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Strategies for the Successful Management of Human Resource Planning in IT Projects

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Abstract

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MBA, Walden University, 2014

BS, University of Phoenix, 2009

Doctoral Study Submitted in Partial Fulfillment

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Abstract

Information technology (IT) projects are often inadequately resourced with human talent. Researchers found that 70% of all IT projects worldwide fail. The purpose of this qualitative multiple-case study was to explore the strategies used for the successful management of the human resource planning of IT projects. Using purposeful sampling, 5 IT project managers and 5 IT directors from organizations located in the northeastern region of United States were selected for this study. The resource-based theory provided the conceptual framework. Data were collected using semistructured interviews conducted face-to-face and by telephone. For this study, data triangulation included project documents to strengthen the findings obtained from the 2 groups of participants. Categorization of findings involved the assessment of human capacity for the skills of the project, forecasting of project requirements, availability of resources, and securing project members. Four thematic categories emerged from the data analysis: common strategies employed for success, strategies employed in reaching success, strategies or factors identifying key barriers, and strategies that work best in managing. The implications of this study for positive social change include enhancing the social evolution of the organization by increasing the ability to hire more employees, reducing the unemployment rate, and benefiting society. The results of this study may provide benefits directly stimulating economic progress.

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Dedication

I dedicate this dissertation to my partner and family who supported me along my doctoral journey. Without your love and support, I could not have realized this dream. If you would have asked me years ago, if I would ever complete this journey, I would have said no. Trying to find the desire and strength to achieve such a goal was never in the cards for me until my family and friends cheered me on and allowed me to dream that this goal was now achievable. Although this was the most difficult tasks in my life to complete to date, I cannot help to imagine the struggles my grandparents went through as immigrants coming to this amazing country we live in. The struggles and hardships they faced were something I could only imagine. I dedicate this dissertation to my late grandparents Vittorino and Maria Pierorazio for always showing me love and support even though they are no longer with us. They guide and protect me from heaven every day. My constant conversations with them throughout this journey helped me to find the strength when I did not think I had anything left to give.

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Section 1: Foundation of the Study

Background of the Problem

Researchers have stated that human factors are an indispensable component of the effective management of a project team (Baumann, Harfst, Swanger, Bayer, Cell, & 2015). The success of any project depends on how well company leaders engage, manage, and direct human resources (Pournader, Tabassi, & Baloh, 2015). According to Baumann et al. (2015), the successful execution of a project entails the alignment of company objectives with team behaviors and practices.

Leaders need to plan and manage effectively to have successful teams. Leadership usually plays a significant role in the achievement of any venture, given that leaders are responsible for overseeing many aspects of a project, including human resources (DuBois, Koch, Nyatuga, & Kerr, 2015). Project leaders require technical knowledge and skills, positive values, a high level of ethics, out-of-the-box thinking, and interpersonal skills (Dubois et al., 2015).

Successful human resource management of information technology (IT) projects is in the interest of organizations. The benefits of effective human resource management not only include increased organizational profits but also improved outcomes for different stakeholders, such as personnel, consumers, society, and other establishments (Pournader et al., 2015; Schuler & Jackson, 2014). These benefits can only accrue if resources are available and adequately managed (Lee, Park, & Lee, 2015).

Problem Statement

Information technology (IT) projects remain poorly resourced with human talent (Liu & Lai, 2016). Bouras and Bendak (2014) found that 70% of all IT projects worldwide fail. This failure owes to the improper management of human resources by project leaders. The general business problem is that the ineffective human resource planning of leaders contributes to high IT project failure rates, thus resulting in lower revenues. The specific business problem is that some organizational leaders of IT projects lack approaches to successfully manage the human resource planning of IT projects.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the strategies used for the successful management of the human resource planning of IT projects. The specific population of the study comprised 10 organizational leaders in the Northeast United States who have executed effective human resource planning strategies in their management of IT projects. The sample included five IT project managers and five IT directors. The outcomes of the investigation can lead to a change in society regarding public access to improved IT projects and the potential strengthening of research funding for IT management. The outcomes of this investigation could also benefit the economic progress in the Northeast United States area from the potential reduction of project failure rates.

Nature of the Study

For this study, I designated the method as qualitative research. Quantitative, qualitative, and mixed-method research methods are the possible approaches that I can

use to examine effective human resource management in IT projects. Quantitative methods involve measuring variables to determine their relationship with each other using numerical values (Barnham, 2015; Tabachnick & Fidell, 2014). I found that quantitative methods are inappropriate for this study because statistical conclusions will not yield the information needed to understand a phenomenon with depth. Qualitative methods involve the detailed exploration of the subjective involvements or insights of a collection of individuals about a specific phenomenon (Dasgupta, 2015). The mixed-method research associates qualitative and quantitative tactics to address the limitations of each method (Morse, 2016). For this study, mixed-methods were inappropriate because the integration of quantitative methods does not align with the purpose of exploring perceptions and experiences. Among the three research approaches, qualitative was the most appropriate because of its alignment with the research purpose of exploring the perceptions of organizational leaders without manipulating their natural context. Given the focus of qualitative research on collecting rich and detailed data (Bailey, 2014; El Hussein, Jakubec, & Osuji, 2016), the qualitative method was instrumental in the acquisition of deep insights into the subjective perceptions of organizational leaders.

The design selected for this study was case study research. Other potential qualitative research designs that I considered using in the study included: case study, grounded theory, phenomenology, and ethnography. Phenomenological research entails exploring a collection of individuals' lived experiences and informed observations who connect with their shared involvement in a particular phenomenon (Moustakas, 1994). Phenomenology was inappropriate for this study because limiting the scope of data

gathering to interviews will not produce the depth of information that can be gained from a case study using multiple sources. Researchers use grounded theory to formulate interrelated theories about a phenomenon (Glaser, 2017). Grounded theory was inappropriate because generating a theory based on the findings is not a goal of this study. Ethnography focuses on obtaining knowledge of an occurrence based on the experiences of an entire cultural group by observing their everyday behaviors in their natural surroundings (Madden, 2017). Ethnography was not appropriate because the selected case for this study does not include ethnic or cultural practices. Researchers select case study research designs when a specific phenomenon embeds in a particular context, and multiple sources of data are needed to understand the mechanisms, processes, or characteristics involved in a selected case (Yin, 2018). From the four qualitative research designs discussed (i.e., phenomenology, grounded theory, ethnography, and case study), a case study was the most suitable because multiple perspectives will be used to answer how organizational leaders perceive the strategies needed to manage the human resource planning of IT projects successfully.

Qualitative Research Question

The research question of this study was as follows: What are the strategies used for the successful management of the human resource planning of IT projects?

Interview Questions

Semistructured Interviews

1. What strategies do you use for the successful management of human resource planning of IT projects?

2. How would you define the success of human resource planning in IT projects you have worked with or were responsible for?
3. How would you identify key barriers to the management of human resource planning of IT projects?
4. What strategies worked the best in the management of human resource planning of IT projects?
5. How do you know when you have identified the major concerns in the management of human resource planning of IT projects?
6. How did you ensure that the management of human resource planning of IT projects is implemented consistently?
7. What critical factors helped you to overcome challenges in the management of human resource planning of IT projects?
8. What additional information would you like to add about the strategies for the successful management of human resource planning of IT projects?

Conceptual Framework

For the conceptual framework, I selected the resource-based view (RBV) theory for this study. The RBV theory highlights the valued, uncommon, and unmatched resources that give a company financial advantage (Barney, 1991). Knight (1921) developed the RBV theory; however, Penrose (1959) popularized the theory and received most of the credit for its development.

Penrose looked at the organization as a broad set of resources (Dassler, 2016). Barney (1991) expanded the RBV to focus on the importance of competitive advantage

resulting from the heterogeneity of different organizations regarding human capital resources. Researchers have stated that a source of competitive advantage entails human capital for an organization when employees can perform their jobs effectively to achieve organizational goals (Albrecht, Bakker, Gruman, Macey, & Saks, 2015; Delery & Roumpi, 2017). Consequently, the successful management of human resource planning is expected to bring competitive advantage to an organization (Davis & Davis, 2017).

The RBV theory was an appropriate conceptual framework because the identification of the strategies needed to manage the human resource planning of IT projects successfully is consistent with the tenet of the theory about the importance of strategically using resources to gain competitive advantage. RBV strategies are significant for the IT project industry to ensure human resources are efficiently managed (Susilo & Suhardi, 2014). Also, the RBV theory provided a conceptual base for understanding the strategies needed to successfully manage the human resource planning of IT projects, which included a view of the strategic use of resources within the organization that would bring a competitive advantage.

Operational Definitions

Agile: Agile is a methodology used in the development phase of a project when managing complex projects with a group of iterative methods (Lei, Ganjeizadeh, Jayachandran, & Ozcan, 2017).

Critical failure factor: The element that contributes to the failure of an IT project (Zare Ravasan & Mansouri, 2016).

Critical success factor: The element that contributes to the success of an IT project (Gupta, Gupta, & Agrawal, 2013)

Project quality: A control quota that one uses to delineate the operative process of an IT structure established or the venture (Féris, Zwikael, & Gregor, 2017).

SCRUM: A framework of Agile software development projects (Lei et al., 2017).

System development project: The inclusion of information system development with rigorous partnership projects that require a high level of team social capital, particularly among business and technology professionals (Lee et al., 2015).

Visionary leader: Someone who is transformational and inspires others to move beyond self-interest for the good of the organization (Taylor, Colvin, & Cornelius, 2014).

Assumptions, Limitations, and Delimitations

Assumptions

Researchers stated that assumptions are a person's learned beliefs and circumstances accepted as truth (Leedy & Ormrod, 2015). The definition of how the researchers define assumptions affect the boundaries of research and are critical to the claim of the research findings (Foss & Hallberg, 2014). Foss and Hallberg (2014) defined assumptions as affecting the boundaries of research that are critical to findings. I assumed the participants' answers were honest in response to their interview questions, and that the IT directors and IT project managers provided honest and straightforward replies during the interviews. I also assumed that the answers to the questions for the interviews produced detailed accounts, which provided a chance to discover shared themes regarding IT project human resource planning. Last, an assumption was that participants

had the expertise to report their prior project management and resource management knowledge regarding the inclusion standards.

Limitations

Limitations represent weaknesses, which may occur in a study; however, these remained out of the researcher's control (Leedy & Ormrod, 2015). One limitation was that of time constraints in the implementation of the study goals. Another potential limitation of the study was the limited generalizability of the results. The findings may not be applicable to all IT projects in the United States because of the small sample size and non-representative sampling technique. Another potential limitation of the study was that I could not conclude that the strategies used for the successful management of human resource planning of IT projects are effective. All findings included the unique perceptions and experiences of the participants.

Delimitations

Paechter stated that delimitations entail factors that one may use to delineate the range or restrictions of an investigation. Delimitations define the scope of a study (Rovai, Baker, & Ponton, 2014). I delimited the study to organizational leaders in the Northeast United States who have executed effective human resource planning strategies in the management of IT projects. Caley et al. (2014) scrutinized the factors behind establishing a professional and stated that the signs that indicated a person has an advanced level of proficiency also has the capacity to make wise decisions and appropriate engagements. I also delimited the study to participants who participated in semistructured interviews of

IT project managers and IT directors. The plan included the collection of data using individual, semistructured interviews with five IT project managers and five IT directors.

Significance of the Study

Contribution to Business Practice

The results of the case study research provided information to IT business leaders, thus increased their knowledge of the strategies needed to manage the successful human resource planning of IT projects. The unacceptable failure rates of IS projects and the ambiguity of value recognition through systems use are frustrating practitioners and baffling researchers (Cecez-Keemanovie et al., 2014; Patanakul & Pinto, 2016). By better understanding human resource needs for project planning, organizational leaders can reduce the rate of project failure and translate their inspiration into tangible value (Bhalla, 2014). The doctoral study involved the exploration of how organizational leaders employed the strategies needed to successfully manage the human resource planning of IT projects potentially resulting in the reduction of project failure rates in the Northeast United States.

Implications for Social Change

Given that effective human resource management has benefits for stakeholders (Jackson, Schuler, & Jiang, 2014), the results of this study may also have implications for social modification (Jackson et al., 2014). The outcome of this investigation should benefit customers by possessing access to IT projects managed effectively. When IT projects are successful, customers could enhance the various aspects of their work performance and personal functioning. Also, the outcomes of the investigation can lead to

social evolution, because when an organization is successful in terms of its human resources, organizational leaders can potentially hire more people to manage new projects, and society benefits through more and improved human resources. The results of the study could also benefit the economic progress in the Northeast United States area because of the potential reduction of project failure rates.

A Review of the Professional and Academic Literature

The relevant expert and conceptual literature remain segmented into five major areas. The main section focuses on the resource-based view theory, while another section of the review focuses on project management leadership, which includes: (a) leadership strategy and (b) critical success factors. The next section of the review focuses on project management, which includes a discussion of: (a) project management overview, (b) project management methodologies, (c) project planning, (d) project scope, and (e) project risk. Another section focuses on project resources, which includes a discussion of the: (a) establishment of project team, (b) estimation of project resources, (c) planning of human resource management, (d) monitoring and control of project team, (e) management of project team, and (f) other resource implications to project success. The last section of the review is on project failure, which includes: (a) early warning signs of project failure and (b) critical failure factors.

Researchers conduct literature reviews to determine an existing framework of knowledge and to recognize any gaps that may be worth exploring for future study (Laursen & Svejvig, 2016). The examination comprised 165 peer-reviewed articles, 14 books, and 13 documents from other sources, resulting in a total reference of 192 sources.

This research incorporated several databases from The Walden library, including Production Planning & Control, Journals of Project Management, Business-related journals, and many others. More than 85% of the publications are from within the past one to five years of the anticipated graduation year. The study includes several keywords: (a) project management leadership, (b) project management basics, (c) project resources, (d) project failure, (e) resource based view theory, and (f) IT project management to develop the literature review.

Application of the Resource-based View Theory to Address the Problem

The general business problem was that the ineffective human resource planning of leaders contributes to high IT project failure rates, which thus result in lower revenues. The specific business problem is that some organizational managers do not employ effective approaches to manage the human resource planning of IT projects successfully. The purpose of this qualitative multiple case study was to explore the strategies that organizational leaders use for the successful management of human resource planning in IT projects. I used the RBV theory to frame the responses of the participants regarding the strategies organizational leaders use for the successful management of human resource planning in IT projects.

The conceptual framework of the study centered on the RBV theory, which highlights the valued, unusual, and unmatched assets that give a company a competitive advantage (Barney, 1991). Knight (1921) developed the RBV theory; however, Penrose (1959) popularized the theory and received most of the credit for its development. Penrose looked at the organization as a broad set of resources (Dassler, 2016). I used the

main tenets of RBV to frame the discussion of why the participants identify the strategies needed to manage the human resource planning of IT projects successfully.

Barney (1991) expanded the RBV to focus on the importance of competitive advantage resulting from the heterogeneity of different organizations regarding human capital resources. According to Barney, a competitive advantage remains sustainable through the presence of assets, which are valued, unusual, and unmatched. When applied to human resources, leaders improve the organizations by collecting common data and understanding their human capital (Coff & Raffiee, 2015; Lin & Wu, 2014). Such assertions are used to provide insights into the specific responses of the participants regarding the successful management of human resource planning when including the foundation for competitive advantage for an organization.

The RBV theory emphasizes the role of competitive advantage in an organization's pool of internal resources (Davis & Davis, 2017). An organization's competitive advantage includes the practice of basing itself on the interaction of different internal resources, such as strategic planning, innovation, and human capital (Amarakoon, Weerawardena, & Verreynne, 2016; Liao, Rice, & Lu, 2015). An internal resource only becomes a competitive advantage when these resources cannot be found in other organizations, underscoring the importance of strategy (Ghapanchi, Wohlin, & Aurum, 2014).

Human capital has been determined as a foundation for competitive advantage for an organization, particularly when employees can perform their jobs effectively to achieve different organizational goals (Albrecht et al., 2015; Delery & Roumpi, 2017).

Consequently, the successful management of human resource planning is expected to bring a competitive advantage to an organization (Davis & Davis, 2017). According to Davis and Davis (2017), employees are both the contributors and sources of an organization's competitive advantage, hence underscoring their importance as an organizational resource.

The RBV theory is an appropriate theoretical framework for this study because the identification of the strategies needed to successfully manage the human resource planning of IT projects is consistent with the tenet of the theory regarding the importance of strategically using resources to gain competitive advantage. RBV strategies are significant for the IT project industry to ensure human resources are efficiently managed (Susilo & Suhardi, 2014). The RBV theory provides a conceptual base for understanding the strategies needed to successfully manage the human resource planning of IT projects, which includes a view of the strategic use of resources within the organization that would bring competitive advantage.

Project Management Leadership

Organizational leaders who inspire innovative ventures face the negative influences of numerous development catastrophes on both personnel and associations (Shepherd, Haynie, & Patzelt, 2013). Researchers have stated that the failure rate for venturing corporate developments was almost 90%, which means the leaders fail to achieve the fundamental requirements (Shepherd et al., 2013). Researchers have also found that the construction industry represented an organization with serious causes for failure (Ikediashi, Ogunlana, & Alotaibi, 2014). Leadership performance represents one

important factor of achievement that one may measure to determine whether a project will succeed or fail (Nixon, Harrington, & Parker, 2012). An improved understanding of this subject may aid organizations' leadership in improving the levels of success in their projects to heighten value in the institution.

For this study, the lack of leadership backing for project development was the focus. The success of any project depends on how well company leaders engage, manage, and direct human resources (Pournader et al., 2015). The benefits of effective human resource management include increased organizational profits and improved outcomes for different stakeholders, such as personnel, consumers, civilization, and other establishments (Pournader et al., 2015; Schuler & Jackson, 2014).

Kivipold and Ahonen (2013) conducted a survey to examine the attitudes of individuals about the success of developments that the teams and managers maintain. The results indicated that management represented a main factor of effectiveness for an institution, as well as the ways in which staff, such as managers of developments, answer to directions (Kivipold & Ahonen, 2013). The satisfaction of the layperson toward his or her job involves appraising the type of work involved (e.g., project management; Kivipold & Ahonen, 2013). Intrinsic aspects entail project leaders' achievements, as well as the acknowledgment of these achievements; conversely, the extrinsic characteristics of the work consist of direction, salary, and remunerations (Kivipold & Ahonen, 2013). This research with the International Journal of Innovative Computing Information and Control concluded that attitude affects other core facets of project success (Tzeng & Chiang, 2012). Job loading also represents one main characteristic in standard levels that

significantly influences others. He and Sheu (2014) focused on attitudes containing new ideas and sympathetic corporate culture as the most important critical success factor to a project's leadership.

Leadership Strategy

Leadership often involves rearranging resources that one has designated for development to enhance the effectiveness levels of the project (Yaghoubi, Noori, Azaron, & Fynes, 2015). The main issue behind this strategy involves the assets one requires to finish a development, which may reduce effectiveness levels beyond the agreed on achievement rates that occurred when planning the process of the development (Yaghoubi et al., 2015). Organizational leaders should take some time to attract, retain, and motivate employees of heightened and specialized skills, such as project leaders, particularly those individuals who have reported high satisfaction with their work (Kivipold & Ahonen, 2013).

Leaders able to recuperate from errors can influence management by making an influential impression (Kivipold & Ahonen, 2013; Yaghoubi et al., 2015). Leaders should confess to any mistakes made to achieve higher levels of respect from their teams involved in the project. If leaders have this ability, they can demonstrate the possibility of quickly addressing any issues, thereby resolving the issue and moving on to the next step efficiently.

A leader who has a vision for the organization and wishes to motivate his or her employees to enact positive institutional change may face a struggle to implement such a plan. These leaders are usually transformational leaders, which researchers have

demarcated as a leader who inspires a communal visualization while developing healthy interactions with development team participants (Nixon et al., 2012). Leadership creates a resilient connection with the members of the development team for the project, which may encourage the formation of a team who holds the same vision that their leader described (Nixon et al., 2012). These leaders may improve the individual success rates of individual members, as well as the collective performance of project development (Nimri et al., 2015).

Critical Success Factors

The project manager has a leading role in the project process and oversees the project, the project team, and the responsibility to end the project successfully (DuBois et al., 2015). Project success is the product of project managers' ability to analyze the critical qualities of leadership and determining the benefits and positive impacts to the project team (DuBois et al., 2015). The researchers indicated that the leadership styles include team building, establishing clear project roles and responsibilities, transparency, confidence, organization, and the definition of a project's critical success factors. DuBois et al. (2015) concluded that project leaders require skills and technical knowledge, along with positive values, a high level of ethics, out-of-the-box thinking, and interpersonal skills, to name a few.

Weiss and Hoegl (2016) found that more studies focus on the technical side of project management compared to the human side, which receives considerably less attention. Weiss and Hoegl focused on failure by linking the past, present, and future. Mastrogiacomo, Missonier, and Bonazzi (2014) examined the relationship between the

concerns of development failure and the person who becomes accused of project failure. Mastrogiacomo et al. (2014) found that operative team direction is important for information systems (IS) ventures.

Project Management

Project management incorporates the preparation, observation, organization, and control of a project from the beginning to the outcome to attain an anticipated result (Bresnen, 2016; Yang, Huang, & Hsu, 2014). Project management remains critical to conducting all operations for an institution (Bresnen, 2016). Project managers usually represent an endeavor of strategy, as they design the promised structures of control to coordinate varied processes (Yang et al., 2014). Projects entail isolated, business-oriented happenings, which stakeholders are required to join, and focus on the precise happenings of a company assignment.

Because projects can represent stressful endeavors, teamwork must be effective to allow organizational leaders to reach success regarding their project objectives. Project leaders manage distinct arrangements of work to achieve the objectives of their endeavors (Nixon et al., 2012). Management directly influences the success level of all projects. Intrinsically, dynamic leaders remain essential for aiding in coordinating persons and schemes in the program's structure (Yang et al., 2014). These leaders must implement structured plans to execute the project successfully, which often involves demanding tasks. Project managers can develop plans to execute successful projects that define and confirm project objectives. Such plans include knowing which tasks must be assigned to implement steps of the plan, documenting and deciding on the resources needed to

complete the plan, and developing a budget and outline for a completion date of the plan (Yang et al., 2014). Project leaders oversee project enactment while implementing controls for reliability and assembling the project development (Yang et al., 2014). Based on the project leader's plan, project development involves following an outline for execution, evaluation, and the actualization (Morgan, 2012).

Role of the Project Manager

A project leader is a person who uses the general obligation and obligation for the effective arrangement, outline, control, execution, and the decision of an undertaking. Venture administrators must be capable of completing an assignment and possessing a blend of abilities, such as the capacity to ask dispassionately, distinguish implicit presumptions, and agreeably settle issues and clashes (Ng & Coakes, 2014). Primary among the obligations of a project leader is the incorporation of the capacity to perceive the assignments and the dangers that may penetrate the venture. Such people must have the fitness to quantify achievement and the hazard factors through a venture's course of events (Koçyiğit, 2015).

Dangers, for the most part, emerge from the vulnerabilities that undertaking experiences; subsequently, a project leader must concentrate on the essentials of moderating any progressions that may occupy a task's goals and timeline (Koçyiğit, 2015). A significant part of the issues that can influence ventures is typically the consequence of a factor involving risk (Lester, 2014). An effective project leader, in this manner, can essentially diminish the dangers by clinging to an open correspondence

strategy, while guaranteeing each member impartially gives his or her input on the project.

Individuals working in groups shape the premise of a task that achieves success (Koçyiğit, 2015). The ideal approach to guarantee that every partner to an undertaking gives their insights and contributions to the task is to allocate them the particular jobs that best fit their characteristics. Appointing clear goals for each partner to follow in a given plan denotes the system of a project manager.

Project Management Methodologies

The project management profession has three primary constraints that include measurement in all projects are time, cost, and scope of a project (Chen, 2015). Project management begins when a combined effort is needed to accomplish a projected result (Chen, 2015). After the Second World War, the practice of project management changed to include technology and infrastructure defining business processes (Chen, 2015). The organization identified as the Project Management Institute (PMI) originated and PMI formed standards and incorporated into a published document known as the Project Management Book of Knowledge (PMBoK) (Chen, 2015). The standards set by the PMBoK inspire many of the project management methodologies discussed in this section. The different project management methodologies will be used to inform the responses of the participants during the presentation and the evaluation of the results of this study.

Recent advancements in technology have introduced challenges that the modern project manager had never experienced. The three-way restraints of price, time, and scope measured in traditional project management are very rigid methods of measuring

project performance and require additional assistance to move projects toward successful completion (Chen, 2015). The challenges of modern project management require the introduction of several new forms of project management. The traditional method of project management is known as Waterfall (Chen, 2015). New forms of project management include more accurate to specific industries, such as Lean Systems, Agile, and Scrum. Other project methodologies include the study of resource, cost, and time management of projects (Dalcher, 2015).

One project management method consists of the Waterfall approach, which is the traditional approach to managing a project, thus allowing tasks to complete in consecutive steps (Stocia, Ghilic-Micu, Mircea, & Uscatu, 2016). The first tool used in the Waterfall approach was the Gantt Diagram. Henry Gantt invented the Gantt Diagram at the beginning of the twentieth century (Chen, 2015). Royce defined the first formal description of the Waterfall process in 1970, which highlights the many approaches to project management (Stocia et al., 2016).

Another project management method that sometimes implements alongside the Six Sigma approach is that of project management, which focuses on the developments undertaken at the Motorola corporation during the 1970s to combat the poor-quality issue the organization was experiencing (Vijaya Sunder, 2016). The Six Sigma method remains primarily used in both the manufacturing industry and the service industry all over the world (Vijaya Sunder, 2016). Vijaya Sunder (2016) also stated the inappropriate use of stakeholders in a Lean project is known to increase the likelihood of project failure. Lean Six Sigma initially focused on the customers' requirements to achieve a product free of

defects. Organizations, such as Motorola, have managed to reduce audit costs of $1.8 million dollars per year (Antony, Snee, & Hoerl, 2017). The Lean Six Sigma process had its foundation in the automotive industry with Toyota and used a cost-reducing measure (Brits, 2018). Organizational leaders experienced increased speed, the effectiveness of any process of a company, and helped to grow revenues, reduce cost, and improve collaboration within the organization (Vijaya Sunder, 2016). The achievement of this method combined both the Lean and Six Sigma methods.

A new approach to project management was needed and started to appear in the late 1980s (Henriksen & Pedersen, 2017). The Agile project management approach involved an iterative and incremental approach to software development projects (Henriksen & Pederson, 2017). The agile approach was meant to work more closely with the customer by encouraging changes throughout the project development to improved support the customer needs (Henriksen & Pederson, 2017). Agile methods are different and are known to be more iterative and incremental (Henriksen & Pederson, 2017). When using the agile method to project management, managers must rapidly acclimatize to shifting priorities (Henriksen & Pedersen, 2017).

Several forms of agile project management exist. A popular agile methodology identifies as SCRUM (Machado, Pinheiro, & Tamanini, 2015). The process of SCRUM involves a set of consistent steps and practices applied to software development methods that complete products or services in a shorter time, without compromising quality (Machado et al., 2015). The difference between Agile and SCRUM pertains to the

method, with the SCRUM method the more prevailing within the development of software projects (Machado et al., 2015).

The purpose of the review conducted in this section was to present the different project management methodologies. These project management methodologies are consistent with the data expected to compile from the research question of exploring the strategies used for the successful management of human resource planning of IT projects. The different project management methodologies were used to inform the responses of the participants during the presentation and evaluate the results of the study.

Project Tools

Project managers deal with difficult projects with numerous perplexing duties. Even with their assortment of difficulties, they help group projects to fulfill their goals, while executing their obligations without much effort (Packendorff, Crevani, & Lindgren, 2014). While others require computational devices (e.g., using a supporting program to implement the project), other managers require manual work, and project managers choose their administration apparatuses reasonably to pitch on projects that best suit their style and approach to implementing their plan for success.

Project managers require a diversity of tools to effectively achieve project outcomes. Gantt Charts and Program Evaluation Review Techniques (PERT) are task administration devices that encourage the achievement of tasks with limited issues (Packendorff et al., 2014). These venture administration devices are typically obtained physically and may appear through financially-accessible programming. PERT offer an arranging and controlling device that characterizes and plots the assignments that make

up a task. Typically, the showed works demonstrate which parts are performed before the others in each grouping to expand the implementation of a project (Ng & Coakes, 2014).

Supervisors utilize a realistic portrayal known as Project Network to translate the interrelationships of a task's components to build up the request in which the facilitators play out the exercises of a venture (Zhengqi , Dechun, Changzheng, & Junmin, 2018). Undertaking groups utilize the Gantt diagram to make the date-book course of events of the venture's errands and assignments regarding days, weeks, and months (Packendorff et al., 2014). These undertaking apparatuses utilize realistic portrayals to start, design, and enact the considerable number of assignments involved in completing a task (Song, Zhan, Zhang, & Wu, 2017). Gantt diagrams are particularly influential in one following the advance of an undertaking (Song et al., 2017).

Project Planning

The nature and importance of individuals experiencing flow include many employees working on the support needed when planning, managing and delivering projects (Glovis, Cole, & Stavros, 2014). PERT strategies include the minimum, maximum, and most likely scenarios in project calculations (Jing, Chen, Zhang, Li, & Zheng, 2013). No best method or estimation tool exists because of the lack of stability in the core relationships (Jorgensen, 2014). Hence, we use PERT calculations to compare the results against the results of a discrete time that approximates the original problem (Yaghoubi et al., 2015). PERT calculations used in many projects relate to calculations, and they remain significant to the current study on project planning and project success and failure rates (Habibi, Taghipour Birgani, Koppelaar,& Radenović, 2018).

The benefits of project planning can include improved safety in some industries, cost savings, and time savings. The possible savings are accessible to organizations with little to no cost from the improved elicitation of project requirements through to project planning (Projects, 2018). Improved project planning also diminishes the risk of encouraging stakeholders when working together (Balfe, Leva, Ciarapica-Alunni, & O'Mahoney, 2016). Practical tactics for enhanced project planning consist of scope, project scheduling, and design. Without these recognized areas, realizing a positive outcome is problematic (Vaagen, Kaut, & Wallace, 2017). The cost and duration of a project remain challenging tasks when planning events (Stylianou & Andreou, 2016).

Project planning has a critical role in several industries, including industrial environments, construction, and healthcare industry. The safety of the employees requires the collaboration of the several departments to obtain the clear planning of project work needs as well as the required resources in an industrial environment (Balfe et al., 2016). The construction industry is well-known for the high elements of danger to complete construction work. Project planning demands that certain requirements stay included in many construction projects because of the varying work requirements (Ganah & John, 2017). The healthcare industry has its own set of challenges that could affect the safety of the patients. The planning of technology-related projects in a healthcare setting can reduce clinical mistakes, support the clinical staff, and expand patient information management in isolated communities (Sligo, Gauld, Roberts, & Villa, 2017).

Project Scope

Instability and complexity are the usual issues encountered in product development organizations looking to manage project scope (Abrantes & Figueiredo, 2014). Project scope management remains fluid and continues to include dynamic situations that require quick decision-making from project stakeholders (Dalcher, 2015). In terms of managing project scope concerns focusing more on organizational structure, processes, and leadership (Wearne, 2014). An investigation of the factors leading to IT project failure, PriceWaterhouseCoopers found that scope changes accounted for the second most reason for project failure, making this a pressing problem to solve in the IT industry (Buchtik, 2013).

Limited information has included project scope identification and documentation. The management of scope in a dynamic environment is not a topic that researchers have covered extensively. The scope is defined by strictly managing the agreed-upon tasks (Dalcher, 2015). In modern business, arrangements require a more flexible arrangement and understanding of scope to satisfy stakeholders and reduce the probability of not achieving project requirements (Dalcher, 2015). This flexibility of scope inherent in IT projects opens the possibility for continual and radical scope changes (scope-creep) that eventually lead to projects not being delivered on time and within budget (Schlauderer, Overhage, & Fehrenbach, 2015).

An approach to managing initial scope requirements to get a clear and workable outline of what the task entails is the use of Work Breakdown Structure [WBS] (Buchtik, 2013). Successful delivery of the IT project depends on efficient planning and managing

scope requirements. The WBS offers a tool for breaking down the scope improve the management of the scope and better describe and explain the scope by focusing on the deliverables instead of a list of tasks. Buchtik (2013) explained that this perspective is more beneficial as it focuses on managing the scope effectively by subdividing the work into manageable portions. One of the most beneficial aspects of the WBS is that it offers increased understanding of the expected project from the start as projects are often ill-described which opens the door for scope-creep, or changes beyond the initial scope (Buchtik, 2013). The PMBOK guide indicated that the WBS is a superior tool in ensuring most projects deliver on time, within scope and budget (Project Management Institute, 2013).

Project Risk

Early warning signs usually occur if a project is going to fail; therefore, there is a clear need for risk management (Haji-Kazemi, Andersen, & Krane, 2013). These issues can derive from the reservations that a project leader may encounter; therefore, the project leader must focus on the primary issue to influence changes that can inaccurately shift the focus of the project development. Lester (2014) stated that influential issues in projects usually derive from a factor of risk, and identification through early warning signs. Therefore, a project manager who achieves success can considerably diminish risk, typically by following a policy of open communication while guaranteeing all participants measurable contribution sensitive to the feedback about the project.

Early warning signs can be weak and vague which means the recognition thereof and identification of exactly where the problem lies, is difficult (Haji-Kazemi et al.,

2013). Although some researchers do not support the notion of early warning signs, others do acknowledge it, indicating that identifying these signs is crucial to risk management. An approach to recognizing early warning signs is the use of earned value management, a system that could predict project outcomes at a very early stage when only a small percentage of the project stands completed (Moradi, Mousavi, & Vahdani, 2017)This system of earned value management utilizes metrics to evaluate the overall health of the project which allows managers to plan projects and identify and solve problems proactively (Haji-Kazemi et al., 2013).

Other ways of early detection of risks include processes generally used in project planning, such as stakeholder analysis, pooling of ideas, determining the extent of project development, comparisons with earlier projects, gut feelings, and managing the project boundaries (Haji-Kazemi et al., 2013). The application of risk identification and management remains uncommonly practiced. For instance, through analysis of stakeholders, the project team is pre-warned of potential discrepancies in project perceptions and the likelihood of a negative effect that may cause project failure (Sols, 2018). Another avenue or risk identification is to determine the maturity of the project development team of the company since immature companies and teams could increase the risk of a project not being within the scope and delivered on time (Haji-Kazemi et al., 2013; Lester, 2014).

Project Resources

The practice of resource leveling in project management is challenging because identified resources are frequently re-assigned to highly valuable projects (Parker,

Parsons, & Isharyanto, 2015). Researchers have shown evidence that resources and the reduced achievement rates of projects are partially associated with one poorly using those resources because of a lack of expertise regarding the constraints of the project (Parker et al., 2015). Failure of a project derives from one enacting faulty planning for a project, as well as struggling with an open communication policy coupled with inadequate or unhelpful resources (Parker et al., 2015).

Organizational leaders have the role of ensuring the availability of correct resources to execute projects successfully (Albliul, Antony, Abdul, & Van, 2014). If the support needed to attain project goals is lacking, then financial and human capital resources may also suffer (Albliul et al., 2014). These leaders must ensure the availability of correct and needed resources before the start of any project (Albliul et al., 2014). These resources may include actions that include training staff to implement the project successfully, as well as the funds required to effectively start and finish a project for an institution (Albliul et al., 2014).

Project Human Resources

Establish Project Team

The process of establishing a project team needs to examine the requirements of what must be in place for projects to have the best possible chance of success (Lee et al., 2015). Knowledge is an important part of the social capital of a project (Lee et al., 2015). The correct resources need to be in place within the organization to drive project success; otherwise, the organizational leadership may elect to go outside the company and gain the necessary knowledge needed from outside consultants (Lee et al., 2015). Project teams

expect to have competent and knowledgeable project managers who understand the overall project performance and personal skills needed to work toward success (Cullen & Parker, 2015). Some of the necessary skills include critical competencies in project planning, controlling, communicating, negotiating, problem-solving, and the ability to lead others (Cullen & Parker, 2015). Elia and Margherita (2015) suggested experiences with other projects do not ensure that the correct person is chosen to contribute to a project team.

Estimate Project Resources

The workload is the amount of work allocated to a specific amount of time for the assigned employees (Natvig & Stark, 2016). Even though establishing the correct amount of resources in nursing is heavily documented, the method in determining that workload is not (Natvig & Stark, 2016). In other areas of business, virtual teams are commonplace. Virtual teams consist of small groups of temporary, geographical resources which communicate most often in some electronic form of communication, such as e-mail (Zuofa & Ochieng, 2017). In their estimation of project resources, Zuofa and Ochieng (2017) reported that 46% of human resources on any given project includes virtual teams.

Since the beginning of the 2000s, virtual teams have become a popular mode of communication technology in an increasingly team-based organization (Gilson, Maynard, Jones Young, Vartiainen, & Hakonen, 2015). The primary motivations behind organizational leaders utilizing virtual teams are to cut cost and enhance efficiency (Browne, Dreitlein, Manzoni, & Mere, 2016). One main advantage of virtual teams is that different experts can assemble in a single team despite geographical distance (Hertel &

Orlikowski, 2015). On the other hand, the disadvantages of virtual teams include a lack of face-to-face interaction, which can restrict the opportunities for communicating with members (Hertel & Orlikowski, 2015).

One of the suggested success factors in virtual teams is the utilization of shared or distributed leadership (Hertel & Orlikowski, 2015; Hoegl & Muethel, 2016). Shared leadership can benefit virtual teams by encouraging members to contribute and enhance accountability and responsibility (Hoegl & Muethel, 2016). When virtual teams led by authoritarian leaders who refuse to share leadership, team members are not likely to reach their full potential; in turn, the performance of the entire team is likely to become jeopardized (Hoegl & Muethel, 2016).

The popularity of virtual teams implies the successful management of human resource planning. To cope with a globalized workforce where employees communicate through technology and quick decision-making, organizational leaders have relied on virtual teams (Winter & Chaves, 2017). The use of virtual teams, however, can remain challenging when involving international members because of cultural and linguistic differences (Meyer & Xin, 2017). These cultural and linguistic differences underscore the importance of intercultural competence in virtual teams that have international members (Meyer & Xin, 2017).

Organizational leaders have used virtual teams to facilitate human resource planning (Browne et al., 2016). Given that human resources are one of the most difficult resources to manage in an organization, virtual teams provide an opportunity for managers to focus on leadership, performance, and teamwork to achieve organizational

goals (Browne et al., 2016). These benefits of virtual teams in human resource management, however, may be offset and compromised as a result of impersonal communication among team members, limited interpersonal communication, and the artificial distance between individuals and organizations (Stone, Deadrick, Lukaszewski, & Johnson, 2015).

The literature on the use of virtual teams in the human resource planning of IT projects was limited. Only a few studies included the identification that specifically focused on the IT management of human resources using virtual teams. In one study conducted by Winter and Chaves (2017), the researchers noted that virtual teams in IT projects require employee mobility and quick and rapid decision-making. El-Sofany, Alwadani, and Alwadani (2014) found that virtual teams have become a popular option for many organizations in industries where geographical dispersion is common. El-Sofany et al. (2014) also found that both hard and soft skills need to be present for the successful management of IT projects through virtual teams. Hard skills pertain to technical skills, whereas soft skills include skills such as leadership, communication, and teamwork.

Plan Human Resource Management

The traditional method of planning human resources within a project includes the initiation by the Project Management Institute guidelines working towards project success (Engelbrecht, Johnston, & Hooper, 2017). IT projects have included studies that include the importance of planning IT projects with experienced resources (Engelbrecht et al., 2017). One of the most prominent theories is strategic management theories, which

include RBV (Almarri & Gardiner, 2014). The planning of human resources is essential to the resource-based theory, with the concluding resources driving an organization's competitive advantage particularly in project management (Almarri & Gardiner, 2014; Engelbrecht et al., 2017).

Monitor and Control Project Team

In the monitoring phase of the project, several processes transpire at the same time shown in the Project Management Body of Knowledge (Cullen & Parker, 2015). During the monitor and control phase of a project, the project manager works to minimize uncertainty and risk with the project by using prior methods and strategies that have historically worked in the past (Cullen & Parker, 2015). Some projects include the need for tolerance limits and controls when restrictions on resources are expected (Martens & Vanhoucke, 2017). Senior management level resources often outline goals founded on prior statistics before they monitor and control projects to review the measurement and performance of the business goals (Capability Maturity Model Integration, CMMI, 2016). Figure 1 shows the processes involved in monitoring and controlling project teams based on the PMBOK Guide (PMI, 2013, p.50).

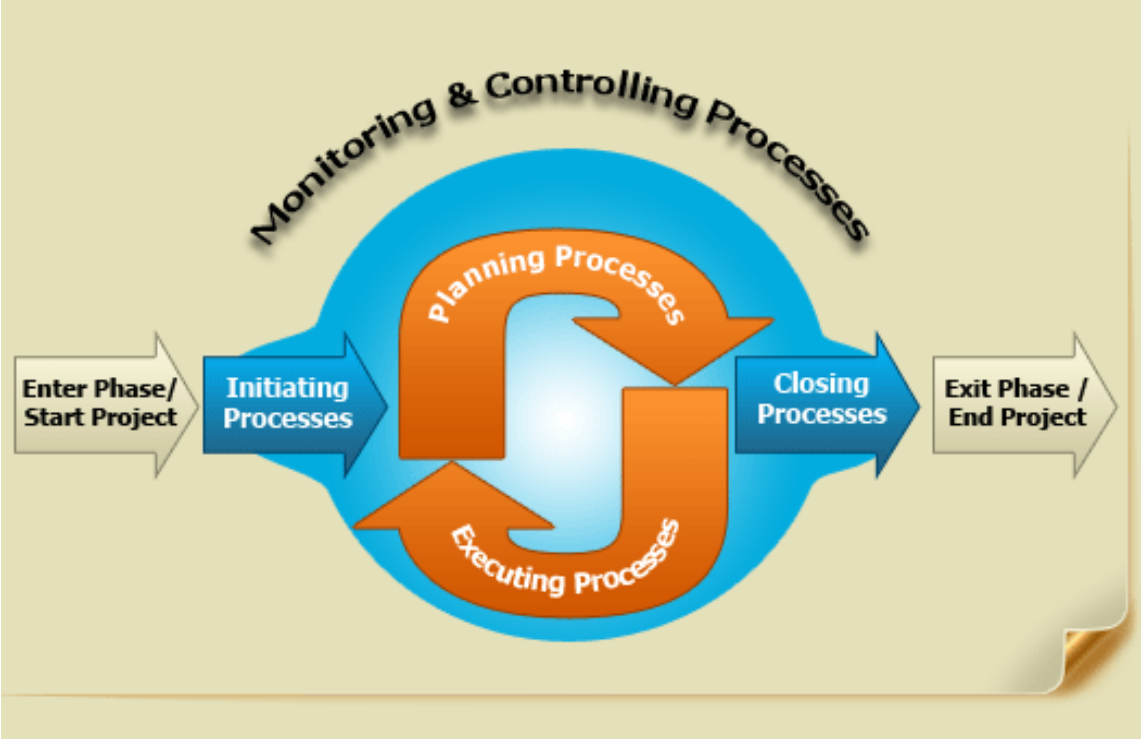

Figure 1. Monitoring and controlling processes. Source: *PMBOK Guide* (PMI, 2013, p. 50). Note: reprinted by permission (see Appendix D).

Managing a Project Team

Understanding the human factors is an essential component of managing a project team (Baumann et al., 2015). The human resources necessary to manage a project team include the personalities of the stakeholders, and the human decision-making process, including the motivation on why project members do what they do (Baumann et al., 2015). In taking the human factors into account when communicating with the project team, the project manager should adjust the communication levels to accommodate each team member's needs and preferences. The success or failure of the execution of a project could influence project team members' behaviors, as well as the alignment to the project objectives with the understanding of the members (Baumann et al., 2015).

Complex projects related to information technology include negative emotions from the project team that can sometimes result in project success when managed with teamwork (Stephens & Carmeli, 2016).

International team management faces many different challenges, such as time differences and culture, for example. In managing time differences around the globe, the use of WBS can be successful as it allows for adding country flags to team members' profiles thus alerting the team of having to allow for time zone differences (Buchtik, 2013). Time zone differences must be managed to allow each member sufficient participation opportunities as team members' contributions are important and the psychological effects of being left out can be devastating on the project quality. When setting up international teams, it is vital to provide training on cultural and customs differences to ensure smooth teamwork and improve collaboration between members (Communication Management in Global Software Development Projects. (2018). Mutual understanding and appreciation of cultural differences in international teams are essential to project success (Buchtik, 2013). Human resource management remains a challenging area as humans are complex and multifaceted beings, this issue might remain overlooked by project managers in the IT field, it is, however, imperative to promote and maintain the collaboration between team members and to satisfy each team member's psychological and physical needs in managing the project.

Other Resource Implications to Project Success

One of the most important resources in project management involves the process of scheduling a project (Markou, Koulinas, & Vavatsikos, 2017). Project scheduling

involves the organization of important resources within the complexity of a project (Markou et al., 2017). The execution of project activities includes other resources, such as machines, materials, and equipment that make up the sum of project-related activities (Markou et al., 2017).

Material resources on a project are essential to managing the cost of the materials used to execute the project (Jusoh & Kasim, 2017). One of the industries impacted by the cost of material resources is the construction industry (Jusoh & Kasim, 2017). The teaching profession relies on resource materials to deliver an optimal educational experience (Ekler, 2015). Manufacturing projects include the need for efficient machinery to optimize output and increase the potential for project success (Hees et al., 2017).

Project Failure

Researchers have varied definitions of project failure based on the ways in which a stakeholder may view the project's development or goals. Failure may occur owing to a number of causes, such as faulty processes, products, workers, or machinery, which can lead to leader mistakes (Janssen, Voort, & Veenstra, 2015). Janssen et al. (2015) noted that influential projects have a higher probability of failure because of the subtleties one may face while managing a project. Despite the known risks for failure, IT projects continue to be demanding.

Many uncertainties can exist in a project, and project managers work with that knowledge at any given time. Carvalho and Rabechini (2015) directed an investigation to examine the association between project success and risk management with the

consideration of project complexity, including what type of project can affect project performance. The results revealed the importance of soft skills and hard skills for project managers.

Managers and project leaders overestimate their capabilities to effectively manage IT project successfully (Dwivedi, Wastell, Laumer, Henriksen, & Myers, 2015). Montiero de Carvalho (2014) found that the communications area strongly associated with the accomplishment or catastrophe on IT projects. To combat the high rate of IT project failure, organizational leaders are now incorporating several IT professionals with different roles to compensate for project complexity (Rivera-Ruiz & Ferrer-Moreno, 2015). Regardless of the effort shown in research, IT projects are increasingly complex and continue to fail at a high rate.

Pinto (2013) identified a number of factors of project failure, which include using a project to create novel services and products for consumers, improving the flow of operations, implementing new IT, and conducting research and design. Owing to low past performance success, companies worldwide seek employees with proficient skills in project management to hire someone with the knowledge required to minimize failure (Pinto, 2013). The leaders of these companies know that project managers must have a certain skill set to achieve success; therefore, this represents an important issue for the current study.

Lehtinen, Mantyla, Vanhanen, Itkonen, and Lassenius (2014) suggested that software project failure has well-known causes. The investigators examined four institutions. The goal of the study involved understanding the causes of failure of projects

from IT-related institutions, such as a lack of process enhancement skills. The results of the analysis, however, indicated there was no solitary source behind a project failing in the IT industry. Failures from IT and software can develop many issues for the company, such as those deriving from technical and social motives (Lehtinen et al., 2014).

With the importance and the increasing demand to use project managers in more organizations, the importance and impact of a study on project managers have increased. Medina and Frabcis (2015) concluded that it is important to understand the technical subject matter for good project management, particularly when framed through the understanding of a problem's advantages and disadvantages. If results are not understood, Medina and Frabcis (2015) confirmed why the lack of understanding is a problem and could contribute to project failure.

Early Warning Signs of Project Failure

Researchers examined the cautionary signs behind the failure of a project. Because warning signs have been identified, project leaders can access this knowledge to avoid any failure in a project effectively Idris, Norfarahhanim, Hisham, Wesam, & Nasir, 2018). aji-Kazemi et al. (2013) examined the early warning signs of project failure how these signs can be recognized and understood. Haji-Kazemi et al. (2013) focused on various methods of recognizing these cautionary signs. The researchers found that the cautionary signs remained systematized contingent on the type of collected data.

Contributions to a large, transformational project must take into account a considerable chance for failure because of the subtleties that brand the management of projects difficult. As a result, projects in IT organizations remain challenging,

notwithstanding that various concerns are well known (Janssen et al., 2015). Predictors of failure include a significant project that requires a large quantity of information to comprehend the dynamics of a project. Any design errors that organizational leaders encounter while designing and executing a project can have adverse influences on the project, which can include the occurrence of any worker-related accidents and possibly lead to a loss of life (Lopez & Love, 2012).

Critical Failure Factors

Essential factors in the estimation of task failure incorporate: (a) connection among association and outside contractual worker, (b) official help and venture sponsorship, (c) business case, assessment, and monetary administration, (e) staff execution, (f) after death process, (g) size and intricacy of undertaking, (h) venture administration and hazard administration, (I) prerequisites and extension administration, (j) partner correspondence, (k) representative protection, (l) change administration, (m) incorporating a plan, (n) assessing the pilot stage, (o) staff turnover, and (p) preparing employees with training (Hughes, Dwivedi, Simintiras, & Rana, 2016). Gaining knowledge from disappointment is the focal target to gauge why ventures come up short. Undertaking often comes up short when projects are entrepreneurial. Gaining knowledge from different undertaking failures would provide information to help the outcomes of an examination.

One method that is useful to gather knowledge about the critical failure factors of a project is using existing maturity models to compare how an organization functions when compared to certain standards. One example is the examination of organizational

processes using the Lean Six Sigma, which initially focused on the customers' requirements to achieve a product free of defects (Vijaya Sunder, 2016). The Lean Six Sigma can identify critical failure factors by using the standards of the model to gauge how an organization is functioning (Albliwi, Antony, Abdul Halim Lim, & van der Wiele, 2014).

According to Shepherd et al. (2013), "reducing employees' negative emotions from project failure can ensure we will learn from the failure" (p. 20). Project managers require the ability to work with competent resources and deal with several long-term project objectives to calculate the rate of project success or failure (Pandya, 2014). The understanding and research of project teams and dynamics show an untapped potential of organizational psychology (Weiss & Hoegl, 2016).

The project manager has a leading role in the project process and oversees the project, the project team, and has the responsibility to end the project successfully (Zare Ravasan & Mansouri, 2016). Project failure can be the product of a project managers' inability to analyze the critical qualities of leadership and determine the benefits and positive impacts to the project team. Important leadership styles include team building, establishing clear project roles and responsibilities, transparency, confidence, organization, and defining the project's critical success factors (DuBois et al., 2015; Zare Ravasan & Mansouri, 2016).

DuBois et al. (2015) concluded that project leaders require skills and technical knowledge, along with positive values, a high level of ethics, innovative rationale, and interpersonal skills. Weiss and Hoegl (2016) examined project planning and execution.

The researchers found that more studies focused on the technical aspect of project management rather than the human side receiving a small amount of attention in comparison (Weiss & Hoegl, 2016). Focusing on the relationship between the penalties of a project failing and the person who becomes indicted with the failure of the said project, Mastrogiacomo et al. (2014) found that operational coordination of a team remains necessary for projects that involve IS.

Transition

Section 1 was an introduction to the research problem. Leadership represents a critical success factor in the determination of the success or failure of IT projects (Nixon et al., 2012). A leader's understanding of human factors plays a primary role in the successful management of a team for a project (Baumann et al., 2015; DuBois et al., 2015). The successful engagement, management, and direction of human resources are important in any organization, and hence underscore the significance of leadership in the success of IT projects (Pournader et al., 2015). The benefits of effective human resource management not only involve increased organizational profits, but also improved outcomes for different stakeholders (e.g., personnel, consumers, civilization, and other institutions (Pournader et al., 2015; Schuler & Jackson, 2014).

The conceptual framework of the study centered on the RBV theory, which highlights the valued, unusual, and unmatched assets that give a company competitive advantage (Barney, 1991). Knight (1921) developed the RBV theory; however, Penrose (1959) popularized the theory and received most of the credit for its development. Penrose looked at the organization as a broad set of resources (Dassler, 2016). I used the

main tenets of the RBV theory to frame the discussion of why the participants identify the specific strategies needed to successfully manage the human resource planning of IT projects.

Section 2 comprises an in-depth discussion of the proposed project. The proposed project involves the exploration of the strategies organizational leaders use for the successful management of the human resource planning of IT projects. Topics included in Section 2 are the following: (a) the purpose, (b) researcher's role, (c) discussion of participants, (d) discussion of the investigation method and design to be used, (e) inclusion of population and sampling, (f) ethical issues regarding the research, (g) instruments to be used for collection of data, (h) the technique to be used when collecting data, (i) the process of organizing data, (j) the analysis of the data, and (k) a discussion of reliability and validity.

Section 3 will entail an in-depth presentation of the application of the conclusions to specialized practices and implications for evolution in the thinking of the industry. The section will include the qualitative outcomes. The section will also include a recommendation for future practice and research, as well as considerations.

Section 2: The Project

The objective of this qualitative multiple case study was to explore the strategies organizational leaders use for the successful management of human resource planning of IT projects. Organizational leaders in the Northeast United States who have instigated effective human resource planning strategies in their management of IT projects served as the population of the investigation. The multiple case study included five IT project managers and five IT directors. The study outcomes can lead to a positive social evolution regarding access of the public to improved IT projects and the potential strengthening of research funding for IT management. The results of this study could also benefit the economic progress in the Northeast United States area because of the potential reduction of project failures.

The proposed project involves the exploration of the strategies organizational leaders use for the successful management of human resource planning of IT projects. This section will deliver a detailed dialogue of the project. The issues included in this section are the following: (a) the purpose, (b) researcher's role, (c) discussion of participants, (d) discussion of the investigation method and design to be used, (e) inclusion of population and sampling, (f) ethical issues regarding the research, (g) instruments to be used for collection of data, (h) the technique to be used when collecting data, (i) the process of organizing data, (j) the analysis of the data, and (k) a discussion of reliability and validity.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the strategies used for the successful management of the human resource planning of IT projects. The specific population of the study comprised 10 organizational leaders in the Northeast United States who have executed effective human resource planning strategies in their management of IT projects. The sample included five IT project managers and five IT directors. The outcomes of the investigation can lead to a change in society regarding public access to improved IT projects and the potential strengthening of research funding for IT management. The outcomes of this investigation could also benefit the economic progress in the Northeast United States area from the potential reduction of project failure rates.

Role of the Researcher

I was the primary instrument for the collection of data in this study. The investigator is a crucial component of ethnographic investigations and other types of qualitative research (Draper, 2015; Yin, 2018). No direct or private relationships with any participants in this study took place. A researcher's role involves collecting data, analyzing data, and providing the results of the study ethically while remaining unbiased (Khan, 2014). I gathered results from the data found when conducting personal interviews and other supplementary documents the participants used, such as project planning documentation. After the collection of data completed, I evaluated the collected data by looking for patterns and themes.

I have more than 15 years of IT project management practice and completed a Master's of Business Administration degree with a specialization in project management. I also hold professional certifications as a master project manager (MPM) from the American Academy of Project Management, along with professional Six Sigma Greenbelt certification. The experience accumulated through my education and certifications have prepared me to complete the study.

I conducted ethical research, with no impairment to participants, safeguarded voluntary permission and anonymity, and kept all correspondence confidential. I did not upset the collection site to communicate the intent and purpose of this study to his participants. I conformed to established ethical etiquette, as described in the Belmont Report (1979), including the morals and values of investigations that involve the use of human subjects. The Belmont Report covers the requirement to respect the participant, not harm when maximizing benefits, minimize any risk to participants, and justly dispense fairness across all research participants (Adashi, Walters, & Menikoff, 2018) The goal is to comply with all ethical protocols as designed by the Walden University Institutional Review Board (IRB) and the American Psychological Association (APA).

Participants

Yin (2018) indicated that participants of the study are required to know the subject matter. Investigators must also guarantee that the sample supports the predominant research question in qualitative research (Robinson, 2014). Organizational leaders in the Northeast United States who instigated effective human resource planning strategies in their management of IT projects served as the population of the study.

Investigative outcomes derive from the expertise of the content and how the individual is engaged in his or her surroundings and their prior experience with similar circumstances (Caley et al., 2014).

Three key criteria were required to be eligible for the study as participants. First, leaders must have actively participated in five or more IT projects that included the planning of human resource-related projects. Second, leaders and IT project managers had three years or more experience working with IT-related projects. Third, the participants included those employed by the organization that relates and identified with work primarily involved with the IT-related projects.

I gained access to suitable participants through the recruitment of potential participants using the LinkedIn website groups of IT business leaders. Since August 2016, LinkedIn indicated they had more than 450 million assimilated operators in more than 200 countries and regions; moreover, the website is obtainable in 24 different languages (LinkedIn, 2016). Data about the specific participants remained confidential and sequestered. The process of interviewing included and outline of information I required to conduct the interviews (see Appendix A). I identified the questions used for the study (see Appendix B). My study required the evidence of ethical compliance that met Walden University requirements . I developed and used an informed consent form in before completing my study.

LinkedIn comprises of thousands of operators who are part of project management and leadership clusters and have operated or managed ventures previously; therefore, these Internet users may also represent potential participants (Benoit, Bilstein, ,

Hogreve, & Sichtmann, 2016). By messaging group members, I asked active members if they would like to participate in the study voluntarily (see Appendix D). Email was the best communication method to contact potential participants. The communication that went to this group was a good fit for the needed population because it includes a community of organizational leaders familiar with IT projects in their regular assigned professional duties and activities.

The initial email contact to those who volunteer to participate included: (a) an informative introduction to the study, (b) an overview of the survey, (c) information regarding confidentially of participation, and (e) my contact details to confirm and document participation and study details. Through this communication exchange, I scheduled phone calls with each participant of the survey developing a relationship with each of the participants. The rapport established with each participant is important to determine the participants' level of interest and sensitive response (Patel, Jensen, Lai, Patel, & Jensen, 2016).

Research Method and Design

Research Method

The research method chosen for this study included the qualitative method. Qualitative research methods focus on individuals' attitudes, behaviors, and motivations (Barnham, 2015). The qualitative method of research builds theories based on the themes developed from the experiences and perceptions of a small group of participants (Dasgupta, 2015). I selected a qualitative method because of the anticipated flexibility required to address the business issue and accomplish an exhaustive examination of IT

project human resource plans that may progress the IT project performance. I obtained study approval from Walden University to conduct external research on June 14, 2018. The approval number is 0325468.

In divergence to a qualitative investigation, quantitative examination methods involve testing unbiased philosophies when observing the association between variables. In comparable research, quantitative researchers show that institutional management understands the necessity for experienced personnel who can effectively maintain a minimum of failure in a project, and in particular, avoid failures attributed to human error in IT project necessities preparation (Trejo, 2016). Other quantitative research methods consist of quasi-experiments and randomized controlled experiments (Williams et al., 2016). A quantitative method is fitting when the purpose of the investigation embraces responding to questions relating to how much or how many (McCusker & Gunaydin, 2015). A quantitative method was inappropriate for this investigation because I have no intent to quantify a phenomenon or test the relationship between variables.

Research Design

When the objective of a researcher is to examine a phenomenon in its natural context without manipulation using multiple sources, a case study design is most suitable (De Massis & Kotlar, 2014). Yin (2018) stated that a case study was suitable when the researchers aim to describe a multifaceted phenomenon. A shared criticism of case study methodology is its deficiency of generalizability because a case study cannot evidence itself in statistical logic (Chen, Lee, & Chou, 2016).

In a qualitative case study design, a researcher must decide whether to use a single or a multiple case design (Dasgupta, 2015). Therefore, the choice to use multiple designs, as opposed to a single-case design, needs to be evaluated cautiously (Anderson, Leahy, DelValle, Sherman, & Tansey, 2014). A multiple-case study includes a plan of around two or more studies (Yin, 2018). Multiple-case designs permit for reproduction in data collection across sites and could become advantageous in comprehending the problem under the study (Ridder, 2017).

For this multiple case study, the units of analysis were organizational leaders in multiple organizations. Organizational leaders included IT directors and IT project managers. According to Yin (2018), methods of data collection in case studies include archival records, interviews, documents, participant-observation, direct observation, focus groups, and physical objects. In this study, the data collected used individual semistructured interviews comprising five IT project managers and five IT directors and project documentation.

Population and Sampling

Qualitative researchers have the purpose of gaining insights about a phenomenon directly from the perspectives of the participants in the investigation (Tavakol & Sandars, 2014). According to Tavakol and Sandars (2014), the sample size in qualitative studies is usually a small, non-random selection of the targeted population. Boddy (2016) noted that the problem of what establishes a fitting sample size in qualitative research would only become liable inside the background and scientific example of the research investigated. Malterud, Siersma, and Guassora (2016) proposed the size of a sample

through adequate evidence based on the purpose of the study, model specificity, practice of recognized theory, the excellence of discussion, and the study approach.

Data saturation is often used to determine the appropriate sample size in qualitative studies (Hagaman, & Wutich, 2017). Data saturation is paradoxically evaluated and stated (Morse, Lowery, & Steury, 2014). What is valid for data saturation is not necessarily enough data for other studies because "there is no one-size-fits-all" process to achieve saturation of data, and "many designs are not universal" (Fusch & Ness, 2015, p. 20). The technique of sampling data until saturation reaches the primary explanation for the use of a specific sample size remains the same in any qualitative research (Boddy, 2016).

The use of purposeful sampling helped to obtain the required sample of five IT project managers and five IT directors who regularly work on IT-focused projects located within in organizations situated in the Northeast United States. The justification for the sample size occurred with data saturation, wherein 10 participants is the minimum number needed to reach saturation (Francis et al., 2010). The basis of the criteria included the following: (a) the qualitative design of the study, (b) the commitment to gather in-depth information, (c) the similarity of the IT project manager and IT director population required by the case, (d) the usage of conventional theory in the study design, and (e) the practice of thematic examination. Qualitative researchers use purposeful sampling mainly to assemble a group of participants who can provide significant data about the subject of importance (Palinkas et al., 2015).

The qualified members of the study needed to have previous accomplishments in the planning of human resources in IT management projects. In addition to experience, leaders must have actively participated in five or more IT projects that included the planning of human resource-related projects. Specifically, IT directors and IT project managers had three or more years of experience working with IT-related projects. The sample was suitable for the research because the participants have worked primarily with IT projects and are actively employed to provide understanding of the research question. The plan required to exclude any potential participant that I had a current working relationship with so eliminating the potential for bias.

Ethical Research

It was necessary to ensure that the study conformed to the official ethical recommendations, as demarcated by the educational organization and the administrative commission. A certificate of ethical compliance that met Walden University requirements confirmed the understanding of the researcher responsibility to protect the human research participants. I designed an informed consent form for the volunteers in this investigation to sign before I started the data collection process. Contributors signed an approval form from the investigative commission, which will allow me to conduct the research (Resnik, 2015).

The standards for ethical practices were included in the approach, as well as adherence to all regulations and responsibilities, as specified by formal establishments. Adhering to moral standards allowed me to rationalize at any given time or to any given person of interest, including what is in the plan, the importance of actions, and how the

actions become planned. The reasoning is “because unlike social and psychological or medical research study, a project management research study requires” thinking critically and achieving goals ethically (Moylan & Walker, 2014, p. 20). Resnik (2015) suggested the researcher should “explain their rights and their obligations once they sign the informed consent form, and the withdrawal procedure” (p. 20). The proposed study contained no monetary reward for participating in this study. I advised participants that early withdrawal will entail contacting me through email or phone. Providing my contact details will allow the participants to express their withdrawal from the study regardless of their reasons.

I advised participants on their privacy rights prior to beginning the interview as part of my interview protocol (see appendix A) and with a notification in the informed consent form. Privacy rights are to ensure that the contributors, who may not want their identities to be recognized, can have less stress, knowing that no names disclosure to third parties will take place (Bryman & Bell, 2013). I will keep all data securely locked for five years to safeguard the discretion of any contributors. Such actions will consist of stopping approved disclosure of the data given by contributors, fortifying the respondents’ names and identities, along with keeping the research data for five years once the study is complete (Hardicre, 2014). Appendix A comprised the agreement document, as well as the references located in the table of contents. The safe storage will ensure that future researchers can access their data conclusions and utilize the data for their outcomes (Resnik, 2015).

Data Collection Instruments

Using semistructured interviews, I was the principal data collection instrument of this case study. The data collection process comprised the interview process and the permission to enhance the credibility of the transcripts through member checking. The interview protocol (see Appendix A) and the detailed interview questions (see Appendix B) prepared for the case study. The introductory request (see Appendix D) for participation to be sent to project management groups comprised the initial contact with potential participants. Once the participant's involvement was confirmed, the documentation and approved consent form included the agreement of participation with a signature request to validate the mutual agreement between the interviewer and the participant.

The interview protocol is a primary data collection tool for qualitative studies (Zhang, Kuchinke, Woud, Velten, & Margraf, 2017). The use of the interview protocol was a tool to collect data from the research contributors forms a part of the proposal. Throughout the interviews, open-ended questions were used to allow contributors to reflect on their lived experiences while delivering a thorough response. In previous research, there were no statistically noteworthy variances among the face-to-face and telephone samples measures for potential anxiety in the interview methods (Zhang et al., 2017).

According to Burau and Andersen (2014), data triangulation and transcript review can improve the reliability and validity of the instrument used for the collection of data. The triangulation of data by comparing and contrasting the results generated from the

semistructured interviews consisted of the collection from IT directors and IT managers. This process enhanced the reliability and validity of the interview guide by ensuring that I supported the findings from different sample groups. Once the data collected in the interview process ended, I directed evaluating the data collected for transcript accuracy. A transcript review enhanced the reliability and validity of the interviews.

Data Collection Technique

Data collection started with the recruitment (see Appendix D) of participants through several Groups on LinkedIn that I belong. These groups included Project Manager Community - Best Group for Project Management, IT Project Management, PMI Baltimore Chapter, and ITPM - IT Project managers. These groups gave managers access to data and support that were helpful in the effective management of projects and teams.

Gaining access to suitable participants came from the recruitment of potential participants using the LinkedIn website groups of IT business leaders. LinkedIn comprises thousands of operators, who are also part of project management and leadership clusters and have operated or managed ventures previously; therefore, these Internet users represented potential participants. The ability to ask active members through messaging group members who would like to participate in the study voluntarily was a part of the strategy. Email was the communication tool to contact participants. The communication was suitable for the needed population because it included a community of organizational leaders familiar with IT projects in their regularly assigned professional duties and activities.

Collecting data using individual semistructured interviews was part of the progression. The interviews conducted were either face-to-face or via telephone, depending on the preference of each participant. The agreement included the participants preference with the return email. The strategy included the method of the interview on the request of each participant. The interviews were conducted in a private office so that participants could have privacy. The digital recording of interviews included the transcription of data.

For both methods, the interviews commenced with an introduction and reiteration of the key components of the informed consent form, such as the purpose of the study, privacy, length of the interview, and consent for audio recording. I gave the participants the opportunity to ask questions. The participants' background information, such as their role in planning human resources in IT projects and years of human resource planning with IT projects experience, was included in the proposal. At the end of the interview, I gave each of the participants my contact information should they have any questions or concerns related to the investigation or their participation in this study. The need for project documents was made at that time to substantiate their role in planning IT projects and human resource planning. Further, I reminded contributors that they could withdraw from the study at any point.

The section below includes the specifics relating to the series of open-ended questions to discover the strategies organizational leaders use for the successful management of human resource planning of IT projects. The same set of questions were

used for face-to-face and phone interviews. The complete set of questions is attached in Appendix A. The questions used in the interview guide included the following:

1. What strategies do you use for the successful management of human resource planning of IT projects?
2. How do you define the success of human resource planning in IT projects you have worked with or were responsible for?
3. How would you identify key barriers to the management of human resource planning of IT projects?
4. What strategies worked the best in the management of human resource planning of IT projects?

I employed face-to-face interviews to negotiate with the participants. To ensure privacy, the interviews were conducted in a private office at the most convenient time for the participants. The interviews were approximately 45 minutes in length. Following the interview, the participant and I discussed the process of member checking. Member checking took place immediately after the interview to assure statements made were accurate. The process included informing the participants to expect a duplicate of the transcription of the interview sent to their email address. I stated that all contributors should review the transcripts for correctness to identify errors. Participants were given one week to review the transcripts and provide any project related documents to substantiate the provided input.

My interviews included 5 IT Project Managers and 5 IT Project Directors. No one backed out of the study and participated as requested. All participants completed and

returned the informed consent form as requested within 5 days of acceptance to participate in the study. The study was strictly voluntary, and no cash was offered as incentive. I wanted to use only participants without any other motives including payment as potential bias towards the findings and conclusions of my study.

The arrangement for the time of the phone call was scheduled and confirmed in advance of the interview. The interviews were digitally recorded using a Samsung model SM-G900A Android version 6.0.1 voice recording application on my cell phone. A research log is recommended to keep track any potential bias of the researcher (Jauhar & Tajuddin, 2015). An audit trail uses a log of all research encompassing certification of the investigation actions that occur in the plan. I added an interview log to demonstrate the setting and context of the data collection. This process entailed taking notes throughout the study, in addition to the recording of research decisions taken and any bias in research identified. No bias was identified through this process.

There are numerous types of standard project documents that were appropriate to this study, such as, project charter, resource breakdown structure, project requirements document, communication plan, lessons learned, and others. I asked my study participants to email pertinent project documents to me at the end of the interview. I used these documents to increase the trustworthiness of my study by triangulating these documents with my synthesized themes. One impediment of using documents as study data is that documents may well not accurately reflect actual methods or processes (Merriam & Tisdell, 2015; Yin, 2018). All documents were stored and cataloged to

preserve accurate records of the documents I stored all data in a locked system as required and I will destroy the documents after 5 years of storage.

Data Organization Technique

Securing both electronic and hard copies of the data protecting the participants were a part of the actions taken to organize data. Random alphanumeric markings were used to label the files to conceal the real names of the participants. I secured the electronic data in a password-protected folder stored on my personal computer. I will store all hard copies of the data in a locked cabinet, as stated in the proposal, which also states the need to discreetly conceal all paper-based documents, such as informed consent forms and personal notes, by placing all documents in sealed envelopes.

The proposal contains the removal and destruction of all data after five years. I will remove all electronic data from my hard drive after the required time period until the necessary storage time has elapsed and will not keep a backup copy on the hard drive. The next step consists of the permanent destruction of all hard duplicates of the data by personally cutting the paper files into shredded pieces through a shredder.

Data Analysis

Triangulation is one of the hallmark characteristics of the case study (Hussein, 2015). For this study, I used data triangulation to strengthen the findings obtained from the two groups of participants: IT managers and IT directors. Data triangulation consists of one using multiple bases to confirm the validity or credibility of study outcomes (Hussein, 2015). The triangulation of the data concluded when finding commonalities and noting the discrepancies in the responses of the five IT project managers and five IT

directors. When I applied the collection and analysis in semistructured interview data, I also utilized methodological triangulation when I collected and analyzed project documents. The participants of my study supplied documentation to substantiate their input to this study.

The examination became grounded with the review of all literature and the conceptual framework of the study. I coded specific portions of data to reduce the information to a more manageable size. Key concepts, ideas, and findings used from the literature and the selected theory from the conceptual framework informed the coding process (Vaismoradi, Jones, Turunen, & Snelgrove, 2016). Through the lens Resource-Based View or RBV Theory, potential themes included leadership, human resource skills, communication, project requirements, relationship characteristics between project stakeholders and achieving organizational goals. Human capital has been established as a foundation for competitive advantage for an organization, especially when employees know how to execute their jobs effectively to achieve different organizational goals (Albrecht et al., 2015; Delery & Roumpi, 2017).

The specific strategy used in the examination of data composed from semistructured interviews is the thematic analysis. Thematic analysis is a technique often used in qualitative studies to make sense of a large volume of qualitative data (Vaismoradi et al., 2016). Through the process of thematic coding, the ability to determine patterns from central data in the understanding or description of a complex phenomenon develops (Vaismoradi et al., 2016). I applied the collection and analysis in semistructured interview data, and I also utilized methodological triangulation when I

collected and analyzed project documents. The participants of my study supplied project documentation to substantiate their input into the study.

The first step of the thematic analysis is to get accustomed to the semistructured interview data by reading and rereading the transcripts of the semistructured interviews (Braun & Clarke, 2006). At this stage of the analysis, the goal is to search for preliminary patterns from the data source. I used thematic analysis to evaluate my data based on the experiences of the researchers. Thematic analysis is the approach used by Galvin, Gaffney, Corr, Mays, and Hardiman (2017) because of it being methodological and scrutinizing qualitative data. Through the lens Resource-Based View or RBV Theory, potential themes included leadership, human resource skills, communication, project requirements and relationship characteristics between project stakeholders.

The next step involves the coding of data (Braun & Clarke, 2006). I generated the initial codes by assigning names for specific portions of text that had direct relevance to the study. The grounding of the assigned names for the codes from my familiarity with the relevant literature consisted of the selected conceptual framework. At the end of this phase, the comprehensive list of codes came together.

For the next step, I combined interrelated codes in preparation for the determination of themes. This process entailed examining codes that were grouped thematically based on content. At the end of this phase of the analysis, the ability to list all the themes central to the study's research questions was realized.

The next step involves the analysis of the themes of the study's framework (Braun & Clarke, 2006). I examined the themes and determined how the themes fit into the

overarching literature and framework. At the end of this phase of thematic analysis, the capacity to understand the story that addresses the research questions including them based on the themes generated from the conclusion of the study

The next phase of the analysis involves explicitly defining the essence of each theme (Braun & Clarke, 2006). The strategy is to generate a short description of the meaning of the theme that captures the essence of the data using only a few descriptive words so that readers have sufficient information about the meaning of each theme. Becoming acquainted with the data is in alignment with thematic analysis (Fugard & Potts, 2015). For this study, I: (a) transcribed files from the interviews, (b) completed member checking the interview notes, and (c) project documents provided to me.

The final phase of the analysis involves the creation of an integrative report of the case study (Braun & Clarke, 2006). The themes became supported by direct quotes from the participants used to answer the research questions. The integrative report served as the findings of the study.

The NVivo 11® software was used to store and organize the data collected from the semistructured interviews. Compared to other qualitative analysis software, such as Atlas.ti and MAXqda, NVivo® is more widely used in qualitative research because the software is more user-friendly and easier for novice researchers (Gibbs, 2008). The use of NVivo® was to enhance the trustworthiness of the study. Despite the organizational and storage capabilities of NVivo®, I was responsible for the coding of data and the determination of themes. NVivo® and another qualitative data analysis program include

the use heavily in countries like the United States, as well as other countries (Woods, Atkins, & Macklin, 2016). This was relevant to my study since the case was based in the North East United States. Authors such as (Houghton et al., 2017; Woods et al., 2016) endorsed the use of computer supported qualitative data analysis software. I used the software in the research so the participants can thoroughly scrutinize large volumes of data, confirming the quality of their analysis.

Reliability and Validity

Reliability

Reliability refers to the precise replicability of the progression and the outcomes in quantitative research (Leung, 2015). The core of authenticity in qualitative research depends on uniformity (Leung, 2015). The impartial reliability in research is to prove the uniformity and repeatability of research as it is studied (Baskarada, 2014). Establishing the reliability of the study concludes with dependability. Cornelissen (2016) indicated thick descriptions, involving the researcher provide a highly detailed account of interviewees used in the study to include perspectives, options, beliefs, and ideas for context. Marshall and Rossman (2016) and Rosenthal (2016) endorsed member checking as a practice to improve the reliability of findings. I included the following recommendations to my study: (a) attained thick descriptions, (b) included triangulation of multiple sources, (c) transcribed the interviews, and (d) used member checking.

Dependability. Dependability is the extent to which the study results are consistent (Cope, 2014). The strategy includes the use of intercoder reliability to enhance the dependability of the study. Researchers use intercoder reliability to aid and create the

trustworthiness of the findings in qualitative research. (MacPhail, Khoza, Abler, & Ranganathan, 2016). Yin (2018) stated that the use of established interview techniques enriches dependability of the data included in the study and the findings. I used a dependability evaluation when documenting the participants' knowledge and experience associated to the research question. This included the quality of data evaluation, and methods used during the data collection process. My study included the project leaders must have actively participated in five or more IT projects that include the planning of human resource-related projects. I applied semistructured, face-to-face interviews to accumulate rich and dependable data. I involved the participants in 30-minute member checking sessions after the interview to ensure the data collected in the interview wad dependable. Researchers performing a case study use transcript reviews and member checking to permit contributors the chance to detect errors or inconsistencies and verify the accurateness of the interpreted review of the interview data (Hammoum et al., 2014).

Member checking through transcript review included the enhancement and the dependability of the results. Before the interview terminated, the process of member checking was completed by reviewing my notes directly with the participant for accuracy . I informed the participants to expect a copy of the transcript of the interview through email again to ensure accuracy. I included a request that all participants should review the transcripts for accuracy and identify errors.

Validity

The appropriateness of the tools, information, and procedure in qualitative examination make up the validity of the evidence used in research (Leung, 2015).

Whether the study question is useful for the anticipated result, the selection of practice is suitable for responding to the research question (Leung, 2015). Other aspects of validity include that the design is adequate for the preparation and that the sampling and data analysis is suitable (Leung, 2015). Last, the outcomes and conclusions are valid for the model, and the framework is fitting (Leung, 2015). Transference, theories, and the ability to confirm information align with the concept of validity (Morse, 2015). In other research methods, such as the quantitative method, the internal validity concerns the cause-and-effect relationships among treatments and results (Halperin, Pyne, & Martin, 2015). Given that this study is qualitative, I enhanced validity through the strategies of credibility, confirmability, and transferability.

Credibility. Credibility is concerned with the validation of participants' information and the level of confidence in a study (Mazerolle, Bowman, & Klossner, 2015). The careful management of data backs to the trustworthiness of qualitative investigations (Ando, Cousins, & Young, 2014). Mazerolle et al. (2015) established data credibility through peer assessment, numerous analyst triangulation, and stakeholder checks. I amplified the credibility of the research through member checking and data triangulation. It was necessary to seek the help of the participants to review the accuracy of the transcripts directly after participation and after the document was ready for review and verification. Triangulation includes substantiating the findings through several data sources from the different set of participants: IT directors and IT managers (Manganelli et al., 2014). The ability to compare and contrast the data from IT directors and IT

managers remain for triangulation and the use of project documentation to substantiate the data included in the findings of this study.

Confirmability. Confirmability is the degree of the researcher's impartiality and how they represent the results concerning the data collected from the participants (Jauhar & Tajuddin, 2015). A research log is recommended to keep track any potential bias from the researcher (Jauhar & Tajuddin, 2015). The techniques included the aptitude to establish and confirm through an audit trail. The audit trail contained a log of all research encompassing certification of the investigation actions that occur. I added an interview log that demonstrated the setting and context of the task to collect data. Keeping a journal showed reflection throughout the study, along with any research decision and document of the research bias. No bias occurred during my study. I ensured that the study findings reflect the ideas of my participants and not my own.

Transferability. Transferability is the extent to which one can apply the outcomes in other settings or contexts (Cope, 2014; Katie et al., 2016). The scholar who reads this study is responsible for deciding if the findings can apply to other settings. I delivered completed descriptions of the case and the research procedure. This research provided a thorough clarification of the investigative procedures and the transferability of the examination. I provided data about the parameters of the study concerning transferability. The final description included the basis for the case choice and should aid the reader to assess if the data applies to the outcomes of the investigation.

Transition and Summary

The objective of this qualitative multiple case study was to explore the strategies organizational leaders use for the successful management of human resource planning of IT projects. Organizational leaders in the Northeast United States who have instigated effective human resource planning strategies in their management of IT projects served as the population of the study. The multiple case investigation included five IT project managers and five IT directors.

For this study, I used the qualitative research method and a case study research design. The qualitative research method builds theories based on the themes developed from the experiences and perceptions of a small group of participants (Dasgupta, 2015). Yin (2018) stated a case study was appropriate when the researcher was aiming to describe a multifaceted phenomenon.

I acted as the principal data collection instrument of this case study by using semistructured interviews. The use of open-ended questions gave contributors an opportunity to reflect on their lived experiences while delivering a thorough response. The specific strategy utilizing the data analysis collected from semistructured interviews was thematic analysis. Thematic analysis is a technique often used in qualitative studies to make sense of a large volume of qualitative data (Vaismoradi et al., 2016). The process of thematic coding will enable this researcher to determine patterns from the data (Vaismoradi et al., 2016). When I applied the collection and analysis in semistructured interview data, I also utilized methodological triangulation when I collected and analyzed

project documents. The participants of my study supplied documentation to substantiate their input to the study

Section 3 will entail an in-depth presentation of the application of the conclusions to the specialized practices and implications for evolution in the thinking of the industry. The section will include the qualitative outcomes. Also, the section will include a recommendation for practice and research that one may conduct in the future. The strategy also includes my considerations in Section 3.

Section 3: Application to Professional Practice and Implication for Change

Introduction

The purpose of this qualitative multiple case study was to explore the strategies used for the successful management of the human resource planning of IT projects. The specific population of the study consisted of 10 organizational leaders in the Northeast United States who have executed effective human resource planning strategies in their management of IT projects. After interviewing the participants, I performed thematic analysis on the 10 interview transcripts and used NVivo11® to assist in the systematic tabulation of the manually coded themes. This software was vital in determining the hierarchy or importance of the established study themes.

From the analysis, five different thematic categories formed to completely address the main research question: What are the strategies used for the successful management of the human resource planning of IT projects? The thematic analysis then led to the discovery of four major themes and 21 minor themes from the analysis of the Project Managers' interviews, and three major themes and 21 minor themes from the IT Directors' interviews. This section also contains the following: (a) discussion of the findings, (b) application of findings to professional practice, (c) implications for social change, (d) recommendations for actions and future research, (e) reflections, and (f) conclusions. I used project documents as my secondary source of data. The documents provided include: (a) resource breakdown structure template, (b) communication plan, (c) project charter, (d) work breakdown structure, (e) Microsoft project plan and (f) lessons learned documentation.

Presentation of Findings

Findings from Group A: Project Managers

The main research question of the study required an exploration of the strategies used for the successful management of the human resource planning of IT projects. Through thematic analysis of the interviews of the first group of participants, the IT project managers, the following five thematic categories emerged: (a) common strategies employed, (b) strategies in reaching success, (c) strategies or factors in identifying key barriers, (d) proven and best strategies, and (e) strategies in guaranteeing consistent implementation of the successful management of human resource planning of IT projects. From the analysis of the interviews of the IT project managers, four major themes, 21 minor themes, and four subthemes resulted. I considered themes with the greatest number of references per category to be the *major themes* of the study, whereas themes with fewer references were the other significant findings of the study tagged as the *minor themes*, and the subthemes were the additional descriptions of the major and minor themes as needed. Table 1 contains the first group's background and demographics.

Table 1

Group A's Demographics

Participant number	Position	Total years of experience	Location
Participant 1ITPM	IT project manager	6-8 years	Virginia
Participant 2ITPM	IT project manager	15 years	Philadelphia
Participant 3ITPM	IT project manager	20 years	York, PA
Participant 4ITPM	IT project manager	14 years	Baltimore
Participant 5ITPM	IT project manager	10 years	Baltimore

Thematic Category 1: Common Strategies Employed for Success

The first thematic category, commonly used strategies for the successful management of human resource planning of IT projects, includes two major themes and three minor themes (see Table 2). The majority of participants indicated: (a) the importance of assessing human capacity or skills for the project and (b) forecasting of project requirements and availability of resources; these two major themes received four (80%) references each. Meanwhile, three other sets of themes involved methods of: (a) reviewing the planning process, (b) determining the supply and demand of the project, and (c) practicing a blinding recruitment process.

Table 2

Thematic Category 1 (Group A)

Themes	Frequency of references	Percentage of references
Assessing human capacity or skills for the project	4	80%
Forecasting of project requirements and availability of resources	4	80%
Constantly reviewing the planning process	1	20%
Determining the supply and demand of the project	1	20%
Practicing a blinding recruitment process	1	20%

Major Theme 1: Assessing human capacity or skills. Four (80%) of the interviewed project managers believed it is vital to first and foremost assess the human resources or the capacity and skills of the team members for the success of the project. Albrecht et al. (2015) and Delery and Roumpi (2017) corroborated the importance of human capital as a critical factor in creating a competitive advantage over the other organizations. The proper assessment of the capacity and skills of the employees for the project allows for a more efficient process leading to the achievement of the overall project and company goals. These characteristics are also described in the study's framework or the RBV theory where the presence of competitive advantage is the key indicator of an organization's success.

In this study, Participant 3ITPM narrated the necessary steps needed in successfully managing human resource planning of IT projects. 3ITPM shared the need to identify the availability of resources and people and, more specifically, the capacity of

the members to implement and complete the planned project. The use of a resource breakdown structure was used in this example. The participant explained as follows:

> To me, it is looking at your project schedule and determining who you need, when, with what skill sets, and for how long [would you need the person] … [one must also determine if the people] are retained and carried through the life of the project, and documenting who you need or are you going to have [other] people coming?

Similarly, Participant 4ITPM believed in the importance of identifying resources within the necessary skill sets of the employees or team members. Another suggestion was to gather the most skilled employees and ensure their availability for the project as well using a resource breakdown structure document. Participant 4ITPM said,

> You make sure you identify not only the requirements but the end result as expected for the project. And then from there, you need to figure out what type of resources you need, document the needed resource for follow up and then make sure that those resources that you do have the necessary skill sets and the availability.

Major Theme 2: Forecasting of project requirements and available resources. The second major theme of the study, the strategy of forecasting the project requirements and availability of resources, is directly connected to the first major theme where participants reported the need to identify the availability of both people and resources. Again, four participants (80%) identified the theme. The second major theme pertained to the projecting of the requirements, ensuring that the team has the

correct resources for the project until completion. In essence, the project managers closely follow a set of strategies in order to form the best human resource pool (as presented in the first major theme), one that is effectual in successfully completing the requirements and necessities of the IT projects assigned (second major theme). By doing so, the managers solidify their resources and increase their competitive advantage over the other institutions and organizations (Ghapanchi et al., 2014). Simply, the ability of the project managers to search for and hone the skills and sustain the project members may lead to more successful projects and the achievement of their targeted goals in the long run.

Participant 1ITPM termed this strategy as the "forecasting of requirements" wherein as a project manager, 1ITPM works to determine the needed project resources and skills to complete their goals. 1ITPM provided an example of a work breakdown structure document used to capture the task, resource, and skill needed. The participant stated,

> We would be the guide for the project if we wouldn't look into just one project or a couple of projects and so on. When do we think that we will need those skills? First was the skill assessment and forecasting and then the third part was the supplied demand.

Meanwhile, Participant 2ITPM pointed out the significance of ensuring that the correct and complete resources are obtained for their projects. Participant 2ITPM explained how project managers must work with their teams to determine the available resources such as those that they will need in the long run. The example of the document

provided is a Microsoft project plan. The participant also noted forecasting of requirements and resources could help the teams to prepare themselves for the unexpected changes and collaborate with the other departments to acquire any other resources helpful in achieving their mission:

> What is used to start with include things like projects in hand looking at what is available- looking from the organization short term and long-term growth? Once you have an idea – you try to size up what is available to you already – look at all levels and all teams -look at those who have a cross-functional team. If you have shortcoming s-examples - 500 hours of work – look at resources and falling short by 100 hours. You could find out better ways of doing things, and if you are able to, you can pick up a better mechanism. After looking at your project plan , you will need to look at other departments and see if they have any other resources to help.

Thematic Category 2: Strategies Employed in Reaching Success

The second thematic category included exploring definitions of success in the human resource planning of IT projects. From the analysis of the interviews, only one major theme emerged and four other minor themes. The majority of the participants, or 80% of the interviewed project managers, defined success as being able to obtain and secure the right project members. Specifically, the project managers identified the need to provide rewards and compensations to team members, have the knowledge of their roles and responsibilities, and have the ability to collaborate and work effectively. The four other sets of themes receiving fewer references can be referred to in Table 3.

Table 3

Display of Themes Addressing Thematic Category 2

Themes	Frequency of references	Percentage of references
Obtaining and securing the right project members	4	80%
**Providing rewards and compensations to team members*		
**Having knowledge on their roles and responsibilities*		
**Having the ability to collaborate and work effectively*		
Achieving the planned project time, execution, and end goal	2	40%
Obtaining and securing the proper resources	2	40%
Collecting employee feedback through lessons learned documentation	1	10%
Receiving positive feedback from the customers	1	10%

**Note: Subthemes*

Major Theme 3: Obtaining and securing the right project members. The third major theme of the study involved the perception of project success by obtaining and securing the right project members. For the four (80%) participants or project managers, they believed that having the right project members in their teams can be correlated to successful human resource planning. Davis and Davis (2017) reported that the effective management of human resource planning translates to the presence of competitive advantage within the organization. The methods of providing rewards and compensations to team members, having knowledge of their roles and responsibilities, and the ability to collaborate and work effectively were the most important practices

shared in the interviews. Kivipold and Ahonen (2013) reported the need for organizational leaders to appeal, retain, and encourage their employees with specialized skills to sustain their fruitful working relationships and continue to establish the best project outcomes for the organization effectively. Again, the RBV theory is reflected in the presented strategies. The project managers continuously work hard to manage their subordinates, guaranteeing their professional development and overall welfare. Through these strategies, there is a high probability that the team members' needs are more effectively heard and managed by the leaders. Team members, as valuable organizational resources, transform into a competitive advantage when they establish their commitment towards the organization (Ghapanchi et al., 2014).

Participant 1ITPM believed that having the right people working with and for him can lead to not only a human resource planning success, but a fruitful project as a whole: "I had to ensure if I needed someone with that expertise. I had that person on board. So basically, what is required is equal to what they would acquire." 1ITPM also shared the need to provide rewards and compensations to the team members (subtheme one). Participant 1ITPM noted that project managers must know how to take care of the welfare of their team members in order to encourage and motivate them to complete their duties accordingly:

> In that case, what I would do was, review the person who has worked 50 hours for a period of two weeks that are funded in two weeks, give that person some time off, give them some bonuses, etc. If something like this keeps on happening or

> say a few months, then you know, then there is a problem. That resources would work overtime all the time.

Another subtheme that followed was the need for the team members to have the ability to collaborate and work effectively as one team. Participant 3ITPM also shared that project managers must also consider the work environment and relationships of their employees:

> Did we bring people in at the right time and more than likely they have never worked together before? The project team is taking into account their personalities and nuances and skillsets. And were you able to help them grow while they were working on the project and get it all to come to fruition?

Finally, Participant 4ITPM explained the subtheme of the members' awareness of their roles and responsibilities. This awareness can lead to the efficiency of the team in completing their tasks and goals on time. A communication plan document was used to reference the need to identify and communicate roles and responsibilities. Further, by having the knowledge of their roles and responsibilities, the members are able to work more productively and quickly; avoiding unnecessary delays and issues:

> Another way to gauge if you manage resources properly is that you have people who feel as you're, going through a project, as you are executing the project, they feel like they have a clear understanding what their role. If there is any question as to roles and responsibilities that they should be working on at any given point in the project, chances are you may need to improve your communication or made

sure that, things are spelled out and understood for each, for each member of your project task being completed in a timely manner.

Thematic Category 3: Strategies or Factors Identifying Key Barriers

The third thematic category included exploring methods or factors that aid in determining the key barriers affecting the management of human resource planning of IT projects. The analysis revealed the participants' varying perceptions and experiences as project managers. Six minor themes were found, receiving references below 40% of the participants' responses. The participants reported the following classifications of limitations experienced in managing human resource planning: (a) encountering unexpected changes, (b) experiencing time constraints, (c) lacking knowledge and information on the project, (d) lacking management support, (e) working in a functional Matrix Organization with the lack of proper communication, and (f) project organization and overcommitting to clients. Table 4 contains the display of themes addressing the third thematic category, according to the project managers.

Table 4

Display of Themes Addressing Thematic Category 3

Themes	Frequency of references	Percentage of references
Encountering unexpected changes	2	40%
Experiencing time constraints	2	40%
Lacking knowledge and information on the project	2	40%
Lacking management support	2	40%
Working in a functional Matrix Organization	2	40%
**Lacking proper communication and project organization*		
Overcommitting to clients	1	20%

**Note: Subthemes*

The interviews involved analysis and discussion of the identification of barriers to the management of human resource planning of IT projects resulting in varying participant perceptions. These barriers (encountering unexpected changes, experiencing time constraints, lacking knowledge and information on the project, and lacking management support) can be rendered to the project managers weakness in supervising their teams and projects. The Microsoft project plan was used to reference the need to know the information included in your project. The themes included responses of the participants and emphasized the need for effective strategies such as preparedness and presence of skills for the successful completion of the IT projects. Similarly, Susilo and Suhardi (2014) explained that RBV strategies are indeed substantial for the IT project industry to warrant that human resources are competently managed.

Participant 5ITPM's response demonstrated the identification of project barriers when encountering unexpected changes, lacking knowledge and information on the project, and management support. For this participant, the presence of sudden changes, lack of project awareness, the need for a project plan and support are key indicators to barriers, saying:

> Limited resources, lack of executive and leadership support, lack of sufficient planning and ambiguity. And was there change? They are all areas that I had found a detrimental to have these items in place in an organization.

Another participant shared how experiencing time constraints can also indicate project issues as well as the risks and trends in the process of project completion. Participant 2ITPM shared,

> Approach to risk is also important and is a barrier at the time. The approach to the resource can be taken into consideration, the resources are there to do a particular job or are you seeding HR as a partner. The intent is important. The barrier at times includes external factors, new trends coming up moving to automation, and technology changes. All those factors would impact the decisions you would take in managing the HR of your IT project.

Another theme with two references was working in a functional matrix organization and experiencing the lack of proper communication and project organization. Participant 3ITPM shared the difficulty of being in a matrix organization and managing project managers and staff members from different departments, stating: "Well, I said the barrier is if you're working with functional Matrix Organization, how

good of a relationship do you have with the other project managers and how do you manage resources that technically don't work for you?"

Thematic Category 4: Strategies that Work Best in Managing

The fourth category involved the exploration of strategies that worked best in the management of human resource planning of IT projects. Similar to the previous thematic category, the participants again had varying perceptions of the best strategies based on their years of experience as project managers. In particular, the best strategies involved the following: (a) being proactive and transparent in managing the team, (b) forecasting of project requirements and availability of resources, (c) having an effective and organized team, (d) obtaining compensation and rewards for the team, and (e) prioritizing of projects. Two of the participants uses a resource breakdown structure (RBS) to capture the needed requirements. There is also a need to perform further research on the said themes to increase the themes' credibility. Table 5 contains the breakdown of themes addressing the fourth thematic category.

Table 5

Display of Themes Addressing Thematic Category 4

Themes	Frequency of references	Percentage of references
Being proactive and transparent in managing the team	2	40%
Forecasting of project requirements and availability of resources	1	10%
Having an effective and organized team	1	10%
Obtaining compensation and rewards for the team	1	10%
Prioritizing of projects	1	10%

As discussed, the project managers again had varying perceptions when asked about the best strategies in managing the human resource aspect of IT projects. Two of the participants indicated the need to be proactive and transparent in managing the team. Although these themes received fewer references than the others, the themes still signify the importance of management strategies in developing and retaining their employees. As Yaghoubi et al. (2015) reported, leadership entails the need for the reorganization of the necessary resources for development in order to improve the effectiveness and efficiency of the project. Participant 4ITPM explained how project managers must take the initiative to learn and take note of the schedule and important concerns of the project members. A project management plan was used as a point of reference. Transparency was also reiterated in order to keep the timeline and provide the proper support to the team, saying:

> Everyone should be included in a project management plan with some sort of resource calendar where you to see who's doing what, when, how much time they have for the month available, and you should know what kind of vacation time and training are available. They may be sitting in or contained in additional buckets you may have for operational support or looking at how much, availability they have, you should be transparent and what they're working on, in any given month or week.

Thematic Category 5: Strategies Ensuring Consistent Implementation

The fifth thematic category involved discussion surrounding the ways to ensure that the management of human resource planning of IT projects is implemented

consistently. For the majority or three (60%) of the five participants, they found that it is important to follow a level of standardization in projects. Meanwhile, three other sets of themes emerged which were believed to be effective in ensuring the consistency of human resource planning of IT projects: practicing transparency with the team members; receiving equal benefits, compensations, and promotions within the team; and working closely with the other teams and departments. Table 6 contains the display of findings addressing the sixth thematic category based on the responses of project managers.

Table 6

Display of Themes Addressing Thematic Category 5

Themes	Frequency of references	Percentage of references
Following a level of standardization in projects	3	60%
Practicing transparency with the team members	1	10%
Receiving equal benefits, compensations, and promotions within the team	1	10%
Working closely with the other teams and departments	1	10%

Major Theme 4: Following a level of standardization in projects. The fourth major theme of the study was the strategy of following a level of standardization in projects. For the three of the six participants, they believed that having a template of processes and standards helps in maintaining and ensuring the consistency of the project members and their outputs. Standard template documents included a project charter, work breakdown structure and a Microsoft project plan. Yang et al. (2014) identified how leaders must implement strategic and standardized plans to perform the project successfully. In this case, preparedness and calculated actions would lead to improved

project outcomes. Participant 2ITPM explained that the development of a template containing all the important requirements in completing a project. The template is crucial in guaranteeing that all members of the team are aware of their goals and are working towards one mission. Further, the participant shared how the template promotes communication and transparency:

> For consistency, we had to come up with templates that had taken all the critical requirements in mind. It helps to ensure everyone is on the same page. People who are filling them out on day to day basis can get help from peers and juniors if and when needed – if they are following a consistent method and nomenclature. If structured, you can also automate parts based on rules. Defined metrics, documented templates, automated reporting, and views help. Eliminating person dependency and human judgment help too. Also, what gets measured gets done therefore periodic reviews and validations at a critical level, and stages help catch anomalies early on and fixed in time before it's too late. Management can look at the data and reports from a much higher level such as a financial perspective.

Meanwhile, Participant 5ITPM simply commented: "So, to sum that up, it would be established the criteria for the level of the current project structure, and that included prioritization, identifying specializations and effectiveness of those that meet that criteria."

Findings from Group B: IT Director

The second group of participants consisted of five IT Directors who also addressed interview questions pertaining to the main research question of: what are the

strategies used for the successful management of the human resource planning of IT projects? The same thematic categories from the first set of interviews were employed. From the thematic analysis of the five interview transcripts, three major themes, 21 minor themes, and two subthemes were uncovered. Table 7 contains the demographics of the IT Directors interviewed.

Table 7

Group B's Demographics

Participant number	Position	Total years of experience	Location
Participant 1ITDIR	IT director	35 years	Mechanicsburg, PA
Participant 2ITDIR	IT director	20 years	Hershey, PA
Participant 3ITDIR	IT director	15 years	Washington, DC Metro Area
Participant 4ITDIR	IT director	16 years	Lancaster, PA
Participant 5ITDIR	IT director	18 years	Camphill, PA

Thematic Category 1: Common Strategies Employed for Success

Under the first thematic category, commonly used strategies for the successful management of human resource planning of IT projects including one major theme and three minor themes were shared by the project directors. The majority of the participants reported the significance of assessing human capacity or skills and time for the project as a key strategy for the IT Directors. Four or 80% of the participants reported the major theme, while five other sets of themes were identified, receiving just one reference respectively. Table 8 contains the display of themes in relation to thematic category one, as shared by the IT Directors.

Table 8

Display of Themes Addressing Thematic Category 1

Themes	Frequency of references	Percentage of references
Assessing human capacity or skills and time for the project	4	80%
Assessing the behaviors and characteristics of team members	1	20%
Collaborating with the other department and leaders	1	20%
Conducting pilot studies for projects	1	20%
Practicing effective communication	1	20%
Providing a balance of authority and responsibility within the team	1	20%

Major Theme 1: Assessing human capacity or skills and time for the project.

The first major theme from the analysis of the interviews of the IT Directors was the strategy of assessing human capacity or skills and time for the project. For the four participants (80%), they believed in the importance of evaluating their team members' capabilities and availabilities in line with the project's goals and timeline. As reported in the literature, understanding the human factors is an indispensable element of supervising a project team (Baumann et al., 2015). In particular, the human resources essential to managing a project team comprised of the traits, decision-making process, and motivation factors of the project members (Baumann et al., 2015). The first major theme shared by the project directors is then corroborated in the literature, emphasizing the importance of planning IT projects with qualified and experienced resources (Engelbrecht et al., 2017).

As Participant 2ITDIR explained, part of the strategy is to determine the members of the project and review whether or not their skills and personalities would work effectively or not. At the same time, it is also worth noting to check and ensure that the team members are able to work within a specific timeline. The participant shared:

> I had the right people at the right time, and project size in line with skill level. They do not want a project of all superstars or projects of all entry-level folks. It can be helpful to have a nice mix so that we get the fresh ideas of someone newer to them, to the field as well as the experience of someone who has been doing the job for a longer period of time.

Meanwhile, Participant 3ITDIR identified how it is challenging to have limited resources; therefore, IT Directors must ensure that the rightly skilled and capable members are acquired for their IT projects. A resource breakdown structure document and a work breakdown structure document were used as an example. Similar to the perception of Participant 2ITDIR, it is vital to check the schedule of the team members and match them according to the project plans and timeline:

> To me, the biggest challenge that we had was always a resource constraint. I could not have unlimited resources. So, we had to make sure that we had the right people at the right time, doing the right work. If we did not, we could not really afford them doing something that wasn't a high priority. We wanted to make sure we had prioritized work and that we were working on the most important things that would providers to the biggest bang.

Thematic Category 2: Strategies Employed in Reaching Success

The second thematic category that followed contained the strategies to success in human resource planning of IT projects. For the majority or four (80%) of the participants, they believed that success could be achieved by obtaining and securing the right project members. Three of the four use a resource breakdown structure (RBS) document to organize the assigned project members. Two other sets of themes were established, pertaining to the achievement of the planned project time, execution, and end goal; and the accomplishment of the mission and goals of the projects and organization. Table 9 contains the display of themes under the second thematic category from the responses of the IT Directors.

Table 9

Display of Themes Addressing Thematic Category 2

Themes	Frequency of references	Percentage of references
Obtaining and securing the right project members **Acquiring new knowledge and skills* **Having knowledge on their roles and responsibilities* **Having the ability to collaborate and work effectively* **Providing rewards and compensations to team members*	4	80%
Achieving the planned project time, execution, and end goal	3	60%
Accomplishing the mission and goals of the projects	2	40%

**Note: Subtheme/s*

Major Theme 2: Obtaining and securing the right project members. The second theme that followed was obtaining and securing the right project members. In particular, the following strategies were crucial: (a) acquiring new knowledge and skills, (b) having knowledge on their roles and responsibilities, (c) having the ability to collaborate and work effectively, and (d) providing rewards and compensations to team members. The four participants explained how success could take place with the presence of team members who are able to perform at their best and work together to achieve a common goal. As observed, both the project managers and project directors shared similar views and practices under the same thematic category. In the literature, knowledge is an integral part of a project (Lee et al., 2015). Further, project teams must be led by competent and knowledgeable project managers who recognize the project

performance and skills of the members ensuring success and goal achievement (Cullen & Parker, 2015).

The first subtheme that emerged was the strategy of providing rewards and compensations to the team members. Participant 1ITDIR believed that success strategies depend on the mission of the organization. However, leaders must ensure the welfare of their people is happy with their overall work environment. The first participant believed the team members need to have some career progression and must feel like they can achieve their goals under their organization. Further, teamwork and camaraderie were also emphasized in the interview, saying:

> I have always been with an organization that is more inclined towards keeping the people, trying to keep them engaged and happy and interested in making a career progression, that kind of thing. The other important thing was helping to foster that sense of accomplishment. A career progression. Many times, we are in a holding pattern in your career where you are a project manager or program manager. After doing the job for a while, it just seems like you are just doing one project after another and you need to look at it instead of building up to a promotion or to something more like filling out your experiences and becoming a better and better in your role. I think a lot of the HR managers role is to help foster those kinds of ideas.

Participant 2ITDIR also discussed the essence of teamwork, with the members being able to work despite some issues and challenges. For this participant, functioning as one team is a key factor:

> That second one that I really came up was that throughout the life of the project that the team was able to perform with minimal strife, that we do not have a lot of interpersonal issues that we are functioning as a team and all focused on the code of getting the project completed it within that, on time, on budget and with quality.

As for Participant 4ITDIR, success is defined and achieved when members are able to recognize their roles and responsibilities effectively. With this characteristic, the whole team will function smoothly, and success can be achieved in due time:

> My definition of success is the team members are able to be given the skills and knowledge and information to complete their work and to make sure there are no barriers to that, and their work product has a need. I would say we were successful in putting together with a proper human resource plan for that particular project. Again, if we had to remove or terminate or reassign individuals that would indicate that we were less than successful.

Finally, Participant 5ITDIR believed that the team members advancement and progression can also be used to define success. A lesson learned document was provided as an example of how to capture project success data. With the member's ability to improve and excel from one project to another, the organization and the quality of the future projects will benefit greatly:

> How I define success is including the factor of their improvement, from project to project. In other words, are we learning where we could improve our estimating

or human resource later earning activities so that we're improving from project to project?

Thematic Category 3: Strategies or Factors in Identifying Key Barriers

Under the third thematic category, the IT Directors had varying perceptions and experiences. The themes uncovered were all minor themes, receiving just one to two references or 20% to 40% of the sample. These were the identification of barriers through the following factors: (a) encountering unexpected changes, (b) lacking communication and teamwork between leaders and members, (c) lacking the proper resources; experiencing time constraints, (d) lacking management support, and (e) observing in inequity and unfairness within the team. Table 10 contains the complete display of themes addressing the third thematic category, according to the IT Directors.

Table 10

Display of Themes Addressing Thematic Category 3

Themes	Frequency of references	Percentage of references
Encountering unexpected changes	2	40%
Lacking communication and teamwork between leaders and members	2	40%
Lacking the proper resources	2	40%
Experiencing time constraints	1	20%
Lacking management support	1	20%
Observing in inequity and unfairness within the team	1	20%

The analysis of the third thematic category resulted in themes with very few references or 40% and below. The three minor themes receiving 40% of the references

from the IT Directors were: (a) encountering unexpected changes; (b) lacking communication and teamwork between leaders and members, and (c) lacking the proper resources. Although the analysis resulted in minor themes only, reports from the literature corroborated the key barriers identified by the project directors. According to Montiero de Carvalho (2014), the communications area is highly associated with the triumph or devastation on IT projects. Without proper communication, changes and other needs or resources are not conveyed to the other parties accordingly. Two IT Directors use communication management plan and change management documentation to execute against changes introduced into projects. Also, in the literature, project failure is believed to be a result of the project managers' incapability to analyze the pertinent qualities of leadership and critical project requirements and factors.

Participant 5ITDIR's comments represented the three minor themes or the indicators for the project barriers. For this participant, unexpected project changes and the inability of the management and the team to accommodate the said changes can lead to greater issues, in the long run, saying:

> It could be a barrier to managing human resource planning is the unexpected changes in business priority. There are times when business priority change and perhaps that could be in the middle of a project when a project was partially completed let's say. And the planning required can be significant then and time-consuming and troublesome.

Additionally, Participant 5ITDIR expressed the importance of a good relationship between the managers or leaders and their team members. Given their broad

responsibilities, managers, directors, and staff members must work together to achieve their common goal and purpose: "The project manager to resource manager relationship can be a barrier because the resource manager maybe has multiple responsibilities that needed to be achieved were the project manager might be focused on a given project."

Thematic Category 4: Strategies that Worked Best in Managing

The fourth thematic category that followed discussed the strategies that worked best in the management of human resource planning of IT projects. For the majority of the participants or three (60%), having an effective and organized team with members who practice an efficient and effective communication is considered as the best strategy in overseeing the human resource planning of IT projects. Meanwhile, three other sets of themes emerged, which can be referred to in Table 11.

Table 11

Display of Themes Addressing Thematic Category 4

Themes	Frequency of references	Percentage of references
Having an effective and organized team	3	60%
**Practicing efficient and effective communication*		
Obtaining and securing the right project members	2	40%
Securing compensation, growth opportunities, and rewards for the team	2	40%
Identifying a clear set of goals	1	20%

**Note: Subthemes*

Major Theme 3: Effective and organized team. The third major theme from the analysis of the IT Directors' interviews revealed the importance of having an

effective and organized team. In particular, the IT Directors highlighted the need to practice efficient and effective communication between the leaders and the members and the members themselves. DuBois et al. (2015) and Zare et al. (2016) reported the need for the leaders to influence their members in terms of building the skills and confidence, establishing clear project roles and responsibilities, and transparency and accountability within their respective teams. Further, team members of complex IT projects must have the hard and soft skills to accomplish their duties; they must have the knowledge and skills but also practice positive values, ethics, professionalism, innovativeness and interpersonal skills (DuBois et al., 2015). Similarly, the IT directors interviewed believed in the importance of these skills, practices, and characteristics in forming their teams for IT projects and should be documented in a resource breakdown structure document.

Participant 1ITDIR expressed that leaders must always look at the efficiency and effectiveness of communication within their teams. Further, the participant explained how every team must have an organized approach and structure in completing the projects assigned to them. The participant narrated:

> One way that I look at it from is an HR strategy and how well organized, how democratic, then, how structured, as if are you in a matrix organization or you read more of a military top-down structure with multiple layers, siloed and so on. So, your organization structure way the lot into one strategy you take and then what, what structure you create for your project team as a derivative of that too. So, you got to look at that. You think your strategy to sort of match, on the one hand, manage the organization that you are working for, but then also look at the

> people that are working on the team and how do we get the results we need as efficiently as possible.

Similarly, Participant 2ITDIR commented and echoed the first participant: "To have a well-organized-enough that you can reliably know how people are performing as you are." Finally, Participant 5ITDIR identified that a successful and effective team consists of members who are well prepared in addressing the changes and expectations. The participant stated:

> For me, another strategy that was helpful was being able to explain to Executive Management in the company what is the impact of changing priorities would have on a project that was already started. So, the idea of, of having that opportunity and ability to explain, let us say to senior leadership who may want to change a business priority. Being able to explain well if we change business priorities and the impact to these projects that are currently in process, the basic inefficient and so sometimes that was enough to be able to keep the business priorities from changing.

Thematic Category 5: Strategies Ensuring Consistent Implementation

The final thematic category involved the exploring the strategies in ensuring the management of human resource planning of IT projects is implemented consistently. Only minor themes emerged from the analysis of the interviews where participants had varying perceptions and experiences. Table 12 contains the display of the themes addressing the final thematic category.

Table 12

Display of Themes Addressing Thematic Category 5

Themes	Frequency of references	Percentage of references
Following a level of standardization in projects	2	40%
Practicing effective and open communication	2	40%
**Conducting weekly evaluations*		
Learning from mistakes and experiences	1	20%

**Note: Subthemes*

Similar to the findings under the third thematic category, this final thematic category also only resulted in minor themes. To guarantee the consistent project implementation two participants respectively shared the need to follow a level of standardization in projects and practice effective and open communication by conducting weekly evaluations. Again, although only minor themes were uncovered; the themes were presented and reported in the literature. Project management methods were suggested such as the Waterfall approach, Lean Six Sigma, and the Agile Project management approach which all have the purpose of standardizing and improving organizational processes and quality of service (Chen, 2015; Vijaya Sunder, 2016; Henriksen & Pedersen, 2017). Further, communication (another minor theme) was also highlighted in the literature as Nixon et al. (2012) expressed that leaders must influence their team members positively by creating a strong connection with the team members in order to achieve a common goal or vision.

For Participant 1ITDIR, creating proven and effective standards for the organization should help stabilize and improve the overall project management methodology. The participant then explained:

> Creating those standards that worked for your organization, making the standards a part of your project management methodology. And we created a project management methodology for the company, and that's the standard, all the different areas of project management, HR management and selected those methods and strategies that fit the organization.

Meanwhile, Participant 4ITDIR also believed in the need to ensure "clear and consistent communications" with the team. A sample communication plan was provided as support to this claim. Communication must include updates on the progress of their work or project, saying:

> The best ways to ensure that clear and consistent communications regularly checking in with your team and assuming that or our team members and assuming that they can get their work done on their own is often not a good practice. I found best to check in regularly and have short, quick status updates rather than a long drawn out meeting.

Findings from the two sets of groups or the Project Managers and the IT Directors revealed that the leaders have similar commonly used strategies and methods in reaching successes (see Table 13). However, their strategies in determining the key barriers, proven and best approaches, and strategies ensuring consistency in implementation varied. Despite these similarities and differences, the two sets of participants' perceptions and experiences reflected the study's Resource-Based View or RBV Theory which emphasizes the importance of competitive advantage within an organization's assembly of internal resources (Davis & Davis, 2017).

A commonly used strategy by both the managers and the IT Directors was the assessment of human capacity and skills for the project, with the directors' emphasis on the alignment of the said skills to the timeline of the IT venture. For both sets of participants, human resource planning must first start with an assessment to distinguish and determine the types of workers as well as the capabilities needed for a certain project. Obtaining and securing the right project members was also highly significant wherein the participants emphasized the need to be proactive in acquiring the best team members for their team/s. It was also highlighted in the study how team members under the leaders must have both the hard and soft skills that can help the team achieve their goals and successfully complete the projects (El-Sofany et al., 2014). For Susilo and Suhardi (2014), effective management of human resources is one important RBV strategy; and the current participants of the study demonstrated their awareness of the value of their human resources in their respective companies.

The rest of the themes from the three thematic categories varied, wherein the two sets of participants provided a broad range of perceptions when asked about the factors in which they determine the key barriers to successful management of a human resource planning under an IT project. For the IT Directors, it has been proven that an effective and organized team is the best strategy in reaching success more quickly; while the Project Managers expressed that consistency can be achieved by following a level of standardization in projects.

Table 13

Display of Group A's Major Themes vs. Group B's Major Themes

Thematic categories	Group A	Group B
Thematic Category 1. The commonly used strategies employed for the successful	Assessing human capacity or skills for the project	Assessing human capacity or skills and time for the project

management of human resource planning of IT projects.		
	Forecasting of project requirements and availability of resources	
Thematic Category 2. The strategies employed in reaching success in human resource planning of IT projects.	Obtaining and securing the right project members *Providing rewards and compensations to team members *Having knowledge on their roles and responsibilities *Having the ability to collaborate and work effectively	Obtaining and securing the right project members *Acquiring new knowledge and skills *Having knowledge on their roles and responsibilities *Having the ability to collaborate and work effectively *Providing rewards and compensations to team members
Thematic Category 3. The strategies or factors in identifying the key barriers to the management of human resource planning of IT projects	Only minor themes, varying perceptions	Only minor themes, varying perceptions
Thematic Category 4. The strategies that worked best in the management of human resource planning of IT projects	Only minor themes, varying perceptions	Having an effective and organized team **Practicing efficient and effective communication*
Thematic Category 5: The strategies in ensuring the consistent implementation of the management of human resource planning of IT projects	Following a level of standardization in projects	Only minor themes, varying perceptions

Application to Professional Practice

The major themes uncovered within this study can include practical application in a variety of ways while offering insights for both Project Managers and IT Directors day to day operations and project planning. While some of the themes between the two

groups overlap, it is important to focus on the differences as well to fully understand how the themes can be implemented in everyday business. This section will dissect each theme and offer guidance on how they apply to company leaders as suggestions for professional practice.

The first major theme was assessing human capacity for the skills of the project. This theme applies within everyday IT business by thoroughly understanding and evaluating the strengths, weaknesses, ability, and capacity of the IT team. Participants reiterated that managers should be well aware of their staff and resources before embarking on a project.

There are numerous means to apply the theme of assessing human capital to everyday practice. The first would be to equip managers with the tools, resource planning templates, resources, and training to adequately assess their staff and human resources. While output can be quantifiably judged, other soft skills need to be applied within a team project in harmonious collaboration. Pournader et al. (2015) stated that any project depends on how well a manager leads, engage, maintains, and instructs their team members. A leader's interpersonal and leadership skills must be sufficient when assembling and preparing a team for a project.

Project managers must examine variables beyond mere output and focus on more personal characteristics to improve the success of any project. Effective leadership focuses on organizational profits but also factors in improved results for multiple stakeholders such as employees, consumers, and their organization (Pournader et al., 2015; Schuler & Jackson, 2014). Management requires a variety of skills; therefore,

keeping managers informed of how to assess human capacity and skills would be beneficial. Training is supported by Kvivpold and Ahonen (2013) who stated that organizational leaders must be able to recruit, retrain, and motivate employees of specialized skills. These skills are not inherent and must constantly be updated and reformed for optimal leadership and project success.

Maintaining professional development for leaders allows for better assessment of human capacity for the skills of the project and forecasting for project requirements. Leaders must have the ability to assess what resources are needed to successfully execute a project as a lack of understanding leads to poor utilization of financial and human capital (Albliul et al., 2014). Albliul et al. (2014) stated continued training for staff and management is just as important to the success of a project as the required funds.

The second major theme was forecasting of project requirements and availability of resources. Unlike the first theme, applying this recommendation is easier. Forecasting resources can be accomplished through data driven analysis or personal knowledge. Regardless of how it is performed, forecasting remains a vital part of the project management process and should be implemented as a required step before any project is undertaken (Yang et al., 2014). Yang et al. (2014) stated that project managers must create in-depth plans before embarking on any project in order to shape and guide the project's objectives. These steps should include drawing up a plan, forecasting, documenting, deciding, and utilizing available resources in order to meet the consumer and project's needs (Yang et al., 2014).

One way to apply this theme to actionable change would be to have a company create a standardized checklist or plan to assess what is needed for the projects. Project planning can affect cost, savings, times, and resource management while diminishing problems from stakeholders and employees (Balfe et al., 2016). Creating a consistent outline for resource forecasting is vital as the project leader's plan guides the project. The IT project manager can then identify where there is a lack of resources or the chances of underestimating those resources. Creating a uniform procedure before each project could allow for better comparisons between projects and indicate whether or where resources are being misused thereby, providing better structure and resource management.

Companies can draw up existing strategies for forecasting and management. One of these techniques is PERT which focuses on the minimum, maximum, and most likely scenarios when calculating the resources and dynamics of a project (Jin et al., 2013). However, Jorgensen (2014) noted that there is no overall method or estimation tool that can be universally applied, allowing companies to apply tools like PERT to fit their company's or project's needs. Another option would be to focus on the Waterfall Method which instructs tasks to be completed in consecutive steps and can include a resource forecasting structure (Stocia et al., 2016). As forecasting cost and resources remain a problem, creating a standardized forecasting projection plan could overcome unforeseen obstacles within a project (Stylianou & Andreou, 2016).

The third theme, obtaining and securing the right project members, coincides with the first theme. If a manager wishes to succeed, they must be able to assess and secure

the right personnel as well as make sure they are a correct fit for the project and the team (Trejo, 2016). There are a variety of ways to evaluate and enlist talent. The participants mentioned that compensation, being well equipped with knowledge of their abilities and roles, and leadership and motivation skills are all important.

Businesses need to offer both internal and external motivation in order to acquire the right team members (Kivipold & Ahonen, 2013). Kivipold and Ahonen (2013) stressed that intrinsic appeal should include acknowledgment of team achievements and provide a rewarding project and constructive workplace in addition to salary and remuneration. While the external motivation for securing the suitable project members is easily assessed, managers must be equipped with the soft skills to motivate, provide structure, and maintain direction throughout the project. Therefore, it is important for business leaders to continue to reinforce manager training, as mentioned in the first theme. While business leaders should provide their managers with the ability to offer adequate compensation, project managers should also be equipped with the skills necessary to offer intrinsic motivation and team unity as pure compensation do not guarantee better recruitment or output.

No unanimous themes were uncovered on barriers, as responses were relatively evenly dispersed. The themes of encountering unexpected changes, experiencing time constraints, lacking knowledge and information on the project, lacking management support, working in a functional matrix organization all received 40% of the responses. Despite the lack of a prominent theme, businesses could focus on these themes to improve team output and project success.

Koçyiğit (2015) stated that managers must be able to guide a project through the hazards found in a project. A blend of abilities helps to identify and settle obstacles and disagreements that occur within a project (Ng & Coakes, 2014). Business leaders should again focus on training and professional development to make sure project leaders can diminish the barriers found within a project. Previous research has indicated that poor resource utilization grows from a lack of expertise on the guidelines of the project (Parker et al., 2015). Therefore, instructing managers to understand time constraints better, hiring people with adequate knowledge, getting support from higher-ups, and working within the organization's matrix should be taught through professional development to better increase the managers ability to lead and overcome barriers.

The fourth theme focused on standardization. Participants noted that it was important to have a standardization process in projects, reinforcing the suggestion of businesses creating a checklist before a project even begins. Standardization could offer support and structure to which upper management can compare results and identify where or why project managers and their projects are failing. Standardization and normalcy would be beneficial for employees at all levels. Standardization should include time, cost, and boundaries of the project (Chen, 2015). The Project Management Institute has created standards which are found within the Project Management Book of Knowledge and offers management methodologies for which standardization can be applied (Chen, 2015). Standardized approaches can include Six Sigma, Lean, or Agile management techniques (Henriksen & Pedersen, 2017; Vijaya Sunder, 2016).

Participants also noted how being proactive and transparent is important for leadership to obtain optimal results. Proactivity and transparency should be stressed to all project managers to increase output. Proactivity and transparency can be addressed through training and standardization as well. DuBois et al. (2015) found that transparency and confidence, a key component of proactivity, were critical success factors within a project. Therefore, transparency and proactivity should be stressed to leadership when managing an IT project.

The responses for IT directors largely mirrored the IT project managers. However, where the groups differed was that IT directors stated that having an effective and organized team was essential to project success. The participants felt organization, and team efficiency was stronger than acquiring the right team member for their job, offering compensation and identifying goals. Susilo and Suhardi (2014) supported this theme by stating that management in IT must maintain team efficiency. The authors suggested using RBV strategies. Buchtik (2013) suggested using the Work Breakdown Structure (WBS) to deliver team efficiency and project success.

While this theme mostly differed from the project manager's responses, it does coincide with the concept of organization and recruiting and placing the appropriate people on the team. Like the previous themes, the IT Directors' statements can be applied through adequate and continual training. It is important for leaders to have the proper training to provide an organizational structure to the team and increase their efficacy.

Ultimately, all of these themes can be applied through adequate training for

project managers and IT directors. Imparting the value of these themes and suggestions to managers would improve output. Professional development and training would ensure that leaders have the tools they need to incorporate these findings within their day to day activity. The themes of this study largely focused on leadership making it a focus for product and project success and outcomes. Integrating these themes with training and project structure and standardization could reinforce the important aspects of this study and increase positive results.

Implications for Social Change

There are numerous implications for which social change can grow from this study, primarily, the implications will focus on individuals, organizations, and institutions. However, a broad argument can also be made for community, society, and culture. For instance, customers will have better access to IT projects that are managed well. Successful IT projects influence employee behavior and can affect the social evolution of the organization increasing the ability to hire more employees, reducing the employment rate and benefiting society. These benefits would directly stimulate economic progress within the Northeast United States. The implications for individuals exist for both the team member and management. The results of this study were by far the strongest for leadership. The participants made highlighted important themes that could be used to improve leadership, productivity, and outcomes. The implications for team members are also strong. A strong leader inspires productivity and collaboration to be beneficial to an organization as a whole. A comfortable work environment transfers

over into an employee's personal life by reducing stress and increases personal happiness.

The social change for organizations, institutions, and businesses are also strong. The immediate success of this study would be improved IT projects, better output, greater customer satisfaction, increased funding and bigger innovations that could potentially affect society. This increased productivity could lead to better investment and business, thereby strengthening the economic effects to an entire geographic region. Through a stronger economic region, socioeconomic issues can then be begun to be addressed and reduced, leading to better stability within the area. The outcomes of this investigation could also benefit the economic progress in the Northeast United States area from the potential reduction of project failure rates. The results of this study indicated positive improvements for social change, both within the organization and society as a whole and should be further examined.

Recommendations for Action

There are three actions which businesses can implement based upon the themes uncovered within this study: (a) continual professional development, (b)training for project managers and IT directors, and (c) standardized structure for the projects themselves. These three recommendations provide a basis to address the concerns and comments of the participants. Business leaders, those who oversee project managers, and IT directors should adopt these recommendations and implement it in the way that they feel fit. However, managers and IT directors should also be aware of these suggestions

so that they could instruct management on how to achieve better results. Utilizing the two recommendations could aid in team performance and product outcome.

Professional development and continual training are perhaps the most important recommendations. Themes such as assessing human capacity or skills for the project, obtaining and securing the right project members, and having an effective and organized team can all be addressed through continued training and professional development. Professional training such as learning the Six Sigma method could help address the concerns found within the results. Continually updating a manager's skill set to lead, connect, and assess the talent of their employees would lead to better results. Albliul et al. (2014) stated that training is needed to finish a project and Buchtik (2013) stressed that continued training for managers could improve their soft leadership skills such as learning cultural differences to ensure smooth teamwork between members. Continual training would keep project managers and IT directors up to date with burgeoning leadership theories, styles, and techniques to better manage their employees. Through continued training, managers would be better equipped to assess and recruit appropriate team members for an IT project thereby ensuring optimal results. Leadership is rarely an inherent trait and must constantly be evaluated and updated so that managers can adjust their leadership to the project.

The other step offered was to provide a standardized structure for IT projects. The structure could range from a checklist for each project to management techniques such as waterfall, agile, or PERT. A uniformed structure between projects would allow for comparison between teams and projects to assess what works and what does not.

Structured leadership and project guidelines present much needed boundaries. Yang et al. (2014) touted that structures offer control to execute a successful project while Wearne (2014) stated that uniformed organizational structure throughout the process aids leadership within the business. The structure is especially important to assess management and employee work throughout a project. Through a uniformed checklist or management structure, business leaders would be able to compare successful projects to those who have failed to identify critical success factors which could then be replicated and taught to managers and directors who may be struggling.

Recommendations for Further Research

This study has created multiple opportunities for future research. Overcoming the study's limitations, altering the delimitations, and changing the methodology could all offer new insights into the phenomenon that was studied. Limitations to this study were time constraints, limited generalizability, and transferability of the results, and the inability to determine which management strategies were the most effective. Future studies could overcome these limitations in a variety of ways. Future research could track the progress of multiple IT projects over the course of their duration. These projects could be separated by management strategies and human resource planning to determine which methods are the most effective. Comparing and contrasting projects would offer business leaders more specific approaches to tackling IT projects. Additionally, by conducting a study that compares and contrasts IT project success and leadership, there is a chance for increased transferability as the research can compare projects across differing geographic locations and firm sizes.

As mentioned within the limitations, this study did not examine which leadership styles or programs were the most effective. A quantitative study could examine and compare IT projects to determine what methods were successful and those who were not. While participants may have their opinions on what works, it may not result in optimal performance. Therefore a quantitative research project could assess whether the uncovered themes were major variables in the success of an IT project's management. The participants reported the following classifications of limitations experienced in managing human resource planning: (a) encountering unexpected changes, (b) experiencing time constraints, (c) lacking knowledge and information on the project, (d) lacking management support, (e) working in a functional Matrix Organization with the lack of proper communication, and (f) project organization and overcommitting to clients.

Reflections

Upon reflection, there are multiple considerations that could have influenced the research. Therefore, it is imperative to understand the researcher's experience, possible personal biases, preconceived ideas and values, changes in the researchers thinking, and the role of researchers within the study. An important factor to consider is how the researcher may have influenced these results. Asking questions may not guarantee honest responses. Participants may have given responses to which they know it would reflect them better. Merely by interviewing, participants may have sought to highlight their strengths and cover their weaknesses. Additionally, there is the chance that participants were looking at the best answer to questions rather than the actual answers.

Possible personal biases or preconceived ideas and values, the possible effects of the researcher on the participants or the situation, and her/his changes in thinking after completing the study.

Conclusion

This researcher sought to address the specific problem of some organizational leaders of IT projects lack approaches to successfully manage the human resource planning of IT projects. Based upon the problem, the purpose of this qualitative multiple case study was to explore the strategies used for the successful management of the human resource planning of IT projects across 10 organizational leaders within the Northeast United States. Responses from project managers and IT directors were largely uniform and uncovered themes that offer insight and possible explanations into the phenomenon. These themes created multiple suggestions for practical applications, focusing on continued professional development and leadership training and standardized structures for IT projects. These suggestions were supported by findings within the literature review and could provide business leaders with tools to diminish IT project failure rates while increasing higher revenue. This research while limited in scope can be applied within IT leadership to offer improvements on management, the project, and the product.

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Appendix A: Interview Protocol

Introduction Information by the Interviewer

Date:

Participant's coded ID:

Review the Purpose of the study

Review Participants Privacy

Length of interview

Double-check that this time is still suitable for the interview

Gain Consent to audio record the interview with the participant

Offer an opportunity for questions

Signature of informed consent

Background of Participants

Identify role in planning human resources in IT projects

Years of human resource planning with IT project experience

Interview Questions

Key Closing Components

Additional comments: What other experiences would you like to share concerning the successful management strategies of human resource planning of IT projects.

Describe the next steps regarding member checking: I plan to send you a copy of the transcript of the interview for your examination and a succeeding summary of the core of your replies.

Thank the participants for their time and participation.

Provide contact information.

Remind participant of their ability to withdraw at any time.

Follow-up Questions: Ask for help with the quality of data collected, by asking that you supply available company documents such as those used in IT planning projects. Ask participant for consent to ask follow-up questions in the future, if there is an area that could need additional conversation to add to the productivity of the data for a detailed examination and data saturation.

Appendix B: Interview Questions

The following interview questions and focus group questions support the main research question:

Interview Questions

Semistructured interviews

1. What strategies do you use for the successful management of human resource planning of IT projects?
2. How do you define the success of human resource planning in IT projects you have worked with or were responsible for?
3. How would you identify key barriers to the management of human resource planning of IT projects?
4. What strategies worked the best in the management of human resource planning of IT projects?
5. How do you know when you have identified the major concerns in the management of human resource planning of IT projects?
6. How did you ensure that the management of human resource planning of IT projects is implemented consistently?
7. What critical factors helped you to overcome challenges in the management of human resource planning of IT projects?
8. What additional information would you like to add about the strategies for the successful management of human resource planning of IT projects?

Appendix C: Introductory Request for Participation Communication

LinkedIn Targeted Discussion Thread and Request for Participation

My name is Michael Pierorazio, and I am a doctoral student at Walden University. As part of my degree requirements, I must complete a doctoral study. The purpose of conducting my qualitative study is to identify factors of organizational leaders involved with IT projects who lack the approaches to successfully manage the human resource planning of IT projects. My invitation includes organizational leaders in the northeast United States who have executed effective human resource planning strategies in their management of IT projects. For you to qualify as a member of the study, you as a potential participant, need to have previous accomplishments in the planning of human resources in IT management projects. Accomplishments definition includes the successful delivery of a project measured with the projects defined alignment with time, cost, and scope or the project offered provided benefits to the organization. In addition to experience, leaders must have actively participated in 5 or more IT projects that include the planning of human resource related projects. Specifically, IT directors and IT project managers should have 3 years or more experience working with IT related projects.

Procedures:

If you agree to be in this study, you will be asked to:

- Meet with the researcher Michael Pierorazio in a mutually agreeable location and time or over the phone if distance prohibits a personal meeting.

- There are eight questions in total that are a part of the study and should take about 45 minutes to complete.
- The research questions will be available in advance of your participation to review a week before the meeting.
- Data will be collected only once during the interview or over the phone.
- A documented transcript of your input to the study will be provided to you to validate the accuracy of your statements.
- You may opt out of the study at any time if you are feeling uncomfortable.

Here are some sample questions:

1. What strategies do you use for the successful management of human resource planning of IT projects?
2. How do you define the success of human resource planning in IT projects you have worked with or were responsible for?
3. How would you identify key barriers to the management of human resource planning of IT projects?

If you fit the criteria and are interested in participating in this study, please reply to me via personal email. You will then be provided a document of informed consent to participate. I request that this form to be returned signed within 5 days of being received. Thank you for time and assistance.

Sincerely,

Michael Pierorazio

Appendix D: Figure 1 Use Permission

Project Management Institute

Date 12/4/2018

Student Name & Email Michael Pierorazio Michael.pierorazio@waldenU.edu

Academic Institution & Address Walden University 100 Washington Ave. South Minneapolis MN 55401

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(Print Name) Michael Pierorazio (Date) 12/4/2018

(Signature) Michael Pierorazio (Major) Doctor Business Administration Specialization in Project Management

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