study, I used semistructured interviews including open-ended questions and the review of company archival documents to collect information from participants. I also followed that up with member checking to document the effective strategies for IT project success.

Researchers use open-ended questions to provide participants with the opportunity to expand upon responses to the research questions, ensuring that the researcher achieves saturation during the interview process (Benia, Hauck-Filho, Dillenburg, & Stein, 2015; O'Keeffe, Buytaert, Mijic, Brozovic, & Sinha, 2015). The interview protocol located in Appendix A, includes the use of a script to discuss the process, take notes for highly descriptive information, and collect relevant data for the research study. The participant interviews were started with open-ended questions formulated based on concepts within the literature review. In addition to the initial open-ended questions, I asked additional questions based on the answers that the participants provide. As indicated by Peredaryenko and Krauss (2013), the semistructured interview technique allowed me as the researcher to provide dynamic inquiry.

The researcher achieves data saturation when there is no new information or insights and there is enough data to reproduce the findings of the study (Fusch, & Ness, 2015). Madill and Sullivan (2017) and Petty, Thomson and Stew (2012), indicated that the key to the most efficient means to review the interviews is member checking. I used

member checking to ensure that I captured the intent of the responses, by offering the participants the opportunity to assess the credibility, reliability, and validity of my transcriptions and my understanding of their responses.

During the data collection phase, it is important that the interviewer capture the input provided by the participants. I used the member checking technique to ensure the accuracy of my understanding of the information provided to me by the participants during the open-ended interview questions is accurate. Member checking offers an opportunity for the participants to review the written summary of the information gathered during the interview and ensure that the information documented is accurate. As observed by Enosh and Ben-Ari (2016), researchers use member checking to ensure the reliability of study findings. Member checking also provides the researcher access to the participant and allows the researcher to ask for clarification from the participants provided the data, to ensure the resulting interpretation accurately reflects what was intended (Chang, 2014). The researcher may initiate member checking during the interview or after the completion of the analysis of the data (Enosh & Ben-Ari, 2016). I compiled a summary of the answers provided by the participants during the interviews and e-mail a copy of my transcription to each participant and request their review of my documented results. This process allowed me to ensure that my version of the participants answers reliability and validity.

Data Collection Technique

I developed the following central research question for this study: What strategies do some IT managers in healthcare organizations use to deliver IT projects that meet the

deliverable requirements? To identify potential strategies, I used participant interviews since they are the preferred technique used by qualitative researchers (Rowley, 2014). Researchers prefer the interview technique when conducting qualitative studies as a means of gaining an understanding of interviewees experiences (Rowley; Dikko, 2016). Adams (2015) suggested semistructured interviews when exploring newer topics or when a researcher needs to guide the examination by asking probing and follow-up questions. As indicated by Gillespie, Dietz, and Lockey (2014), the researcher can use additional data from organizations' documentation to provide a detailed account when used in conjunction with interview data. The actual content of the documentation may also reveal details regarding the topic of the qualitative study (Hungerford, 2014). As the researcher, I conducted semistructured interviews for this qualitative study. In addition to semistructured interviews, I reviewed archived company documents from healthcare organizations and project management documents from public PMI archives.

I did not conduct a pilot study to test the research procedures. A pilot test is a small-scale study to validate the processes and procedures for a subsequent, larger study (Yin, 2016). Due to the small size of this study, a pilot study is not needed for this study. I constructed an interview protocol to include a personal introduction, confirmation of the individual's consent to participate, request for audio and video recording, and an ordered list of additional interview questions (see Appendix A). I recorded the online interviews via Zoom.com, using internal recording tools. I conducted the interview using an audio video recorder application for subsequent transcribing and auditing purposes. I also guided the participant according to the 5 open-ended interview questions identified in the

interview protocol: by asking the questions and the follow-up questions. As the researcher, after the interview protocol, I incorporated follow-up questions intended to encourage free-form unprompted input from the participant. In the preliminary meeting before the start of the interview, I discussed the topic of my research with the participant and explain the purpose of my study. To start interviews, Ranney, et al. (2015) suggested that the researcher provide a brief introduction to explain the ground rules and provide an overview of the confidentiality statement. Ranney et al. suggested that the researcher begin with an icebreaker question to calm participants' anxiety and to allow participants to become acquainted with the researcher. I started with an icebreaker question to put the participant at ease and proceed to address protocol and confidentiality and ascertained that the participant was ready to continue with the interview process.

To ensure that each participant had a clear vision of their role as a participant in the study and the interview protocol, I also provided participants with an informed consent form (see Appendix B) and explained informed consent. After the participant had a clear understanding of the consent form, I reviewed the current business problem and explain the purpose of the study, followed by the interview questions that support my research question. I started asking the open-ended research questions and additional questions triggered by the participant's answers to the open-ended questions.

As the researcher, I observed participants closely to gather additional feedback and form related, probing questions. I also created a list of additional questions, before the interview, anticipating participants' responses. Grossoehme (2014) suggested that the researcher create a list of additional questions that may be needed in the interview,

depending on the answers provided during the interview, and add them to the interview protocol. During the Skype or WebEx interviews, I took notes on verbal answers and nonverbal cues as well as the answers to the secondary open-ended questions. I thanked the participant and ended the interview. I also provided a complete transcript review as well as member checking to ensure that the data I gathered in the interview aligned with what the participant intended to provide. I described the following-up confirmation e-mail that I sent to summarize and confirm responses, inviting participants to clarify statements they feel are inaccurate or incomplete. After the interview, I organized my notes and summarized the data from each participant in the coded format.

I used member checking and send the participants an e-mail with their summarized responses, to ensure that the participants' perspectives were captured correctly, Researchers have two opportunities to use member checking: during data collection and postinterview, after the data have been summarized (Doyle, 2007; Varpio, Ajjawi, Monrouxe, O'Brien, & Rees, 2017). As indicated by Varpio et al. (2017), member checking is a method or strategy to validate the dependability of the researcher's findings. For this study, I used member checking after the interview and provide each participant with a summary of my notes and request feedback to ensure that I accurately captured the perspective intended by each person. At the time of the member checking, I also asked the participants if they would like to provide any additional information to strengthen their perspectives in the form of company documentation or added verbal information.

The objective of my data collection technique is to review the documentation on previous project implementations and identify the strategies used on successful and unsuccessful projects. Organizational documentation is a common data source in case studies on project management topics (Wiewiora, Trigunarsyah, Murphy, & Coffey, 2013). I used the Internet to identify archived project reports and the PMI documentation to gather secondary information for this study. The use of multiple sources of data collection is vital to triangulate data (Rohrbeck & Gemunden, 2011). I used multiple data collection approaches to triangulate data in this study. The use of different sources may remove potential biases that may arise from interviewees' or the researcher's own experiences (Trangkanont & Charoenngam, 2014). I combined information from the interviews and the project documents to identify patterns.

The procedure for my primary data collection included the process of using semistructured face-to-face interviews through Skype or WebEx online meetings. During the sessions, I referred to the documentation from previous implementations. To compile project overviews, I requested and received submissions of records from healthcare organizations IT departments. Records included project closing documentation, project management artifacts, reports, closing memos, and other pertinent documentation from PMI archives. When the organizations are unable to provide company documentation, I used the data gathered from the interviews and the public PMI documents.

For this research study, I recorded semistructured interviews to explore the perspectives of participants. All conversations were prompted by open-ended questions when participants receive semistructured interviews. As indicated by (Yin, 2016 &

Bailey 2015), recording devices provide more information in the data collection process than just transcription alone. I conducted all interviews via WebEx, Zoom.com or Skype; I used the internal recording functions of the audio video applications to record and save the interviews. I used the audio-video recording function to record and save the interviews audio and video files as MP3 and MP4 files. Patton (2015) posited that the researcher using a recording device easily captures responses from participants. As the researcher, I saved the recordings extracted from the WebEx, Zoom.com or Skype meeting in the application proprietary format to my laptop and convert the recordings to MP4 files, encrypt them, and save them to an encrypted drive.

Applying semistructured interviews in qualitative studies may present numerous advantages, yet some disadvantages to this method may affect the process. As described by Yin (2016), advantages and disadvantages exist within the interview technique. The first is the advantage of the structured nature of conversations, as it increases the consistency of the data collected (Fowler, 2014). As the researcher, using an identified interview protocol ensures that the researcher consistently conducts all participants' interviews. The second advantage, as indicated by Yin within the semistructured interview approach, is the flexibility provided in a natural, comfortable setting. I used the less rigid conversation style to enhance the quality of the data provided by the participants.

The vulnerabilities of the semistructured interview technique include the efficiency of the questions developed by the researcher and the format in which the researcher asks the questions. If the questions asked by the researcher are not appropriate

to get the data, the answers will not provide accurate feedback. The second disadvantage may be the potential misunderstanding or misinterpretation in participants' responses to the interview questions (Sovacool, Linner, & Klein, 2017; Yin, 2016). The face-to-face interactions between the researcher and the participants increases cooperation levels (Patton, 2015). The researcher must receive cooperation from the participants when gathering data during the interviews to collect accurate descriptions of experiences with IT projects.

Yin (2016) stated that although semistructured interviews can provide comparable, reliable quality data, researchers that use semistructured interviews have difficulties if the participants provide biased answers to interview questions. Another disadvantage of semistructured interviews is the need for a significant amount of time to complete the semistructured interviews. To shorten the amount of time in conversations, I guided the interviewees to focus on answering the research questions directly. I guided the participants by providing rich information and attempted to keep the participants focused on the topic of each question. By keeping the participant engaged, I prevented distractions while moderating the interview. As indicated by Yin, multiple case study interviews may take two hours or more during one session or may require various shorter sessions leading to a time-intensive interview process. One advantage of semistructured interviews is that participants provide detailed information on the research questions and express themselves without restrictions (Yin, 2016). As the researcher, I gathered the data, attempt to eliminate participant bias, and limit the time of the interview by keeping the participants focused on the open-ended questions.

Researchers use interviews in qualitative research studies to facilitate the process of collecting contemporary information from the participant (Moustakas, 1994). In qualitative research studies, the transcription method and member checking process consistently improve the credibility, validity, and accuracy of the study (Harvey, 2015). As indicated by Cope (2014), validity is associated with the credibility of the study. To ensure the reliability and the validity of the study, I used both the transcription method and member checking processes. I used both techniques to ensure that the participant agrees with my summary of the interview data. Through the use of member checking, I ensured that the information obtained from the interviews was accurate and complete.

As a method for collecting secondary source material, I searched company and PMI documents related to IT projects in which the authors have described the successes and failures of approaches used in healthcare organizations IT departments. I requested that the study participants provide company documentation regarding the strategy that they used in previous implementations. If participants are unable to provide documentation, I planned to locate public record reports and project documentation via the Internet. As the researcher, my objective is to compile, triangulate, and determine which strategies are more likely to ensure a successful IT project implementation. As indicated by Yin (2016), researchers can obtain data from interviews, written reports, communications via e-mail, and official documents. The information I expected to collect from qualified participants includes successful and unsuccessful project implementation documentation from healthcare organizations IT departments.

Collecting secondary data includes advantages and disadvantages. Secondary data may strengthen the findings and increase the trustworthiness of my study through the relating of the documents to the themes I identified when analyzing the data collected during the interviews. Companies' archived data is a secondary data source recommended by Yin (2016) for qualitative case studies. Archived data offers a benefit for the academic theory used for comparisons of different techniques for research purposes (Opitz & Witzel, 2005). As the researcher, I used secondary data to ensure the trustworthiness of data collected and the themes established.

A disadvantage of using archived documentation as study data is that documents may not accurately reflect actual methods or processes (Merriam & Tisdell, 2015; Yin, 2016). The quality of the data recorded in archived documentation may affect the study negatively; further, both the availability of the documents and the selection by the researcher of which to include affect (De Massis & Kotlar, 2014). If the researcher includes the wrong documents, the study results may be skewed. Gillespie et al. (2014) noted that case study researchers might be limited to the type of documentation made available by the participating organization. Archived documents may contradict the findings from other data sources which will force the researcher to consider whether or not unavailable documents could yield a different result (Hungerford, 2014). The use of archived documents by the researcher can negatively impact the study data.

Data Organization Technique

Researchers use Excel spreadsheets, reflective journals, notes, and transcripts to keep track of information gathering they also use coding, cataloging and labeling to

increase efficiency and organize data (Chowdhury, 2015). Cataloging and labeling allows the researcher to provide an efficient organization of the qualitative data (Bruce-Low et al., 2013). The most essential portion of the data collection process is the organization of the data. This process consists of cataloging, research logs and reflective journals (Bloom & Deyrup, 2015; Fluk, 2015). Researchers taking notes during interviews may discover themes from their journals (Bloom & Deyrup, 2015). The research data captured in research logs and reflective journals will be labeled using the coded name for each participant and encrypted on my password protected laptop. Researchers using a journal during the interview capture nonverbal communication or suggestive comments and may improve their understanding of the data from the interview (Onwuegbuzie & Byers, 2014). I coded and stored the reflective journals in a locked cabinet where I will keep them for 5 years. I created an electronic filing system on my laptop for electronic copies and also used reflective journals. I also collected the hard copies as well to manage all of the data that I collected from the recipients.

As indicated by Potter, Mills, Cawthorn, Donovan, and Blazeby (2014) the researcher must organize and plan to secure the data before analysis. After each interview, I documented the minutes from the recipient interview to ensure that I captured accurate data results. I used the following Microsoft software applications to store and document the research data retrieved from the recipients: Microsoft Excel, Microsoft PowerPoint, Microsoft Word, and Microsoft Access. I managed the hard copies by creating folders and naming conventions associated with each participant using my labeling system. I will maintain the electronic or soft copies using a folder system using a

parent folder and lower level child folders associated with the pseudonym associated with each participant on my laptop and flash drive.

To store data, I developed a secure system to locate the items for analysis allowed me to find research items quickly. I also used an encrypted password-protected flash drive to store electronic data and back it up to my password-protected laptop. The physical hard copies will remain in my locked office, where I am the only one with access. Once I transfer the hard copies to electronic files, I will shred the hard copies. As indicated by Check et al. (2014) researchers must restrict access to the research data and safeguard the confidentiality and privacy of participants. I used a labeling system that includes a profile for each participant's identification cataloging (pseudonym) with a coding system that consists of the following: date, time, the location of the interview, type of software used for the video interview and interviewee responses. Using a coding system provides advantages for the labeling process and allowed me the ability to identify each participant in the research study as part of the analysis. The research activity logs list a unique identifier reference code for each participant to maintain confidentiality.

The first data tracking technique I used was cataloging which includes the labeling of the research data. As indicated by Onwuegbuzie and Byers (2014), and Blaney, Filler and Lyon (2014) the categorizing, formatting and labeling of the transcribed interviews are essential in the data analysis. I used pseudonyms to code the names for each participant to avoid any confusion. Saunders, Kitzinger and Kitzinger, (2015) advised that the use of pseudonyms for participants assists the researcher to avoid

confusion during the research process. I stored each participant's data in a separate folder that contains the pseudonym the participant is assigned. As indicated by Lahman et al., (2015), the replacement of participants names with pseudonyms is an important process because the pseudonyms ensure that the participant's personal information remains private and confidential. Marshall and Rossman (2014) indicated that storing research data in a labeled-file format and categorizing the files with identifiers (pseudonyms) assists with the differentiation of one identifier from others. The next technique used for this study was research logs for tracking purposes. I took notes during each interview and log them into the research log. In conducting case study research, taking notes during the interview sessions (Zori, 2016).

To keep track of the research progress, researchers use research logs. As posited by Fluk (2015) research logs are used to assist researchers in reflecting and describing the research process. Research logs are considered to be a rich source of information that the researcher may use in the analysis in both hard copy and soft copy (electronic) formats. For this study, I used electronic data research logs and convert any hard copies into electronic form. After I converted the hard copies to soft copies, I stored them in my locked office for reference.

I used reflective journals to track and document all of my interactions with the participants in this qualitative study. Researchers use reflective journals to document the data related to the research principles thoughts and beliefs (Lindroth, 2015). During the interviews, I took notes in a journal specifically for note taking. Researchers use reflective journals to track and record reflections of their experiences and interactions

with the participants throughout the research process (Bruno & Dell'Aversana, 2017; Narayanasamy, 2015). Reflective journals are also suggested by Lindbroth (2015) when the researchers are conducting interviews with participants of the study. As posited by Hietanen, Sihvonen, Tikkanen, and Mattila (2014) researchers using a journal to record and reflect, hence a reflective journal, and reflective interview notes enhance the trustworthiness and confirmability of the study.

Reflective journals entries contain insight that may be valuable regarding the research results (Alley, Jackson, & Shakya, 2015). Data captured from the reflective journals may influence new ideas that improve the researchers personally and professionally (Allen et al., 2015). When creating a useful research journal, the researcher must demonstrate objectively as indicated by Cowan (2014). Through cataloging, research logs and reflective journals I obtained data from the participant, organize, analyze and keep the participant information confidential. All research data will be safely stored for 5 years after the study is published. After 5 years the secured data used to complete the study will be destroyed. I will shred all hard copies data and reflective journals. I will also permanently delete any soft copies stored on the flash drive and the encrypted folder on my personal laptop.

Data Analysis

Qualitative researchers collect data from multiple sources and apply analytical techniques to provide credibility and richness to their findings (Denzin & Lincoln, 2013; Yin, 2016). A researcher also uses a data analysis approach that ensures transparency and rigor in the study findings (Barbour, 2001; Ward, Furber, Tieney, & Swallow, 2013). I

used methodological triangulation to increase the reliability of the study results. As the researcher, I applied academic rigor to ensure confirmability and strengthen the outcome of the study. Researchers use triangulation to compare the data from multiple sources to increase the credibility and validation to the data analysis (Connelly, 2016; Denzin & Lincoln, 2013; Fusch & Ness, 2015). Researchers apply triangulation for different uses including data triangulation for correlating people, space, and time; investigator triangulation for exploring different researchers observing identical data; theoretical triangulation, requires the analysis of different theories; and methodological triangulation which includes multiple data collection methods and analysis (Denzin & Lincoln, 2013). I used methodological triangulation to verify responses from the interviews and observations from the face-to-face interviews via Web Ex or Skype and company documents.

Researchers may review existing documents to identify, align, and verify emerging themes (Denzin & Lincoln 2013; Fusch & Ness 2015: Yin 2016). Singh (2013) and Yin (2016) promoted the review of existing documentation to support, reject, or extend knowledge during methodological triangulation. Joslin and Müller (2016) noted that the selection of methodological triangulation, as a critical element for data validation and analysis, provides a solid strategy to support credibility in the exploration of research studies. I identified the relevant themes within the research by reviewing archived company documentation, including project charters, project plans, and other records. I reviewed the archived company documents in hopes of gaining a different perspective to support methodological triangulation during the data analysis. I organized and use

common themes that emerge from the document review to support methodological triangulation and validation of the findings. If I am unable to obtain company documentation, I looked for access to public PMI documentation.

Case study researchers collect substantial amounts of relevant data from multiple sources and subsequently require efficient methodological analysis (Yin, 2016). According to Yin (2016), the use of computer-assisted qualitative data analysis software (CAQDAS) assists researchers with organizing and analyzing the case study data. Researchers use CAQDAS as critical data analysis tools and process raw data by the application of codes that lead to the generation of themes and contextual knowledge for the research (Singh, 2013; Yin, 2016). NVivo12, Atlas.ti, Dedoose, and Tableau are among the CAQDAS that qualitative researchers use to process and analyze data (Furukawa, 2016; Kaipia & Turkulainen, 2017; Noori & Weber, 2016). Noori and Weber (2016) noted that the Atlas.ti CAQDAS operates and compiles data by the creation of units, mapping, and relationship analysis in a primary document. For this study, I used NVivo12software to support the organizing and analyzing the raw data and the generation of themes. The NVivo12 application offers the functions needed to support this study.

The logical and sequential process data analysis of a case study requires the initial review of theoretical background and the collection of succinct perspectives of the phenomenon (Elo, et al., 2014). Components within the data analysis include the collection of the data, the organization, the identification of themes, and lastly the methodological triangulation of data sources for validation (Denzin & Lincoln, 2013;

Joslin & Müller, 2016; Yin, 2016). Data analysis involves a five-step process that includes compiling, disassembling, reassembling, interpreting, and concluding (Yin). Using this process, I compiled the data, break down the data, analyzed the data, and concluded using the data. I used NVivo12 for the compilation, disassembly, reassembly, and interpretation of the data to support the findings during the manual analysis. As the researcher, I reviewed and analyzed the data derived from IT managers and PMs within healthcare organizations IT departments of healthcare organizations. I used the data analysis to identify strategies to improve IT project success.

As the researcher, I identified strategies starting with compiling data from different sources, including semistructured interviews, archived company documents, and observations during the online virtual interviews. I compiled and group the findings from the member checking process and the review of company documents with similar themes. I analyzed the data iteratively, both forward and backward. As indicated by Yin (2016), all five phases are recursive and iterative; therefore, any of the phases may be applied more than once.

The compiling phase is the first step and starts with assembling the data from both the interviews and archival documents. During this stage, I familiarized myself with the interview notes log and audio and video files. I transcribed from the recordings from the participants' interviews, and my interview notes reflective log using Microsoft Word. I organized the folders corresponding to the participants and included all relevant notes from the interview notes log. As suggested by Yin (2016), my second step was to disassemble the collected data. I reviewed the research question alignment with the

findings from the semistructured interview, observations from the interview, and relevant topics from the literature review to fragment the data in similar topics. As planned, I reassembled the data using Yins' suggestion to code potential themes and arrange them using an excel spreadsheet. Disassembling the data includes two activities: creating analytic memos and coding the data (Yin, 2016). Yin noted that the process of reassembly is a constant interaction between compiling, disassembling, and interpretation. During the disassembling phase, I analyzed the audio-video recordings and all manual notes from the interviews. I then reassembled the data and reanalyzed it to identify common themes.

The fourth step in the process is the interpretation of the data by connecting emerging themes with the literature review and the research question. The qualitative researcher should add value, completeness, empirical accuracy, fairness, and credibility as the primary attributes for a grounded interpretation during the data analysis (Yin, 2016). The next step in data analyzing is interpreting the meaning of the data Yin (2016). Interpreting the meaning of the data is the process of making sense of the data (Turner, 2010), and interpreting the data includes the researcher giving his or her meaning to the data (Yin). As posited by Bailey (2014), the researcher's ability to understand and describe the data is imperative during the data interpreting phase. I provided my interpretation of the data collected based on my clear understanding of the subject matter I interpreted the reassembled data to provide meaning to the research. The process involved interpreting the data based on a clear understanding of the research topic.

The final step in the data analysis is concluding the data (Yin, 2016). Concluding the data is the development of a sequence of statements that observe the findings of a study from the viewpoint of a larger set of ideas (Buchanan et al., 2013; Yin, 2016). Concluding themes and patterns derived from the central research question are fundamental to comprehending the findings of a qualitative research study Yin. As indicated by Oliveira and Panyik (2015), researchers utilize data analysis software to create themes. I utilized NVivo12software to input, store, code, and explore themes and patterns. The NVivo12 software is suitable for identifying themes (DeFranco & Laplante, 2017). The advantages of using NVivo12 include the ability to keep data in a single location with easy access to information and the ability to use a continuous coding scheme (Lee & Stvilia, 2017). The use of NVivo12 assisted me in aligning the collected data with existing literature (Woods, Paulus, Atkins, & MacKlin, 2016).

The conceptual framework is the establishment of a link between the literature, methodology and results of the study (Borrego, Foster, & Froyd, 2014). I analyzed the data through the lens of Bass' (1985) transformational leadership theory. I used the transformational leadership framework to assist me with the interpretation of the meaning of data collected. By exploring IT project strategies through the perspective of Bass' theory, I compared the data collected with established theories relevant to the phenomenon. I also used member checking to verify the accuracy of the data. Throughout the research process, I updated a reflective journal to capture insights about the collected data, emerging themes, and analytical decisions.

Reliability and Validity

Reliability and validity form the basis of qualitative research (Yin, 2016). The establishment of trustworthiness is the primary requirement of all qualitative research analysis starting from the data collection to the conclusion drawn from the results (Henriksen, Polonyi, Bornsheuer-Boswell, Greger, & Watts, 2015). A significant threat to research reliability and validity is bias because it negatively impacts the research process as well as research findings (Bero, 2017; Roulston & Shelton, 2015; Smith & Noble, 2014; Yuksel, 2017). The strategy to ensure the trustworthiness of a qualitative study begins with selecting the most appropriate data collection method to answer the research questions, (Elo et al., 2014). In the following section I explained how the processes of reliability and validity are used in this study. This sections also contains the criteria of dependability, credibility, transferability, and confirmability. The two most important criteria for improving study trustworthiness are of reliability and validity (Grossoehme, 2014).

Reliability

Qualitative researchers refer to reliability as the dependability of the research findings (McNeil et al., 2015). Reliability is a term often applied to quantitative research. However, in qualitative research, reliability is a technical term that refers to the accuracy and dependability of data within the study (Silverman, 2016). The root of reliability is consistency (Leung, 2015). Consistency is an action that is repeated again and again with the exact same process or method. As posited by Leung (2015) throughout the data gathering and analysis processes it is the researcher's responsibility to verify the accuracy

of the data. Dependability, or consistency of data (Leung, 2015), is one of the techniques used to judge the reliability and trustworthiness of a study (Marshall & Rossman, 2016). To ensure dependability and promote consistency, I completed the following activities. First, I consistently used the interview protocol (see Appendix A) for each interview to ensure consistency and dependability. Next, I applied member checking for each respondent and plan to allow each participant to validate the responses documented in the interview. Finally, I used methodological triangulation, combining the data from interviews, archived documents to gather data and public reports.

As posited by Marshall and Rossman (2016) member checking includes the researcher providing the data obtained during the interview to the interviewee for their review and to allow the interviewee to verify the identified themes. Member checking supports validity and reliability by serving as a verification of respondents' input (Yin, 2016). As a part of member checking, participants are also provided the opportunity to change or add information regarding their experiences to the research. To enhance the reliability of the research the researchers use prolonged engagement, dependability audits, triangulation, peer debriefing, and member checking (Hancock & Algozzine, 2017). The use of these activities allowed me as the researcher to ensure the reliability of the data gathered and used in this study.

Methodological triangulation is a technique used to strengthen and provide reliability and validity to the results of a study (Yin, 2016). Triangulation is a technique where the researcher uses two or more sources to substantiate and verify event results, or descriptions from a study (Yin, 2016). When applying method triangulation, a researcher

uses various methods of data collection, such as interviews, recordings, documents, inspection, and others (Carter et al., 2014). Fusch and Ness (2015) preferred the method triangulation for demonstrating vigor and fullness of the research. Cope (2014) and Houghton et al. (2013) suggested more objective coding is achieved by employing different data sources.

To achieve methodological triangulation, I collected data from interviews, where I had discussions with managers and PMs of IT departments within healthcare organizations, locate and gather organizations archival project related documents and review public PMI documentation. For this study, I used methodological triangulation of primary and secondary data sources to allow themes to converge and support the findings. I triangulated the interview data with collected documentation to ensure dependability.

Validity

In qualitative research, validity represents the credibility of a study (Cope, 2014). When researchers seek validity, they must proceed to test the credibility of the analysis, derived from the data (Silverman, 2016). As indicated by Taylor, Bogdan, and DeVault (2015), the term *validity* refers to the plausibility. In qualitative research, the quantitative validity of study outcomes is synonymous with dependability, trustworthiness, credibility, and transferability (Noble & Smith, 2015). Researchers use validity to ensure the accuracy of the results for a research study (Ritchie et al., 2013). A study has no validity unless the data are accurate and truthful (Cypress, 2017). Researchers use strategies to achieve and enhance the validity of a study, including transferability,

methodological triangulation, rich data, and member checking. I used member checking, transcription review, and triangulation to establish study credibility.

Member checking ensures that the ideas interpreted by the researcher accurately depict the participants' responses to the interview questions and the findings of the study (Birt et al., 2016; Hancock & Algozzine, 2017; Marshall & Rossman, 2016). Member checking ensures that the ideas summarized interpreted data accurately depict the participants' responses to the interview questions and the findings of the study (Birt et al., 2016; Hancock & Algozzine, 2017; Marshall & Rossman, 2016). To ensure the credibility of this study, I used transcription and member checking.

Confirmability refers to the extent that the study's results directly reflect the data and do not portray any researcher bias (Cope, 2014*).* Confirmability is the extent to which other researchers can corroborate other researcher's findings (Marshall & Rossman, 2016). It also pertains to other researchers ability to replicate the outcomes of a research study (Charlesworth & Foex, 2015; Morse, 2015; Yin; 2014). Confirmability also includes the ability to reproduce the findings of previous studies (Basturkmen, 2014). Researchers can address confirmability by reviewing their research data thoroughly for accuracy and validity (Bryman & Bell, 2015).

To increase study confirmability, Birt et al. (2016) recommended researchers use member checking to engage participants in the construction of knowledge. To achieve confirmability, I conducted member checking with interviewees for validation of interview transcripts and describe the research process systematically. I provided a

summary of my notes from the interviews to the participants for their review and confirmation of the data derived from their interview.

A requirement of research validity is transferability (Bryman & Bell, 2015). Transferability is the extent to which research findings apply to other areas (Bengtsson, 2016). To ensure transferability, researchers must provide a detailed explanation or description of processes used in conducting research studies (Plamondon, Bottorff, & Cole, 2015; Yin, 2016). As posited by Annink (2017), a detailed description of processes used in conducting research studies serves as an audit trail of all decisions made. The detailed process description or audit assists provided by the original researcher assist other researchers in their understanding of the basis of research studies, which may inspire them to use these processes in their research settings (Bloomberg & Volpe, 2016). To enhance transferability in this study, I documented the details surrounding the research process, including strengths and weakness. To provide a path to future researchers, I documented my research procedures in a format that future researchers can easily understand.

Data saturation is an essential component of qualitative research validity (Marshall & Rossman, 2016). Data saturation is achieved when no new themes or codes emerge, as defined by Hagaman and Wutich 2017; Fusch and Ness 2015; Marshall & Rossman, 2016). When no new information is discovered, data saturation occurs (Colombo, Froning, Garcia, & Vandelli, 2016). According to Fusch and Ness, data saturation is not defined by the number of interviewees; researchers must evaluate saturation on a case-by-case basis. Data saturation refers to the depth and meaning of rich

data (Fusch & Ness, 2015; Marshall & Rossman, 2016). The data saturation point has occurred when the same study can be repeated and produce the same results (Fusch & Ness, 2015; Galvin, 2014; Marshall & Rossman, 2016). I plan to ensure data saturation of the study before completing my research on effective project strategies. I continued to interview additional participants until no new themes or information are discovered, and data saturation was reached.

Transition and Summary

In Section 2, I restated the purpose statement and developed the required sections that information regarding the role of the researcher, criteria for participant selection, research method, and design. I validated the use of a qualitative case study design for exploring effective strategies used by IT managers and PM within healthcare organizations to deliver projects successfully. In Section 2 I also described the specific population and interview settings, strategies to obtain IRB approval, informed consent, and protection of participant confidentiality. My role as the researcher or the primary data collector for the research included the review of the data collection instruments, organization, and data analysis. The final elements of Section 2 include the following: techniques to establish the validity and reliability of the research. The use of member checking, a reflective journal, CAQDAS, methodological triangulation, and data saturation increases the trustworthiness in the interpretation of the findings.

Section 3 includes a summary of the findings in the research on strategies IT managers and PMs use to deliver IT projects within healthcare organizations successfully. The presentation of the findings describes the alignment of the McKinsey

7S conceptual framework with emergent themes collected through the use of a semistructured interview protocol. The discussion of the application to professional practice and implications for social change includes the positive changes that emerge from the research. Finally, I included recommendations, reflections on the research, and my conclusions, which concluded the development of Section 3.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative multiple-case study was to explore strategies some IT managers in healthcare organizations use to deliver IT projects meeting deliverable requirements. The targeted population consisted of IT managers in two healthcare organizations in California who successfully implemented strategies to deliver IT projects meeting deliverable requirements. I obtained data from five IT managers and PMs from healthcare organizations in the California area. I reviewed open-ended interview responses, company reports, and the closing documents of previous projects from both organizations as well as various archival documentation from each organization to triangulate the findings from multiple data sources and types.

Presentation of the Findings

The following research question guided this study: What strategies do some IT managers in healthcare organizations use to deliver IT projects meeting deliverable requirements? Each participant cited similar strategies that contributed to their project success, which correlated to five major themes: (a) project requirements, (b) detailed project plan, (c) stakeholder management, (d) communication and collaboration, and (e) SDLC selection. The word query results illustrated in Table 2 and Figure 1 indicated that the top 10 words stated through the interviews were: projects, meetings requirement, deliverables, strategies, agile, delivery, deliver, managing, and stakeholder. The word cloud displays the most common words in a large font the more the word was used and a smaller font the less the word was used. A word cloud is an image derived from words

based on the number of times the exact word is extracted from the data and sized by frequency (Heimerl, Lohmann, Lange, & Ertl, 2014). Table 2 also identifies the weighted percentage of the words used generated by NVivo12.

Table 2

Word Frequency Query (Top 10 Words Used)

Word	Count	Weighted percentage	Similar words
Projects	82	4.98	project, projects
Meeting	52	3.16	meeting, meetings, meets
Requirement	50	3.04	require, required, requirement, requirement
Deliverable	44	2.67	deliverable, deliverables
Strategies	43	2.61	strategies, strategy
Agile	35	2.13	Agile
Delivery	26	1.58	Delivery
Deliver	24	1.45	deliver, delivered, delivering
Managing	24	1.45	Manage, management, manager, managers, managing
Stakeholder	16	0.97	stakeholder, stakeholders

Figure 1. Word cloud findings from NVivo12.

The word query generated from the five participants and three PMI archived documents identified the importance of determining forms of communication and creating a clear communication plan that encompassed all team members and stakeholders. The stakeholders may be members of a project team, PMs, executives, project sponsors, customers, end users, or people invested in the project or who would be impacted by the implementation (Abyad, 2017; Usher & Whitty, 2017). The word stakeholder was not mentioned by participants as much as other words because each data source identified stakeholders by name customer, client, upper management, or client; however, stakeholder communication was determined to be an element that must be monitored by the PM to ensure a successful implementation. The results indicated that improvement of these themes, combined with the additional strategies managers used to

improve IT project success rates in healthcare organizations, may ensure project success. Table 3 displays the themes identified during interviews with IT managers and PMs.

Table 3

Successful Healthcare IT Project Themes

Major themes	% of participants, healthcare organizations and PMI archived documents	Number of references per participant
Defined scope and requirements	80%	5 participants, 2 HC, and 1 PMI document
Project plan	80%	5 participants, 2 HC, and 1 PMI document
Stakeholder management	50%	3 participants, 1 HC, and 1 PMI document
Communication and collaboration	60%	5 participants, 0 HC, and 1 PMI archived document
Software development life cycle selection	40%	3 participants, 1 HC, and 0 PMI document

Note: Healthcare Organization (HC)

Theme 1: Project Requirements

Three out of 5 participants expressed the importance of defining scope before the start of a project. Defining scope and creating requirements should be the first step in the project planning phase of project management (PMI, 2014). P5 stated, "Identifying a defined scope was a prelude to successfully developing and implementing IT projects within healthcare organizations." P1 and P3 created dashboards to communicate the scope, the project requirements, and the tasks for each requirement. Both P1 and P3

shared the dashboard with the stakeholders using a shared folder or SharePoint, a shared application. HIT project teams develop products based on the needs of the healthcare organization's stakeholders and patients (Gomes & Romão, 2019). P1 and P3 indicated that as requirements were completed, the stakeholders received notifications in real-time through the dashboard notification. The project teams found the dashboards useful for planning and communicating to all stakeholders. P2 and P5 highlighted identifying scope as the most valuable portion of project development, and P4 stated that they pull all team members into one room with a whiteboard to map out the scope of the entire project before the start. Three of the participants (i.e., P1, P2, and P5) noted that defining and communicating project scope and requirements are critical components in project success. The triple threat includes cost, scope, and time, and failure in one of these components creates a higher risk of project failure (Aranyossy et al., 2018; Cecez-Kecmanovic et al., 2014; Kautz & Abrahall, 2014).

Four out of 5 participants expressed the importance of gathering quality requirements from the customer to reduce misunderstandings in development. A project team must proactively seek quality requirements from the customer to reduce the instances of a misunderstanding of stakeholder needs (Aparicio & Mohagheghi, 2017). HC1 and HC2 stated that delivering successful IT projects required defined scope that is understood by all stakeholders. P1 noted that project requirements exclude vague areas that may potentially be misinterpreted by stakeholders or engineers. P1, P2, and P5 agreed that project requirements do not leave room for interpretation by stakeholders. The process of establishing a detailed scope includes the preparation of a project and its

complete deliverables (Derenskaya, 2018). Scope creep consists of any modification in the original goals of a project that occurs after establishing key functionality (Amoatey & Anson, 2017; Campbell, 2017; Thakurta, 2013). P1 and P3 indicated that scope creep contributed to project failures, impacting the budget and timeline of the project.

P5 posited that collecting defined requirements from multiple stakeholder meetings, including detailed project technical and functional specifications, was an excellent method to gather requirements for the project. Modifications to the defined scope could potentially cause scope creep and impact successful project delivery, affecting the cost and time (Shmueli & Ronen, 2017). The lack of precise specifications or scope is one cause of project uncertainty that pertains to estimates (Atkinson, Crawford, & Ward, 2006). P1 indicated that project teams use tools to support the project scope. All five participants used technical tools to evaluate requirements. Technical specifications, storyboards, and functional documents are tools that include scope, requirements documentation clarifying customer and business needs, and approvals of all stakeholders, including management (Hughes et al., 2016).

P1 emphasized that the confirmation of stakeholder approval of documents or tools before development was essential to the success of the project. P2 and P5 described sending out completed requirements that included documentation and a required e-mail approval from stakeholders before the start of the execution phase of their projects. The execution phase of a project, based on the PMBOK, is the third essential element of project management that includes initiation, planning, execution, and closing (PMI, 2017). P2 stated, “The stakeholders must approve the business case or requirements of

the project." P5 indicated that "listening to the customer and understanding their pain points is vital when gathering requirements." P2 noted that the process of gathering approval before the start of the project allowed the team the ability to strategize and think through all of the requirements. The process also allowed the team to create technical developments with certainty and ensured that the user requirements were complete. P5 explained that pulling the entire team into a room for an open discussion proved to be an excellent idea when developing scope. P3 stated, "To have a successful project or deliverable, we cannot have changes or updates coming in at the last minute." Late additions, including new features to the application or significant changes to the scope of a project, may cause the project to fail.

P5 indicated that during the initiation of a project, open discussion among the entire team is not common. Project requirements include tasks or conditions completed to ensure project completion or success. A clear understanding of the work that must be completed is identified in pre-project documentation (PMI, 2017). This type of meeting also allows the stakeholders to review and ensure the team's understanding of the project requirements before the start of IT development. P3 indicated that requirements needed to support the project. A clear understanding of the project elements may prevent scope creep (Hughes et al., 2016). P1 noted that using a change control board for needed changes ensures that the primary goal of the project is established at the forefront and does not allow the potential changes to derail the project by adding a scope.

Modifying or adding features or requirements to an ongoing project after the official start of the project is problematic (Joslin & Müller, 2016; PMI, 2014). All five of

the participants experienced situations where the customer attempted to add requirements during the project due to ambiguous documentation. HC1's post-project documentation indicated that changing features after the project start often caused the project to fail. HC2's documentation stressed the storage and use of post-project documentation to prevent executing the same mistakes on future projects. The documents must be archived and available for review for future projects.

The documentation of HC1 and HC2 indicated that the post-project documentation must be archived and accessible for future projects. P1 noted that post-project documentation is often lost and unavailable for team members to review for future projects, preventing project team members from learning from past mistakes. Implementing a post-project review and walking through each item in the post-project documentation provides a mechanism for the team to be clear on the success, failures, and solutions to any problems. P3 insisted on scheduling a meeting before the start of each project to review the project requirements and gather prompt stakeholder approvals. P3 also stated, "E-mails do not ensure timely feedback; face-to-face meetings were much more effective to obtain feedback quickly."

A stakeholder requirement review meeting may prevent a vague understanding. P3 also indicated that timely stakeholder feedback influences the gathering of IT project requirements (see Abyad, 2017; Usher & Whitty, 2017). To obtain stakeholder feedback early in the project, the PM must initiate a kick-off meeting to discuss the scope and requirements of the project and obtain approval on the project strategy.

To ensure the success of a project, the project team and stakeholders must have a clear and concise understanding of the requirements (Joslin & Müller, 2016). Successful PMs utilize greater than 25% of identifying resources and planning resources towards ascertaining customer requirements (Carrillo de Gea et al., 2016). P3 stated, "There may be issues within a project resource planning and using the right resource for each task is an effective strategy that has led to project success."

The archived document from the PMI indicated that by planning the resources time per task, the PM can forecast the time needed to complete each task (Dülgerler & Negri, 2016). Precise requirements contain specific parameters that frame a successful project outcome (Naumchev & Meyer, 2017). Project parameters are pieces of data that must be shared by team members or stakeholders of the project (Marcin, 2013). Included in the parameters can be one of the following: (a) lines of text, (b) dollar amounts, (c) dates, (d) integers, (e) a value, or (f) a number from a preset list or a true or false value (Marcin, 2013).

Theme 2: Detailed Project Plan

All participants mentioned having an established project plan is critical to track successful projects All projects require a significant amount of planning and using a project plan is an effective tool. The goal of project management is to ensure that the project is successful and meets the expectations of the project stakeholders (Abyad, 2017; Usher & Whitty, 2017). Researchers of project management describe a project as a temporary event with a beginning and an end with a defined set of objectives or requirements (Abyad, 2017; Paton & Andrew, 2019). P1, P2, and P4 indicated that

project plans assist in the tracking of all aspects of a project. According to the PMBOK, a project plan is an approved document used to guide project execution and control (PMI, 2017).

P1 stated, "A strategy to improve project planning would include a review of the project plans on a regular basis." The company documentation from HC1 indicated that the project plan must be approved by all stakeholders before the start of the project and the stakeholder must be informed of any changes. P2, P4, and P5 noted that a project plan should be a requirement and the most used tool from a project management perspective. P2 and P4 also indicated that based on experience with IT projects, detailed project plans existed on every successful project. P4 also stated, "Projects that were poorly planned did not include a project plan and these projects were poorly managed and missed deliverable dates." P1, P2, and P4 agreed to implement an IT project within healthcare organizations IT department successfully, a project plan is required. Using detailed project planning and following project management, a structured process is an effective method to drive successful outcomes. The project management process assists project teams in achieving specific project goals, including quality, cost, and delivery (Soare, Rusu, Stefan, Dragomirescu, & Militaru, 2019). Five out of 5 participants indicated that following a set strategy or a roadmap provides teams with defined objectives, timelines, cost, and milestones to charge towards completion.

P4 stated, "Without a plan, teams are often unable to identify scope, dependencies, impediments, blockers, and effectively prioritize, which could later delay the completion of each required project component." In comparing the two healthcare

organization's documentation, HC1 and HC2 indicated that both organizations have Project management offices within their organizations and apply management planning on all approved projects in their organizations. PMOs are organizations that influence the success of Project Portfolio Management which includes all the projects across departments (Bredillet, Tywoniak, & Tootoonchy, 2018). Project management offices are centralized, and they enforce how project management strategies are applied across the organization (Paton & Andrew, 2019). P2 indicated that all projects are not identical, and PMO documentation had to be modified to support projects that varied in size and SDLC. Without the project management strategies identified by the PMOs, most of the IT projects would not include the tracking and would most likely be unsuccessful (Vaidyanathan, 2017).

The post-project documentation provided by HC2 indicated that without the project management tracking, their timeline would have missed the end date, and the project would have had an overrun of $300,000. The post-project documentation listed the project management tracking as one of the items that the project team did correctly to support the successful delivery of the project. P1, P4, and P5 suggested spending time upfront, before the start of the project, and establishing a clear plan, is the most efficient way to run a project. HC2's company documents and P1, P2, and P4 noted that finalizing the plan allows all team members to agree and approve before starting the project in the planning phase. All stakeholders and team members can use the plan for tracking throughout the project (Hughes et al., 2016; PMI, 2017).

P3 added that projects, where the stakeholders agreed to the plan upfront, were successfully implemented on-time, within budget, and with a completed scope. Projects without a project plan often missed deadlines and went over budget, as indicated by all five participants. P2 identified the reason for the failing projects as inadequate tracking and follow-up by the management team on all tasks and the inability to remove impediments. Project plans developed during the planning phase are useful in tracking all elements and activities of an IT project and identifying the alignment between the scope, time, and cost during the five phases of project management (Hughes et al., 2016; PMI, 2017).

Theme 3: Stakeholder Management

The participants emphasized the relevance of stakeholder management and engagement to ensure successful project completion. P1, P3, and P5 indicated that stakeholder management and engagement are essential items that must exist in successful healthcare IT projects. Stakeholders have varying roles and influences that change depending on their position on the project, and there may be interconnectedness between various stakeholders (Rajhans, 2018). P1 stated, “The inability to manage stakeholder expectation has led to the detriment of most failed projects, it caused delays the timeline, increased the budget or increase the scope causing the project to fail”.

3 out of the 5 participants, notably P1, P3, and P5, identified stakeholder management or engagement as critical to the successful completion of a project. P5 also stated that it is vital to engage the correct stakeholder early on and ensure that they buy-in to the project’s timeline budget and scope to implement a healthcare successful IT

project. P5 stated, “I worked on several projects where the correct stakeholders were not identified or engaged. The projects ultimate failed due to lack of support.” HC1 and HC2 listed stakeholder management as key element in their post-project documentation. HC2’s documentation also included soliciting a senior manager to back the project and support the project as a priority. P3 suggested including the business partner, as well as senior management in the kick-off meeting, to ensure they support and are engaged in the project post-project documentation. P4 also identified knowing the stakeholder and constantly managing their expectations is a key factor in stakeholder management. The process used to identify stakeholders closely relates to the analysis of the stakeholder’s influence and potential impact on project success (Aragonés-Beltrán, García-Melón, & Montesinos-Valera, 2017). P4 stated, “The inability to manage stakeholder expectations is the main cause of project failures, because the stakeholder is not happy with the delivered product.”

Projects without stakeholder support most often fail for various reasons (Abyad, 2017; Usher & Whitty, 2017). P3 noted that stakeholder management is a powerful statement due to its breadth in relation to an IT project, and how it impacts the bottom-line and the success of a project. Managers and PMs must ensure that the correct stakeholders are engaged in IT projects to ensure the project’s success and prevent any unforeseen issues (Hughes et al., 2016).

Theme 4: Communication and Collaboration

Five out of 5 of the participants in this study provided examples of communication issues that negatively impact IT project completion. Communication is

essential in all successful IT projects across organizations (Gibbs et al., 2017). P2 and P3 provided examples of communication methods that positively impacted their projects. P2 stated, "e-mails often go unread; he felt an e-mail followed by an in-person or Skype meeting provides clear communication path where everyone has the opportunity to ask questions regarding the project". P4 preferred e-mails and electronic documentation as a method of communication for the project team that serves two purposes. E-mails and electronic documentation provide the information, as well as verification that the information was shared.

Communication is the crucial factor in completing IT projects that are global in scope and require the input of personnel from various cultures (Carrison, 2017; Hart, 2016). P1, P2, and P5 indicated understanding, which communication method they prefer with regarding the project, is critical. The participants felt that the PM should reach out to the stakeholder and specifically ask if they would like to be contacted by e-mail, phone, or in-person before creating the project communication plan. During the project management planning phase, the communication plan is created (PMI, 2017). P2 stated, "To ensure stakeholder engagement, a communication format must be established and clearly understood by all team members and stakeholders". P5 stated that on previous projects, the inability to identify the correct stakeholders created issues with completing the project on time and within scope and budget. All five participants of this study implied that projects without stakeholder engagement and management buy-in often fail. Hughes et al. (2016) also indicated that successful projects must have executive support

to succeed. PMs and IT managers should use effective communication plans to ensure stakeholder engagement in all phases of the project.

P2 and P3 indicated that communication across teams embedded in the project aids with effectiveness of successful IT projects. The two participants indicated that working independently inhibits cross-communication and understanding among all team members and blocks the ability to resolve issues across the project. Teams that work independently may find issues too late to fix without risking time, budget, or scope. Communication across teams must be consistent throughout the project in order to ensure that all open issues found and resolved efferently (Gibbs et al., 2017; SangWoo, 2017). P1 and P2 stated that unknown actions performed by other teams often negatively impact cross-functional teams. The teams must be kept in the loop of any changes or updates.

The findings from the participants indicated that in Agile methodology, the development process is iterative, and all team members must be clear on their responsibilities during each iteration (Ghobadi & Mathiassen, 2016). The process allows PMs to meet the goals of the project for iterative deliverables. The use if Waterfall issues and errors found at the end of the project often impacts the delivery too late in the project life cycle. Making changes to a Waterfall project is significantly higher than making changes to an Agile project (Ghobadi & Mathiassen, 2016). Four out of five of the participants indicated that the Agile methodology is the most effective for all IT projects. P5 noted IT PMs must develop an effective communication plan and ensure that all team members are present during the document review to ensure lessons learned are communicated and explained to the team. HC1 and HC2's company documentation

stated that post-project documentation prevents repeating mistakes on future projects and improves the outcomes of future projects.

Theme 5: SDLC Selection

The SDLC selected impacts the success or failure of the healthcare IT project. Five out of the 5 participants acted as team leaders on healthcare IT projects that used Waterfall, Agile, and Hybrid SDLC. Four out of 5 participants, specifically P1, P2, P4, and P5 of the participants identified Agile as the most successful of the methodology of the three. The two healthcare organizations that provided documentation for this study transitioned their SDLC from Waterfall to Agile or Hybrid. In Agile software development, a project is divided and completed in small sections, where insights obtained from the evaluation each iteration is used to determine what the next step in the project should be (Sanchez, Bonjour, Micaëlli, & Monticolo, 2019). Upper management of HC1 and HC2 implemented SDLC changes to improve the organizations' IT project success rates.

These transformational leaders implemented the changes to Agile based on the needs of their organizations. Transformational leaders support modifications to enhance and motivate followers from all eras, including millennials (Long, 2017). P4 stated, "The decision to change to Agile from Waterfall improved the organizations ability to deliver successful IT projects. Both P1 and P2 indicated that the SDLC is a process used by the IT manager or PM to set up or layout the process that includes the design of the project, the requirements, development, and the delivery format. P1 had experience using three types of methodologies, including Waterfall, Agile, or Hybrid, and the model used

depends on reviewing the kind of requirements and the timeline. P2 has experience using Agile and Waterfall. P2 stated, "Either Agile or Waterfall methodology could potentially be used for a project depending on the project size and timeline". The overarching goal of P1 and P2 was to get the needed functions to the business quickly. P3, P4, and P5 identified Agile Methodology as the most successful SDLC for all IT projects regardless of time or size.

Agile is an iterative development process, when changes are needed throughout the process management and can assess the issues and incorporate the changes throughout the iterations (Ghobadi & Mathiassen, 2016). These three participants indicated that Waterfall has the following limitations: (a) it is not adjustable and (b) implementing change is too complicated and costly. The entire application development is complete before going to testing or Quality Assurance. P2 noted making changes using waterfall is complicated and requires a change request and additional funding. P4 also stated that Agile methodology required much less documentation and more collaboration to implement the project successfully.

P3 advised that Waterfall methodology works well with legacy systems that are not streamlined. P2 believed that new systems tend to be more agile and require a flexible SDLC methodology. P3 noted that older legacy systems that took years to build and modify include a linear waterfall methodology. Transformational leaders will influence the project team members to adjust their SDLC methodologies depending on the project size and timeline. Charismatic and transformational leaders use their personality to

influence team members to follow them and make improvements or changes for the good of the team (Bass, 2014).

Applications to Professional Practice

This research contributes to knowledge related to the successful completion of IT projects within healthcare organizations in a multitude of ways. High IT project failure rates create a need for healthcare business leaders to develop strategies identifying how to implement IT projects that positively impact their business (Qin et al., 2017). The objective of this study was to explore effective strategies used by IT managers and PMs to complete IT projects within healthcare organizations successfully. The findings from this study align with transformational leadership, as it pertains to the use of technological innovations in the implementation of IT projects within healthcare organizations (Bhutani et al., 2016). Strategies to successfully implement IT projects benefit professional practices by defining scope, executing an effective project plan, establishing a communication plan, effectively managing stakeholders, and using Agile methodology as the. The strategies will reduce capital expenditure requirements to support IT organizations (Neves, Borgman, & Heier, 2016).

The findings of this study can be applied to IT project management strategies to complete IT projects successfully. Business leaders may gain a clear understanding of why IT projects succeed or fail and, thus, may implement strategies to improve project success rates. Participants indicated a clearly defined project plan and scope that is understood by all stakeholders. Project success is attributable to the resources executing the project in the most efficient way possible and having a clear focus of the customer

and the customer's project requirement. Customer involvement leads to project success (Chen et al., 2016). On the other hand, an absence of collaboration in the traditional project management process isolation leads to the lack of enterprise innovation. The culture of project management in an organization reinforces that defined requirements will lead to project success.

A review of this study reveals the successful strategies to overcome the pitfalls that perplex IT and PMs in the healthcare industry and lead to IT project failure. The IT managers and PMs who participated in this study identified project management methodology as a critical element of project success. Project management encompasses different kinds of processes that may provide clarity to the effectiveness and efficiency of a project (Qin et al., 2017). Project management may also improve time, cost, and quality (Sundqvist, Backlund, & Chroneer, 2014). Adopting project management methodologies from the PMI and other organizations is an effective method of implementing methodologies or components to improve the organization's project management processes.

Collaborative communication with stakeholders is an effective communication method needed to improve overall project plans and goals at all levels of management (Carrison, 2017; Hart, 2016). Working independently without collaboration creates project isolation and leads to a lack of innovation (Yao, 2015). A clear connection is necessary between the output of a project and the requirements of the organization's operational strategy and business (Gibbs et al., 2017). Developing a strategy to engage the critical stakeholders through the project management process is essential to

improving the project life cycle. Organizational leaders investing in IT implementations create synergy within the healthcare organization (Blaskovics, 2016). Business leaders improve performance with the transformation of organizational improvements and process effectiveness created through successful IT implementation.

Implications for Social Change

The study may contribute to positive social change of healthcare organizations that use the information to modify their implementation strategies, thereby affecting the development of IT implementations in healthcare organizations. Investing in the IT projects and strategies to improve the success of completing IT projects on-time and within budget, and meet the requirements within an organization, may positively contribute to social change (Spalek, 2014). The research study findings can be applied in various methods to effect social change in a healthcare organization. The social implication of these findings is if organizational project success rates increase, the organization benefits from the enhanced business performance. Enhanced business performance leads to a successful organization. Successful organizations positively affect local and global economies through higher profits and higher wages, which ultimately positively affect society-at-large.

The success of healthcare organizations is directly impacted by their ability to remain competitive with other health care organizations and provide the best customer service to their patients. Healthcare organizations exist to serve individuals and communities. Therefore, enhancing their performance has a cascading positive effect on society. When healthcare organizations are successful, the leaders of those organizations

can ensure that vital health and wellness services are provided and available to those that rely on the services. Additionally, leaders of successful healthcare organizations can fund performance improvement initiatives, support quality programs, and offer innovative services to individuals and communities to increase health outcomes.

Recommendations for Action

The findings from this study may benefit IT and PMs within healthcare organizations. IT and PMs could apply the recommendations to enhance their ability to manage projects within healthcare organizations. One recommendation might be for project leaders and stakeholders to obtain formal training in project management related to effective communication strategies. A structured training program may assist the entire project team with open communication to allow all team members or stakeholders to understand the status and activities. This training plan may also allow PMs to develop communication skills using up-to-date techniques. Managers should also develop a communication plan to establish whom to communicate with and the mechanisms to use. They should also meet with all stakeholders to prevent silo management.

A second recommendation is for project leaders to set achievable goals and timelines for milestones using project management methodologies. Project and IT managers must set goals that are achievable for the project timelines. When the team provides timelines, the manager may adjust the time, however, the milestone must be attainable. Managers must communicate with the functional team to identify the timelines. If management pulls the timeline in, they must add resources to reduce the

timeline or reduce scope. Without a change to the resources or scope, the project may miss the timeline and fail.

A third recommendation is for PMs to utilize an Agile SDLC. Iterative development allows the project team to move faster and quickly adjust to issues when problems occur. When the team finds issues, they can immediately correct and make the adjustments to get the project back on the critical path by modifying the scope, budget, or time. Agile is the most flexible strategy since it is iterative. If the project is a legacy system, implementing a hybrid methodology that requires more documentation for requirement tracking, but utilizes iterative development to support changes, may be needed. Though the application of flexibility extends beyond project timelines and budgets and are major factors that lead to project failure (Flyvbjerg, 2014). For example, to develop better contingency models to address shortcomings in project timelines and budgets, project leaders may consider collecting and analyzing historical project data for trends or patterns that may serve as an algorithm for future project contingency planning.

A fourth recommendation is for IT and PMs is to routinely schedule a time to meet with all stakeholders and understand their expectations. Learning the expectations and how to communicate with the stakeholders will promote stakeholder engagement. Stakeholder engagement may involve informal meetings for coffee, sharing meals, or other social opportunities to build relationships. Taminiau and Wiersma (2016) indicated that social gatherings are often required to solidify and strengthen business relationships. Project leaders could debrief or discuss issues related to progress to remain accountable

for their project management strategies and gain alternative perspectives and ideas on how to be a better project leader.

A recommendation for healthcare administrators is to support project leaders in accomplishing the four recommendations. I plan to disseminate my research findings to my project participants and the CEOs of both healthcare organizations I used to conduct my study. Walden University published my study in ProQuest/UMI dissertation database, therefore, other students or individuals interested in strategies to improve project success strategies in healthcare organizations may have access to my findings. If appropriate opportunities arise, I may share my research with my employer, colleagues at professional conferences, or attendees at other professional gatherings. I may also consider submitting my research to professional publications.

Recommendations for Further Research

There are several recommendations for further research. First, future researchers should consider expanding the study design to include organizations outside of California. For example, a nation-wide study may increase the strength and applicability of the findings. Future researchers may also consider designing a study that takes into consideration different types of healthcare IT projects. For example, future researchers could compare internal project development with external development projects outsourced to other organizations and provided to the healthcare organization for use and support project success strategies against those used. Future researchers could also explore healthcare organizations that use IT development teams located in other countries. In the case where the project team is both onshore and offshore, with a 24-hour

workday yield, similar or different results concerning project management success strategies.

Future researchers may also design their studies to address the limitations of this study. For example, the selected participants could only use one type of participant, either managers or IT managers. They were taking the input regarding the success of the project from one participant type. Instead, future researchers could provide more specific parameters or markers of project success. The second limitation was that I could only review project documents that participants chose to provide. Limitations existed because not all participants submitted documentation, and the participants that did submit were not the same type or number of project documents, making comparisons inconsistent. In the future, I would recommend that researchers define specific project documents from all participants.

The potential weaknesses are the limitations of this study identified by the researcher. I gathered information from IT departments in 3 healthcare organizations, limiting the study findings to a subset of all healthcare organizations. Second, I gathered data from interviews with IT managers and PMs and did not consider the diversity of perspectives and opinions held by healthcare personnel. Third, because I gathered information from healthcare organization IT departments only, study findings may not apply to other organizations or other types of industries.

Reflections

The doctoral study process has been challenging and a satisfying learning experience. Before embarking on this long journey, I did not anticipate the amount of

time, research, and coordination required to complete the doctoral study. I knew it would be challenging and require a significant amount of effort on my part, surpassing my expectations. I did not have any preconceived ideas or thoughts about the results of the study. Upfront, I identified my personal biases in the study, and through data collection and analysis phases, I did not allow any biases to impact the findings. I followed the protocol while conducting the participant interviews. To reduce any possible bias when analyzing the participants responses, I used NVivo12software to assist in the generation of the interpretation of results and themes. To further confirm the reliability and credibility of the findings, I used member checking and had the participants review my summarized interpretation of their responses.

First, I am grateful for the opportunity to refine my academic writing skills. I have improved my writing through interacting with peers in the course discussion boards, the doctoral study committee, and the University Research Review evaluations of my proposal and project. I have improved my ability to express ideas succinctly and clearly. Second, my Walden experience has enhanced my research skills. Before writing Section 2, I did not understand the difference between transcription and member checking. This program forced me to justify all my decisions about how I would conduct my study without bias. The most meaningful was my examination of an approach to member checking. As indicated by Varpio et al. (2017), member checking is a method or strategy to validate the dependability of the researcher's findings. Member checking processes needed to be congruent with the nature of the qualitative research methodology. During the interviews,

I focused on the participants responses, reviewed the interviews for clarity, transcribed the interviews, and summarized the interviews. I also sent the summarized interviews to the participants to validate the interview responses. The actions allowed me to immerse myself in the data multiple times in quick succession. I also connected with my participants shortly after the interviews occurred, which I believe led to a high rate of member checking participation. Through the member checking process, I had the opportunity to clarify my understanding of strategies my participants used to achieve project success. I believe member checking led to better validation and higher reliability of my findings.

Last, I believe my Walden student experience has had a positive impact on my professional practice as an adjunct professor. As an online student and not the actual professor, the roles were reversed. I can better empathize with my students and understand the stress associated with being a working adult pursuing an advanced degree. I believe this knowledge has helped me relate and communicate with my students better in my classroom. I have also learned best practices for developing course assignments, creating clear instructions, and designing intuitive course navigation.

Conclusion

In this qualitative multiple case study, I explored the strategies IT managers and PMs used to manage IT projects within healthcare organizations IT departments successfully. I collected data from IT managers and PMs in California. I used methodological triangulation to analyze the two sources of data until I reached data saturation. Five major themes emerged from the data analysis with several strategies that

IT leaders could use to improve the IT project success rate. The five major themes included: (a) defined scope - requirements, (b) detailed project plan, (c) stakeholder management, (d) communication & collaboration, and (e) SDLC selection. The strategies to effectively manage IT implementation included: (a) clearly defined requirements, (b) project plan, (c) stakeholder engagement, (d) risk analysis and mitigation, (e) selection of communication planning, (f) methods of communication, (g) collaboration across teams, and (h) monitoring and controlling processes. I analyzed each theme concerning existing literature and used transformational leadership theory to apply the changes needed to address and improve the management of IT projects in healthcare organizations. The main contribution to business practice was identifying the appropriate strategies to manage IT projects effectively and successfully.

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Appendix: Interview Protocol

Interview preparation. I identified IT PMs and IT managers that work for healthcare organizations within their IT departments located in California through LinkedIn. I will identify 10 to 15 IT PMs and IT managers as potential participants. I assessed each potential participant based on the eligibility criteria and used purposeful sampling to narrow the population to the sample size of five. I met each individually and discussed participation, explained the informed consent process, and identified who met the eligibility criteria. I explained to them that their names, contact information, and company information would remain confidential. I used Skype and WebEx online meeting rooms and record the meetings for transcription and review.

Opening the interview. I started each of the interviews by explaining to each of the participants who I am, and that I am a Walden University doctoral student conducting a qualitative multi-case study on multiple organizations to explore strategies used by some IT PMs and IT managers in healthcare information technology departments to improve project success rates. The possible benefits are the potential to implement successful strategies that have a positive impact on IT project success. I greeted the participants, confirmed that I had their informed consent, and notified them that the meeting audio and video of the meeting would be recorded.

Informed consent. I obtained informed consent from each participant before the interviews. I explained all the aspects of providing informed consent, the potential risk, as well as the benefits of participating in the study. I informed all participants that I would

maintain all data and research records in a locked case inside my home or on a secure computer that is password protected.

Conducting the interview. I asked open-ended questions during the interviews, and I reiterated to each participant that the interviews were semistructured and the questions were open-ended. Anything they felt l relevant could have been discussed. I followed up with probing questions after each interview question for clarification.

Follow up with probing questions. After completing the initial interview questioning, I followed up with probing questions for clarity if I thought a further question allowed additional clarity.

Theme verification. I explained to the participants that the questions I asked were to develop major themes regarding scope management strategies.

Coding. I referred to the healthcare organizations as Company 1, Company 2 and Company 3. I coded participants' names as P1, P2, P3, P4 and P5.

Recording reflexive notes. I explained to the participants that in addition to the recordings, I took notes to document any additional thoughts during the interview process, as well as afterwards, keep a journal of the events, which in addition to the audio and video recordings via Skype or WebEx, will be kept in file on my computer and stored in the cloud with password protection this will increase the confidentiality.

Ending the interview. I explained to the participants that I would contact them for a follow-up to verify the accuracy of the transcript and will engage in member checking to obtain any additional information they might offer. In the end, I thanked them for their time and contribution to my research.