2020

Strategies for Information Technology Employee Retention

Stephen Horton
Walden University

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College of Management and Technology

This is to certify that the doctoral study by

Stephen L. Horton

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
2020

Abstract

Strategies for Information Technology Employee Retention

by

Stephen L. Horton

MS, Capella University, 2009

BS, University of Tennessee at Martin, 2005

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Information Technology

Walden University

March 2020

Abstract

Information technology (IT) employee retention is essential to IT departments tasked with supporting the goals and objectives of the organization. IT employees manage, support, and direct IT to drive business, pursue innovation, and create a competitive edge. The purpose of this qualitative exploratory multiple case study was to identify strategies that IT managers use to retain IT employees in order to support the goals and objectives of the IT organization. The population for this study consisted of 5 IT managers in the transportation industry. The IT managers selected for this study had subordinates and delegation duties and worked for employers with offices in Memphis, Tennessee. Organizational learning theory formed the foundation of this study as the conceptual framework. Semistructured interviews were conducted with 5 IT managers to gain insight into their experiences using retention strategies for IT employees. A review of 13 organizational documents and member checking of interview transcripts supported the validity of the findings of this study. Four significant themes appeared through methodological triangulation: communicate with executive management, create career opportunities, place employees in appropriate job roles, and address the needs of IT employees. The findings of this study may benefit IT managers in retaining IT employees to shape IT for organizational success. The findings may contribute to social change by informing strategies to support healthier IT employees who are motivated and committed to their organization. Healthier people can promote healthier communities, resulting in a society with a longer lifespan and fewer occurrences of disease and illness. The findings may also be adapted to support organizations' overall retention strategy.

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Dedication

This study is sincerely dedicated to my parents. My father, late Luther Steven Horton and my mother, Sherrie Deniece Horton. They were first to motivate me to succeed in life; and they were always proud of me —win, lose, or draw. I am arriving at this moment, obtaining a doctoral degree, in part due to their inspiration, encouragement, and sacrifice. I want to dedicate this study to my wife, Dana Horton. I am forever grateful for the love, support, and understanding you have shown me throughout this challenging process. I also dedicate this study to my son, Lexington Horton. My hope is that you will one day see this and be inspired to accomplish your dreams.

I dedicate this study to my community of family, friends, classmates, and coworkers who gave encouragement and support, offered advice, and helped me to celebrate each milestone along the way. I am grateful for all of you. Please know that you helped push me across this finish line.

Acknowledgments

I would like to acknowledge my doctoral committee, Dr. Gail Miles, Dr. Charlie Shao, and Dr. Steven Case. Their tireless commitment to my improvement as a researcher and a writer has benefited me both professionally and personally. I truly appreciate each of you. Thank you. I would like to add a special thank you to Dr. Gail Miles. It was by chance that you became my chair, but I could not have picked anyone better.

I would like to thank Dr. Michael McGivern for his guidance, and I would like to acknowledge every professor and student I encountered at Walden University. I learned from each of you, and every correspondence added to the enrichment of my education. I must acknowledge my Lord and Savior, Jesus Christ. It was my faith that sustained me throughout this process. Along this journey, I looked to him for strength, endurance, and patience; and he provided them all. Thank you.

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Section 1: Foundation of the Study

Businesses and organizations rely on information technology (IT) now more than ever (Bulson, Van Dyke, & Skibinski, 2017; Cascio & Montealegre, 2016). They need IT employees to manage and support IT functions and operations for the sake of a successful business (Otoiu & Titan, 2017). IT employee turnover is a phenomenon that disrupts this order (Lo, 2015). IT managers must have strategies to retain IT employees in order to support the goals and objectives of the IT organization (Lo, 2015).

Background of the Problem

The evolution of technology is rapidly occurring, as seen in every facet of society (Shaikh & Karjaluoto, 2015). Researchers, practitioners, and engineers have proven technology effective in organizations, businesses, and residential homes (Shaikh & Karjaluoto, 2015). IT is vital for information gathering, research, storage, operations, and even entertainment (Shaikh & Karjaluoto, 2015). IT is crucial to the operations of organizations and businesses (Wu, Straub, & Liang, 2015), the electrical and power infrastructures of countries (Chaimae & Rahal, 2015), and information consumers using home computers and mobile devices (Dunaway, Searles, Sui, & Paul, 2018). Such an important aspect of society requires management, effective and responsible use, maintenance, and care. IT employees are individuals tasked with this responsibility. Without them, failures in technology are unresolved. When disruption affects business operations, loss of profit results, and innovations in technology decelerate (Cui, Ye, Teo, & Li, 2015).

The retention of IT employees is a challenge that many IT managers face. Business executives center operations and new opportunities on IT, and any disruption or failure of IT causes business outages and loss of profit (Bulson et al., 2017). A primary role of the IT employee is to ensure that IT is highly available and reliable (Otoiu & Titan, 2017). Additionally, IT employees shape IT to fit the organization. IT employees ensure that IT aligns with the objectives and goals of the organization (Otoiu & Titan, 2017). Retaining IT employees is to the benefit of the organization. Failure of IT systems can result in loss of productivity (Bulson et al., 2017). In business, achieving competitive edge often involves a race toward advanced IT, and turnover costs for IT employees are substantially higher than the costs of retaining them (Ertürk & Vurgun, 2015).

Problem Statement

The loss of critical IT employees disrupts IT functions and operations as well as business operations, organizational processes, and company objectives (Lo, 2015). From the 1960s to the 2000s, the rate of IT employee turnover hovered around 20% (Lo, 2015). The general IT problem is that IT employee turnover has a negative effect on IT operations and organizational success. The specific IT problem is that some IT managers lack strategies to retain IT employees in order to support the goals and objectives of the IT organization.

Purpose Statement

The purpose of this qualitative exploratory multiple case study was to identify strategies that IT managers use to retain IT employees in order to support the goals and

objectives of the IT organization. The target population was IT management professionals, including IT managers, vice presidents, directors, and C-level executives, in the transportation industry. The study included interviews with participants who had employers in Memphis, Tennessee. The results of this study may help IT managers identify components that lead to IT employee turnover, develop organizational strategies to prevent or mitigate IT employee turnover, and retain IT employees. This study may also provide input into organizations' overall retention strategy. Some aspects of IT employee turnover can not only inhibit the organization, but also be devastating to the IT employee. Components such as burnout and high stress levels can have a negative effect on IT employees' physical and mental health, and job-related health issues can affect the personal lives of those employees. Physical and mental health are social issues, and addressing them can lead to social change.

Nature of the Study

The qualitative research methodology was chosen for this study. A qualitative approach does not rely on statistical data to reach findings (Popescul & Jitaru, 2017). The qualitative research method is an approach to study cases, people, or phenomena in their original environment with the intention to acquire descriptive knowledge from people to understand their perceptions and the meaning they give to their experiences (Arseven, 2018; Popescul & Jitaru, 2017). In this study, a simple *yes* or *no* answer to the research question was not sufficient. The answer required explanation for in-depth understanding, and the qualitative method is useful to researchers who are interested in participants' points of view (Popescul & Jitaru, 2017). In contrast, quantitative

methodology involves using statistical and quantifiable data to support one or more hypotheses or the null hypothesis (Barnham, 2015). Furthermore, the quantitative approach does not provide insight into a participant's feelings (Arseven, 2018); thus, a quantitative design would have limited the ability to determine burnout in an IT staff member. Therefore, the quantitative approach was not used for this study. A mixed-method approach can combine in-depth understanding of a participant's experience with quantifiable data to support it (McCusker & Gunaydin, 2015). A mixed-method approach can strengthen the results of a study (McCusker & Gunaydin, 2015). However, this study did not include the collection of statistical data; therefore, a mixed-method approach was not appropriate.

Because the workplace and its environment type can be the cause of job-related burnout (Ahmad & Afgan, 2016), it was important to capture the context of IT managers in relation to the topic of the study to investigate the phenomenon in its natural setting. A case study approach may be used to acquire an in-depth understanding of an issue or phenomenon in its natural setting (Arseven, 2018). Considering multiple sites permits a multiple case study design (Arseven, 2018), which was appropriate for this study.

A narrative research design centers on presenting the lives and experiences of single individuals through storytelling, narratives, and discussions (Hill & Burrows, 2017). A narrative approach was not useful for this study. Researching the lives of individuals through storytelling was not a focal point of this study. Phenomenological design involves the lived experiences of several participants (Adams & van Manen, 2017), exploring how these individuals make sense of a phenomenon; this structure did

not align with this study. Ethnographic research allows the researcher to study a culture-sharing group while immersed in the daily lives of participants (Mannay & Morgan, 2015). Such a level of intrusion was not required for this study, and the purpose did not involve a culture group. Therefore, ethnographic research was rejected.

Research Question

The central research question for this study was the following: What strategies do IT managers use to retain IT employees in order to support the goals and objectives of the IT organization?

Interview Questions

1. What is your perception of IT employee retention in your organization? How would you define employee retention in your organization?
2. How can IT employee retention improve your work environment?
3. What issues have you seen that led to IT employee turnover, and how have these issues affected your employees and your work environment?
4. What are reasons IT employees leave the organization?
5. How did IT employee turnover affect the organization? How did it affect you as the IT manager?
6. What is the purpose of IT in your organization, and how are IT employees relevant to the operations and goals of your organization?
7. What are some strategies you implemented to retain IT employees? How have IT employees responded to these strategies?

8. How do you determine if a strategy is effective, and how can the strategies that you implemented be improved?
9. What advice would you give to another IT manager who seeks to improve IT employee retention?
10. How were you able to convince executive management that your retention strategies were not only necessary but required? How did you address any resistance?

Conceptual Framework

The conceptual framework for this study was organizational learning theory, which addresses the process by which learning employees supply the organization with new knowledge (Jiménez-Jiménez & Sanz-Valle, 2011). Argyris and Schön (1978), pioneers of organizational learning theory, developed the idea that organizations can learn from their mistakes. An organization can learn by identifying, analyzing, and correcting errors (Argyris & Schön, 1978). These ideas became essential concepts in organizational learning theory. Later, Argyris and Schön (1996) revisited their work to add new developments and concepts.

Jiménez-Jiménez and Sanz-Valle's (2011) extension of organizational learning theory formed the basis of this study. Jiménez-Jiménez and Sanz-Valle argued that organizational learning can change the behaviors of people in an organization, thus changing or improving the organization. The process of organizational learning contains four subprocesses: knowledge acquisition, knowledge distribution, knowledge interpretation, and organizational memory (Jiménez-Jiménez & Sanz-Valle, 2011).

Knowledge acquisition is the process by which the organization gains new knowledge (Jiménez-Jiménez & Sanz-Valle, 2011). *Knowledge distribution* is the process by which employees in the organization share information among themselves (Jiménez-Jiménez & Sanz-Valle, 2011). *Knowledge interpretation* occurs when individuals give knowledge meaning and use within the organization, and *organizational memory* is the process by which the organization retains knowledge for future use (Jiménez-Jiménez & Sanz-Valle, 2011).

Organizational learning theory was appropriate for this study to effectively identify components that lead to IT employee turnover and develop ways to prevent or mitigate them. That approach can be used as the basis to form strategies that IT managers can use to reduce IT employee turnover and retain IT employees. For instance, Avanzi et al. (2018) argued that large workloads can be a cause of burnout. Most often, IT managers delegate workloads to IT staff members. IT managers can use organizational learning to identify a process by which workload delegation does not cause IT employee burnout. Moreover, that process can be extended to address other components that may cause IT employee burnout.

Definition of Terms

C-level executive: C-level executives are those executives who hold positions with job titles beginning with the letter "C," such as chief executive officer (CEO), chief information officer (CIO), chief financial officer (CFO), chief security officer (CSO), and chief technology officer (CTO). These executives lead their organizations by providing strategy and direction while making difficult decisions that affect the success or failure of

the organization (Andriole, 2018). For this study, participants included IT-related C-level executives (CIO, CSO, and CTO).

Information technology (IT) employee retention: In the context of this study, IT employee retention refers to an IT manager's or organization's ability to retain IT employees for the work environment and reduce turnover (Ahmad & Afgan, 2016; Armstrong, Brooks, & Riemenschneider, 2015; Ertürk & Vurgun, 2015).

Information technology (IT) employee turnover: IT employee turnover occurs when an employee leaves a place of work, whether voluntarily or involuntarily, and is replaced by the place of work (Ahmad & Afgan, 2016; Armstrong et al., 2015; Ertürk & Vurgun, 2015).

Information technology **(***IT) employee burnout*: IT employee burnout refers to an IT employee's mental or physical state as a result to being exposed to work exhaustion or work overload (Armstrong et al., 2015).

Assumptions, Limitations, and Delimitations

A researcher should address underlying assumptions, limitations, and delimitations for any study. Each component is essential to the research, offering credibility and opportunities for new or expanded areas of study (Busse, Kach, & Wagner, 2016). Researchers should present an unbiased discussion of each component to inform the study and prevent misinterpretations (MacDermid, 2017). I chose to document the assumptions, limitations, and delimitations for this study.

Assumptions

An assumption is defined as a researcher's preconceived notion or belief that serves as the foundation for any proposed research (Yang, Liang, & Avgeriou, 2018). Moreover, an assumption is a researcher's belief that something is true without proof. It is important to identify those beliefs that are taken as true to prevent bias in research (Yang et al., 2018). Documenting assumptions shows that the researcher is aware of potential self-bias and the need to prevent its effect on the research (Yang et al., 2018).

For this study, it was assumed that all participants would answer every question truthfully and to the best of their knowledge. Based on the criteria of the selection process, it was assumed that participants would answer each question with information that informed the research. Finally, it was assumed that a qualitative approach would provide sufficient data for this study.

Limitations

A limitation is defined as a weakness or shortcoming identified within research (Busse et al., 2016). Many studies are narrowed to a specific topic with selected participants in a specific environment or location. In turn, this singularity limits a study to the researcher's focal point. However, documenting a study's limitations identifies opportunities for other researchers to expand the research or develop new research (Busse et al., 2016). Through those opportunities, researchers can explore whether the research can be developed to fit other groups or environments (Busse et al., 2016).

A limitation of this study was the role of the IT professional. The participants consisted of only IT professionals with management roles. For this study, a management

role was defined as an IT professional role in which an individual had subordinates and delegation duties. Participants consisted of current or former directors, managers, and C-level executives.

Delimitations

Delimitations refer to the scope of a study (Newman, Hitchcock, & Newman, 2015). A delimitation defines a boundary that the researcher stays within to conduct the study (Newman et al., 2015). Anything outside of that boundary is irrelevant to the problem of the study. Delimitations also narrow the study, usually to a specific participant group or location. Narrowing the study makes the study manageable and easier for readers to follow (Newman et al., 2015).

The scope of this study was bound by location and industry. The IT managers had employers in Memphis, Tennessee. The participants also represented the transportation industry.

Significance of the Study

Contribution to Information Technology Practice

This study may contribute to IT practice by uncovering the causes of IT employee turnover and aiding IT managers with plans to prevent or mitigate them. IT employee turnover can disrupt business operations and increase administrative overhead costs (Bulson et al., 2017). Because IT is essential to the success of an organization, IT employee turnover can be a hindrance to the achievement of business objectives and organizational goals (Otoiu & Titan, 2017). Implementing strategies to retain IT employees prevents or mitigates IT employee turnover, thus supporting the goals and

objectives of the organization. As more IT jobs become available (U.S. Department of Labor, Bureau of Labor Statistics, 2015), it is important to retain current IT professional staff while adding new employees. One method to accomplish this is to prevent or mitigate IT employee turnover by developing strategies that IT managers can use to retain IT employees. This study was designed to use organizational learning theory to identify and analyze causes of IT employee turnover in order to find ways to prevent it. These prevention methods may be developed into strategies that IT managers can use to retain IT employees. Though centered on IT employees, this study may also serve as input into an organization's overall retention strategy.

Implications for Social Change

As IT jobs continue to increase in number (U.S. Department of Labor, Bureau of Labor Statistics, 2015), the IT industry has become one of the largest employers in society, creating jobs and supporting a stable economy. As technology evolves, businesses innovate to discover new uses for technology along with services to offer other businesses and the general public. Retaining IT employees ensures that technology continues to advance, companies continue to innovate, and society continues to benefit. Some causes of IT employee turnover, such as burnout and work exhaustion, can have harmful physical and mental effects on IT employees. High levels of stress can aid in the development of physical and mental illnesses, causing lifelong disabilities and even death. While developing and implementing strategies to retain IT employees, IT managers can address the cause and nature of burnout and work exhaustion. Finding ways to mitigate both can lead to healthier employees. This study may support social

change by addressing stress and work-related illnesses that can affect the personal lives of any employee.

A Review of the Professional and Academic Literature

The literature review encompasses 90 articles, one obtained from the Bureau of Labor Statistics government website and the others from various peer-reviewed journals, including *MIS Quarterly*, *Burnout Research*, *Information Systems Frontiers*, *Journal of Business Economics*, *Leadership & Organization Development Journal*, *Computers in Human Behavior*, *Work*, and *The Journal of Psychology*. Search methods for locating and reviewing literature included the use of the Walden University Library and Google Scholar. Keywords and search terms included *burnout*, *turnover*, *retention*, *IT employee turnover*, *technology employee stress*, and *technology employee retention strategies*. Tools used to confirm that each journal contained scholarly articles and was peer-reviewed were Ulrichsweb Global Serials Directory, Walden University Library's "Peer Reviewed Scholarly Journals Only" filter, and academic journal websites. Eighty-five of the 90 articles were peer reviewed, and 78 articles had been published within 5 years of my anticipated graduation date. Table 1 shows the article reference count for the literature review versus the complete study.

Table 1

Article Reference Count for Strategies for IT Employee Retention

Section	Peer-reviewed	Within 5 years	Total	Percentage peer reviewed	Percentage within 5 years
Literature review	87	78	90	97	87
Complete study	184	172	193	95	89

Introduction

The purpose of this qualitative multiple case study was to explore strategies that IT managers use to retain IT employees in order to support the goals and objectives of the IT organization. Strategies were explored to allow IT managers to address the factors that lead to IT employees leaving. Properly addressing these factors can lead to increased IT employee retention. The literature review centered on the importance of retaining IT employees by exploring why they leave, how IT-professional turnover affects the organization when they leave, and strategies that IT managers can use to retain these employees. Specifically, the focus was (a) factors that encourage IT employees to choose to leave the organization, (b) factors that encourage IT managers to terminate IT employees, (c) the effects of IT employee turnover on the organization, and (d) strategies that IT managers can use to retain IT employees. Employability, burnout and work exhaustion, and health were addressed as major factors that encourage IT employees to choose to leave an organization. Outsourcing, performance, and poor or mismatched skillset were addressed as factors that encourage IT managers to terminate IT employees.

The fiscal cost of IT employee turnover and the cost of productivity and success in business were addressed as factors affecting the organization.

Conceptual Framework

Argyris and Schön (1978), pioneers of the organizational learning theory, believed that organizations could learn from their mistakes. If the organization made mistakes that were harmful to its health, it could learn from those mistakes to develop strategies to prevent them from happening again (Argyris & Schön, 1978). Specifically, an organization can learn by identifying, analyzing, and correcting errors (Argyris & Schön, 1978). Defensive routines prevent mistakes, thus preventing learning (Argyris & Schön, 1978). Before 1980, researchers relied upon clinical case studies for organizational learning (Argote, 2011). Cyert and March (1992) saw organizational learning as changes in an organization's routine. Those changes could have negative or positive effects (Cyert & March, 1992). Engineers used field studies to estimate the rates of learning to examine how characteristics of performance changed, which included examining errors (Argote, 2011).

Jiménez-Jiménez and Sanz-Valle (2011) extended organizational learning theory to encompass the process by which an organization gains new knowledge from the experiences of its employees. Argote (2011) stated that organizational learning results in a change within the organization that is due to experience. Moreover, experience can involve success or failure, may be positive or negative, and may be direct or indirect in nature (Argote, 2011). Jiménez-Jiménez and Sanz-Valle insisted that by changing the behaviors of people within it, an organization can change and improve. Furthermore, the

process for organizational learning contains four subprocesses: knowledge acquisition, knowledge distribution, knowledge interpretation, and organizational memory, as seen in Figure 1 (Jiménez-Jiménez & Sanz-Valle, 2011).

Organizational Learning Theory

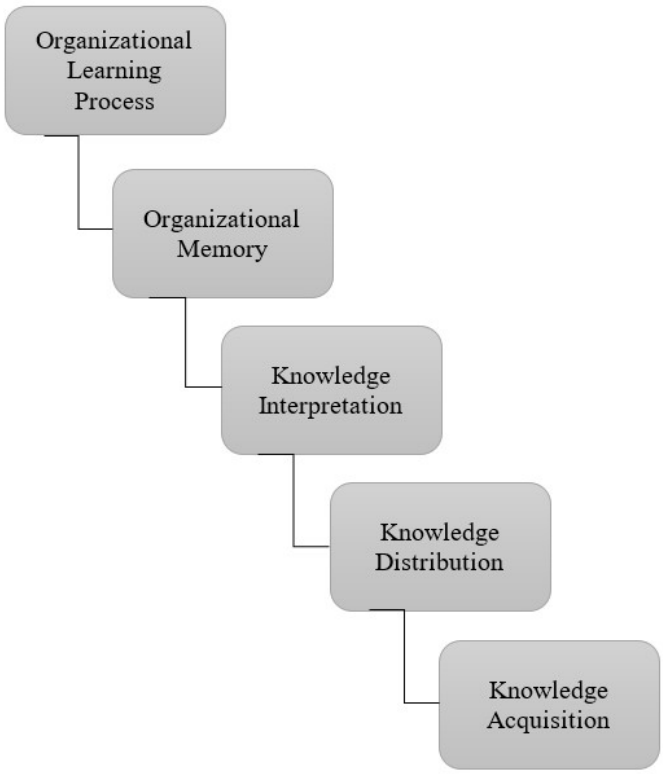

Figure 1. Subprocesses of organizational learning theory. Adapted from "Innovation, Organizational Learning, and Performance," by D. Jiménez-Jiménez and R. Sanz-Valle, 2011, *Journal of Business Research, 64*(4), p. 408-417.

Knowledge acquisition refers to the process by which the organization is able to obtain new knowledge (Jiménez-Jiménez & Sanz-Valle, 2011). According to Jiménez-Jiménez and Sanz-Valle (2011), knowledge distribution is the process by which employees share knowledge with the organization. The authors found that during knowledge interpretation, the information is given meaning and context within the

organization to create new common knowledge (Jiménez-Jiménez & Sanz-Valle, 2011). Organizational memory refers to the organization's action of storing the new knowledge and retrieving it for future use (Jiménez-Jiménez & Sanz-Valle, 2011). This is the process by which the organization can identify its mistakes and learn from them. If IT managers can identify mistakes made in retaining IT employees, they can develop a set of strategies based on those mistakes to mitigate IT employee turnover.

Edwards (2017) described organizational learning as the route to organizational improvement, while Chia (2017) referred to it as "wayfinding" to sustained success, and Saadat and Saadat (2016) found organizational learning to be critical to organization success. Chia argued that organizations should learn through direct engagement and action. Edwards offered a framework that identified areas for improvement and suggested an approach based on best practices. Saadat and Saadat asserted that the attainment of knowledge allows businesses to be competitive and successful. Organizational learning allows the organization to obtain knowledge and make it useful to the benefit of continued, competitive business (Saadat & Saadat, 2016).

Starbuck (2017) saw organizational learning as a means for the organization to adapt and survive serious crises. He stated that many organizations fail due to their slow response to crises and their lack of adaptability (Starbuck, 2017). During a state of crisis, Starbuck suggested that executives and management teams lead strategies that address minimizing loss and encourage diverse information. Bledow, Carette, Kühnel, and Bister (2017) argued that part of the organizational learning process is learning from the mistakes of others.

Through observing and analyzing the mistakes of others, it is possible to avoid those mistakes or prepare for them (Bledow et al., 2017). Managers should view the mistakes of others as learning opportunities, and failure, though negative at the time, should be viewed as a positive learning experience (Bledow et al., 2017). Bledow et al. (2017) went on to argue that processing negative information extensively is a mental adaptation that allows a more pronounced remembrance of the event. Better memory of the event and the negative experience can prompt a desire to learn from the mistake (Bledow et al., 2017). Therefore, an IT manager seeking to resolve IT employee retention issues should carefully observe, analyze, and review each incident in which an IT employee leaves the organization. The IT manager's intent should be to identify the mistakes made and understand the cause. IT managers should take the opportunity to learn from the turnover incidents in order to be better equipped to prevent them in the future.

Agreeing with Saadat and Saadat's (2016) assessment of information and knowledge, Silva et al. (2017) found that when considering accidents and organizational safety practices, accessible knowledge and learning culture is key. The availability of knowledge and information for the prevention of accidents is essential to creating strategies that encourage organizational safety (Silva et al., 2017). By considering the previous occurrence or the possible occurrence of accidents, the organization can learn prevention methods to incorporate into strategies (Silva et al., 2017). Silva et al. found that organizations that did this were able to develop effective organizational safety strategies.

Liao, Chen, Hu, Chung, and Liu (2017) argued that the ultimate purpose of organization learning is organizational performance, and managerial or leadership style can affect the outcome. Liao et al. distinguished between a transactional leadership style and a transformational leadership style. A transactional leadership style, built on transactions, is an interchange between manager and staff with little room for error (Liao et al., 2017). A transformational leadership style encourages trust, relationships, and self-awareness between manager and staff, offering creativity and experimentation (Liao et al., 2017). A transformational leadership style allows for errors, enabling staff members to learn from their mistakes (Bledow et al., 2017; Liao et al., 2017). The process of learning from those mistakes contributes to organizational learning (Bledow et al., 2017; Liao et al., 2017). To conclude the study, Liao et al. presented a framework that showed transformational leadership directly affecting organizational learning and indirectly affecting organizational innovation. Organizational learning directly affected organizational innovation, which in turn affected organizational performance (Liao et al., 2017). Figure 2 shows an illustration of Liao et al.'s proposed framework.

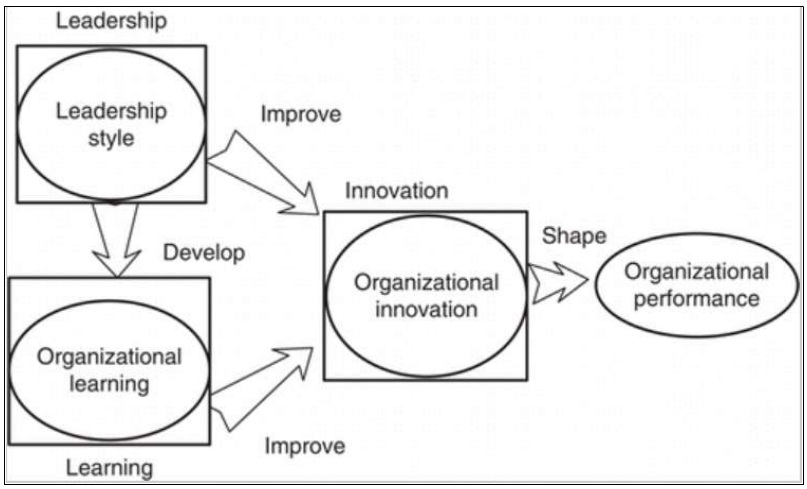

Figure 2. Organizational learning and organizational innovation framework. Reprinted from "Assessing the Influence of Leadership Style, Organizational Learning and Organizational Innovation," by S.-H. Liao, C.-C. Chen, D.-C Hu, Y.-C., Chung, and C.-L. Liu, 2017, *Leadership & Organization Development Journal, 38*(5), p. 592. Copyright 2017 by Emerald Publishing Limited. Reprinted with permission (Appendix A).

The key to retaining IT employees is to understand why they leave. By understanding why they leave, IT managers, along with the organization, can develop organizational strategies that prevent and lessen the possibility of IT employee turnover (Bledow et al., 2017). Often, IT employees leave due to the organization or IT manager when there is a lack of recognition, noncompetitive compensation, no opportunities for promotion, work exhaustion, and a high chance of burnout (Kim & Fernandez, 2017). IT managers can develop and integrate strategies to address each component that causes turnover (Bledow et al., 2017). The organization, along with the IT manager, can learn from past mistakes that lead to IT employee turnover and develop organizational strategies to directly address those mistakes (Bledow et al., 2017), which is the basis of organizational learning theory (Argyris & Schön, 1978).

If an IT manager can develop a set of effective, successful strategies for retaining IT employees, the IT manager can implement those strategies to address issues with retention while aligning solutions with the goals of the IT department. By effectively addressing mistakes and areas of weakness or low performance, an IT department is changed, thus changing the organization. When an IT manager is able to retain IT employees to support the goals and objectives of the organization, organizational performance improves, as IT drives and supports organizational success. Edwards (2017) stated that organizational learning yields operational improvement.

Liao et al.'s (2017) framework can be adapted to present the significance of this study. The IT manager can be a leader who obtains the means to develop an approach for organizational learning. Successfully and effectively implementing those means of organizational learning drives innovation and causes organizational change. The result is improved organizational performance that leads to success. Figure 3 shows an adaptation of Liao et al.'s framework to illustrate the IT manager's role in retaining IT employees to promote organizational success.

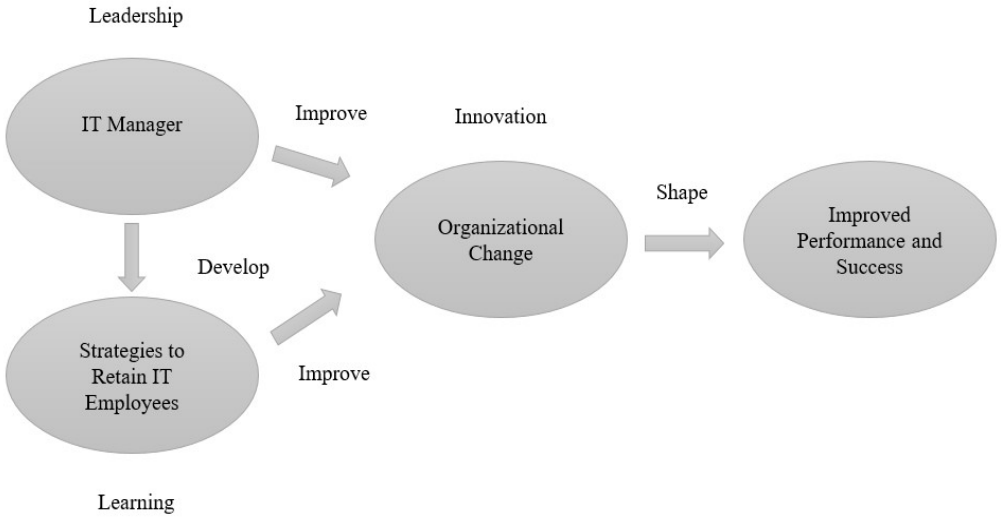

Figure 3. IT manager's role in retaining IT employees. Adapted from "Assessing the Influence of Leadership Style, Organizational Learning and Organizational Innovation," by S.-H. Liao, C.-C. Chen, D.-C Hu, Y.-C., Chung, and C.-L. Liu, 2017, *Leadership & Organization Development Journal, 38*(5), p. 592. Copyright 2017 by Emerald Publishing Limited. Reprinted with permission (Appendix A).

Three Theories of Organizational Learning

Three theories of organizational learning exist—experiential learning theory, adaptive and generative learning theory, and assimilation theory. Each theory has its own set of models, methods, principles, and practices. Application of a particular theory should match an organization's intent and learning ability.

Experiential learning theory. Credited to Kolb (1984), experiential learning theory (ELT) has roots in physiology, psychology, and philosophy. The premise of the theory is that learning happens through acquiring and transforming or manipulating experience. Methods consist of concrete experience (CE) and abstract conceptualization (AC) for the acquisition of experience component, and reflective observation (RO) and active experimentation (AE) for the transformation component (Jose, Patrick, & Moseley, 2017). In practice, the learning process in ELT is a repeated cycle that involves

experiencing, reflecting, thinking, and acting (Jose et al., 2017; McCarthy, 2016). Sequence is significant, as each component affects the component that follows. McCarthy (2016) described the theory as learning by doing. Figure 4 shows a visual representation of ELT.

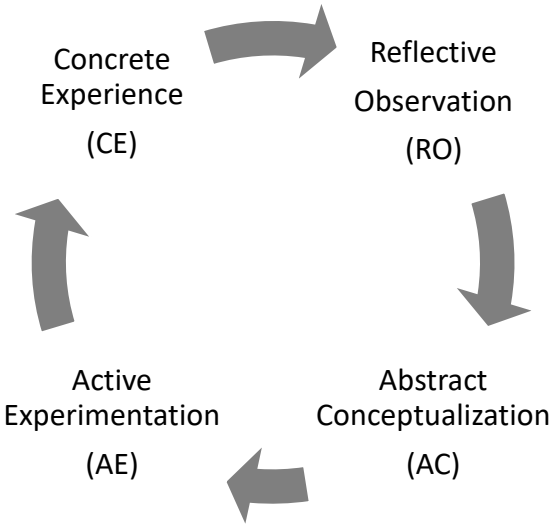

Figure 4. Experiential learning theory. Adapted from "Experiential Learning Theory: From Theory to Practice," by M. McCarthy, 2016, *Journal of Business & Economics Research (JBER), 14*(3), p. 92. Copyright 2016 by author. Reprinted with permission (Appendix A).

Adaptive and generative learning theory. Senge's (1990) work in organizational learning is widely accepted as a foundation for adaptive and generative learning theory. His perception of a learning organization is that such an organization supports learning in order to continuously improve to survive and be successful in a rapidly changing and competitive business environment (Yadav & Agarwal, 2016). Senge's (1990) work centered on using the systems thinking method to promote organizations into learning organizations by partaking in group problem solving. He developed five disciplines as building blocks to guide organizations through encouraging

aspiration, reflective conversation, and understanding complexity (Senge, 1990; Yadav & Agarwal, 2016). The five disciplines are personal mastery, mental models, shared vision, team learning, and systems thinking (Senge, 1990; Yadav & Agarwal, 2016).

Personal mastery refers to personal learning of the individual (Yadav & Agarwal, 2016). Organizations cannot begin to learn until the individuals within them begin to learn (Yadav & Agarwal, 2016). Personal mastery has two components (Yadav & Agarwal, 2016). First, the individual must define a goal; second, the individual must be able to determine how close the goal is to being completed (Yadav & Agarwal, 2016). Individuals who practice personal mastery begin to discover the details of components around them and how they interconnect to form a whole (Yadav & Agarwal, 2016). Mental models determine how people think and act (Yadav & Agarwal, 2016). They are people's perception of the world around them that determines how they take action (Yadav & Agarwal, 2016). This includes assumptions and generalizations based on beliefs and acquired information. Learning organizations challenge mental models (Yadav & Agarwal, 2016). Transformation in learning may come through a change in beliefs or new information.

Shared vision begins as a vision within the individual, and it usually exists as a goal that the individual wishes to accomplish (Yadav & Agarwal, 2016). Developing shared vision is the practice of individuals within the organization sharing the same vision toward a common goal or future outlook (Yadav & Agarwal, 2016). Shared vision promotes organizational learning, as it provides a common purpose (Yadav & Agarwal, 2016). Senge (1990) was careful to note that the vision of one individual should not be

forced upon another individual. Vision adoption must be genuine. However, vision adoption can be encouraged (Yadav & Agarwal, 2016). Team learning can only be obtained through a group of individuals working together to suppress their assumptions and engage in unbiased thinking (Yadav & Agarwal, 2016). Each team member should be committed to a common goal and have a shared vision. A team should supplement the weaknesses of individual team members for greater efficiency, and a team should understand the organization and how the team can influence it (Yadav & Agarwal, 2016).

Systems thinking encompasses the other four disciplines (Yadav & Agarwal, 2016). The premise of systems thinking is that all four disciplines must exist at once within the organization for the organization to be a learning organization (Yadav & Agarwal, 2016). Systems thinking is a framework that reveals patterns and interconnections among the four disciplines (Yadav & Agarwal, 2016). In contrast to Senge's (1990) work, generative learning addresses abrupt new ideas and sporadic change (Harrison, 2000). March (1991) expanded the theory of generative learning to include methods of organizational learning—exploitation and exploration. Exploitation refers to the use of existing knowledge to obtain value in information already known (March, 1991). Exploration refers to engaging in a new way of thinking, which may include experimenting and researching (March, 1991).

Assimilation theory. Behaviorally based approaches to organizational learning that lead to actions of change when individuals partake in performance-based learning form the basis of assimilation theory (Nevis, DiBella, & Gould, 1995). The theory, credited to Nevis et al. (1995), presents the learning process in three steps: (a) the act of

acquiring knowledge; (b) sharing the knowledge acquired; and (c) using the acquired and shared knowledge (p. 74). Use of the assimilation theory focuses on practical application of knowledge. The knowledge is acquired, shared, and then applied to a component or situation. Nevis et al. continued to discuss seven learning orientations that gave detail to the three steps of the learning process: (a) origin of knowledge; (b) production versus process focus; (c) knowledge possession and availability; (d) sharing methods; (e) incremental versus transformation learning mode; (f) value and market deliveries, and (g) skill development (p. 77). Finally, Nevis et al. discussed 10 facilitating factors that determine how difficult it is for learning to occur: (a) scanning imperative; (b) performance gap; (c) concern for measurement; (d) experimental mindset; (e) climate of openness; (f) continuous education; (g) operational variety; (h) multiple advocates; (i) involved leadership; and (j) systems perspective (pp. 76-83).

Argyris and Schön versus Senge. Argyris and Schön's (1978) conception of organizational learning is the organization's ability to identify mistakes harmful to its health in order to prevent them in the future, while Senge's (1990) work in adaptive and generative learning theory expands Argyris and Schön's concept to support successful business practice. The use of organizational learning can not only protect the health of the organization (Argyris & Schön, 1978), but also drive learning to promote a successful company with competitive business strategy (Edwards, 2017; Yadav & Agarwal, 2016).

Comparing and Contrasting Conceptual Theories

Senge's (1990) expansion of Argyris and Schön's (1978) concept of organizational learning theory presented opportunities for additional research. Of Nevis

et al.'s (1995) facilitating factors, three related directly to Senge's work. Nevis et al.'s systems perspective was Senge's systems thinking. Nevis et al.'s continuing education was an interpretation of Senge's personal mastery and team learning. Nevis et al.'s multiple advocates was an extension of Senge's shared vision.

All three theories presented organizational learning as a process with various steps. Nevis et al. (1995) presented a three-step process that included acquiring knowledge, sharing, and using the knowledge while Kolb's (1984) ELT process included experiencing, reflecting, thinking, and acting. Senge's (1990) shared organizational learning as doing, reflecting, connecting, and deciding. Concerning the learning process, Kolb focused on a process where learning is exclusive to the individual, but Senge's study suggested that individuals can be more effective within teams, working towards the same vision. Kolb and Senge presented theories from the cognitive school, which included acquiring knowledge through thought, but Nevis et al.'s approach focused more on practical application.

Stages theory. Nolan (1973) presented the stages theory, which is a set of concepts meant to explain computer evolution and the absorption of IT in the organization. Nolan's original work presented four stages: (a) initiation; (b) contagion; (c) control; and (d) integration. Initiation centered on the introduction of computing into the environment (King & Kraemer, 1984). Contagion referred to rapid growth of computer use due to top management support (King & Kraemer, 1984). At this stage cost begins to grow, and management search for ways to control it (King & Kraemer, 1984). During the control step, top management puts cost measures in place (King &

Kraemer, 1984). Finally, the integration stage refers to the moment cost is controlled, and cost benefit analysis is leveraged for decisions on new systems (King & Kraemer, 1984). Halawi and McCarthy (2006) associated stages theory with organizational learning theory. They argued that every organization goes through four stages of learning, which are initiation, contagion, control, and integration (Halawi & McCarthy, 2006). In contrast with Argyris and Schön's (1978) concept of organizational learning theory, stages theory focuses on the adoption of IT into the organization, focusing on the technology itself (Halawi & McCarthy, 2006; Nolan, 1973). Organizational learning theory focuses on the creation of a learning organization by learning individuals within the organization (Argyris & Schön, 1978; Jiménez-Jiménez & Sanz-Valle, 2011; Yadav & Agarwal, 2016).

Nolan's (1973) original work centered on the absorption of IT in the workplace and the steps to introduce computing into the environment. Rajaretnam and Sheth (2017) proposed a staged model for the adoption of online buying in India. The purpose of the study was to adopt online buying in order to develop strategies to promote ecommerce (Rajaretnam & Sheth, 2017). In order to move buyers through the stages of adoption, Rajaretnam and Sheth considered their motivating factors and demographics. Rajaretnam and Sheth concluded that trust plays a role in the process of adopting online buying.

Although Halawi and McCarthy (2006) argued an association between stages theory and organizational learning theory, I did not choose stages theory as the conceptual framework for this study due to the lack of focus on the IT employee. Nolan (1973) focused on the technology. Organizational learning theory focuses on learning

occurring within the individual resulting in a learning organization (Argyris & Schön, 1978; Jiménez-Jiménez & Sanz-Valle, 2011; Yadav & Agarwal, 2016).

DeLone and McLean information success model. DeLone and McLean (1992) developed a comprehensive information systems model that was comprised of the integration of 180 research studies. Through their study, DeLone and McLean introduced a classification for six major categories of information systems success: (a) system quality; (b) information quality; (c) use; (d) user satisfaction; (e) individual impact; and (f) organizational impact. These six categories should be used as a guideline to measure information systems success (DeLone & McLean, 1992). DeLone and McLean argued that information system quality affects user satisfaction, user satisfaction affects the individual, and individuals can have an impact on the organization. Zhou (2016) used the information success model to address the necessities for the continuance of location-based services. Zhou concluded that system quality, information quality, and service quality affected trust, flow, and privacy concern. Ultimately, trust, flow, and privacy concern affected continuance usage (Zhou, 2016). Zhou insisted that service providers should be concerned with user experience and privacy if they want to promote continuance usage of location-based services.

DeLone and McLean (1992), Nevis et al. (1995), Senge (1990), and Yadav and Agarwal (2016) proposed an improved organization as the result of their studies. However, DeLone and McLean did not seek to accomplish that improvement through the means of an individual. DeLone and McLean and Senge focused on technology integration success. They evaluated technology as a way to impact the organization. In

contrast, I chose the organizational learning theory for this study to center on the individual's ability to impact the organization by learning. Learning occurs by identifying mistakes and using them to strengthen organizational strategies (Argyris & Schön, 1978). Yadav and Agarwal argued that the organization can begin to learn only when the individuals within it begin to learn. This study proposes strategies IT managers can acquire and use to retain IT employees. Since IT employees manage, support, and direct IT, they play a major role in the success of the organization.

IT Employees Choose to Leave

In part, IT employees may leave an organization for reasons similar to employees that are not IT employees, and IT employees may leave for reasons specific to IT-related circumstances. IT managers can lose IT employees for many reasons. When IT employees choose to leave, the organization experiences voluntary turnover (Zhang, 2016). Due to IT employees making the decision to leave, it is more difficult for IT managers to predict and control voluntary turnover (Zhang, 2016).

Employability. Acikgoz, Sumer, and Sumer (2016) argued that a relationship exists between perceived employability and turnover intention. Specifically, employees' belief that they can find a new job is related to the likelihood they will leave their current job. Acikgoz et al.'s study concluded that when employees were less committed to their organizations and their perceived job security was high, their turnover intention was high if they perceived themselves to be employable. Kim and Fernandez (2017) tended to agree, as they found that empowered employees are more likely to leave their current jobs. Empowered employees have a perceived notion of self-efficiency and

organizational worth that creates a belief of job security (Kim & Fernandez, 2017). This is due to a proper skillset that fits their job, successful organizational development, and comfort in their job roles (Ravisha & Pakkerappa, 2017). Korsakienė, Stankevičienė, Šimelytė, and Talačkienė (2015) argued that under a growing economy and low unemployment rates, empowered employees are likely to have even more opportunities to leave current employment for new prospects. Supported by their belief of self-efficiency and organizational worth (Kim & Fernandez, 2017), empowered employees have the confidence to secure an opening with new employment.

In contrast, Dahou and Hacini (2018) argued that empowered employees are a valuable asset to the organization. Empowering employees improved team performance (Dahou & Hacini, 2018). Their study revealed that through information sharing, job design, and proper leadership, organizations can empower employees, which was essential to better customer service in the banking industry (Dahou & Hacini, 2018). Yuliaty's (2017) argument was that by empowering employees to use technology operations to enhance creativity, employees would be able to support their organization with competitive edge.

Research suggested that by empowering employees with relevant skills and tools, employees can support the organization to reach business goals and objectives while creating competitive edge (Dahou & Hacini, 2018; Yuliaty, 2017). Empowered employees are valuable to the organization, as they play an important part in the organization's success (Dahou & Hacini, 2018; Yuliaty, 2017). However, empowered employees often feel empowered, which leads to feelings of self-efficiency, importance,

self-worth, and security (Kim & Fernandez, 2017). Acikgoz et al. (2016) said that when those feelings are accompanied with less commitment to the organization and a belief in employability, employees are likely to leave.

Since the success of an organization depends on empowered employees (Dahou & Hacini, 2018; Yuliaty, 2017), it is ideal to retain these employees. Since IT is embedded in the organization, being crucial to the functionality and expansion of business and operations (Wu et al., 2015), retaining IT employees is even more relevant. If empowering IT employees can inadvertently encourage them to leave, IT managers must develop effective strategies to retain IT employees.

Burnout. IT employees experience burnout at a high rate (Cook, 2015). An IT employee may experience burnout when dealing with work exhaustion (Cook, 2015) derived from the demands of job responsibilities (Rožman, Treven, & Cingula, 2018). Burnout can occur when continued stress leads to exhaustion, productivity lessens, and an employee no longer has a desire for involvement (Cook, 2015). Work exhaustion can manifest as physical and mental exhaustion (Ahmadpanah, Torabian, Dastore, Jahangard, & Haghighi, 2015). Burnout is associated with depersonalization, exhaustion, and a diminished sense of personal accomplishment (Dissanaike, 2016). It is important to note that cultural differences, both organizational and ethnic, may play a part in creating workplace stressors that cause burnout (Oe, Ishida, Favrod, Martin-Soelch, & Horsch, 2018). Some symptoms of burnout include headaches, fatigue, increased errors, irritability, and increased frustration (Rožman et al., 2018). Even insomnia and excessive sleepiness can be symptoms (Mokros, Koprowicz, Nowakowska-Domagała, Rodak, &

Pietras, 2018). Some IT employees cite burnout as a reason for leaving an organization (Rožman et al., 2018). Therefore, if IT managers can eliminate or mitigate burnout, they can have a better chance at retaining IT staff members.

Dissanaike (2016) and Cook (2015) argued that burnout is directly associated with stress, and Ahmadpanah et al. (2015) found that individuals exposed to stressors at work often experience mental and physical exhaustion. Rožman et al. (2018) declared that burnout symptoms can be physical, psychological, and behavioral. Naidoo (2018) and Rožman et al. argued that job role stressors are significant in the turnover intentions of IT employees. Since stress, specifically job and role-related stress, play an important part in the development of burnout, it is useful to understand what causes an IT employee to experience stress in the work environment.

Cook (2015) set out to determine the components that lead to the development of stress, which in turn causes burnout in IT professionals. The quantitative study consisted of 65% of responding IT professionals that had 5 or more years working with their current employer and 53.9% of responding IT professionals that had worked in the IT industry for 10 or more years (Cook, 2015). The participants were evenly distributed between roles in the industry, stretching from programming roles to help desk roles (Cook, 2015). During a focus group, the participants discussed the situations and components of their work environments that led to stress. Figure 5 shows a list of those components.

Components That Lead to Stress Factors and Burnout	Too much work under time pressure
	Lack of participation in decision-making
	Working with offshore team members
	Managers do not understand IT work
	Know someone who was laid off – job insecurity
	Have to be "on call"
	Insufficient training on new technologies
	Poor promotion prospects
	"Menial tasks" distract from "real" work
	Work must be prioritized – not everything should be an "emergency"
	Work must be challenging enough/be mentally stimulating
	Insufficient reward
	Insufficient recognition/respect
	Organizational politics
	Expected to connect and work from home on evenings and weekends

Figure 5. Components that lead to stress factors and burnout. Adapted from "Job Burnout of Information Technology Workers," by S. Cook, 2015, *International Journal of Business, Humanities and Technology, 5*(3), p. 8. Copyright 2015 by Center for Promoting Ideas, USA. Adapted with permission (Appendix A).

The findings were that components most significant with burnout were those related to role conflict, role ambiguity, and organizational politics (Cook, 2015). Role conflict occurs when an IT manager or the organization gives the IT employee two or more responsibilities that conflict (Cook, 2015). Role conflict can cause stress, as the IT employee struggles to accomplish one job responsibility that is hampered by another job responsibility (Cook, 2015). One example is the programmer versus the help desk technician. An IT employee tasked with both occupations is required to maintain differing job responsibilities, requirements, and expectations that may conflict. Role ambiguity occurs when the IT employee is unsure of what those responsibilities, requirements, and expectations are (Cook, 2015). The organization or the IT manager

does not specifically define the job role, or the IT employee does not have a proper understanding. Participants noted mixed messages about responsibilities and tasks (Cook, 2015).

Participants also felt that organizational politics interfered with important work (Cook, 2015). Having to address menial tasks that were of little importance or unrelated to IT work interfered with important work, causing emotional stress (Cook, 2015). Three-fourths of participants reported spending too much time on these tasks (Cook, 2015). They felt they were repressed from being productive and accomplishing real work. Furthermore, participants noted a lack of understanding of IT work from managers and executives, which plays a part in role ambiguity, role conflict, and the interference of organizational politics (Cook, 2015).

As stress causes burnout, IT employees that experience burnout are more likely to leave their organizations and job roles (Cook, 2015; Maier, Laumer, & Eckhardt, 2015; Naidoo, 2018). Often these IT employees are in search of a better working environment that has less stress. Therefore, to retain IT employees by mitigating or eliminating burnout, IT managers and organizations must address stress-causing factors of the work environment. Major stress causing factors may be role ambiguity, role conflict, and interference from organizational politics (Cook, 2015). Moreover, work overload, job insecurity, poor promotional prospects, and insufficient reward can cause stress among IT employees (Cook, 2015; Maier et al., 2015).

Stress that causes burnout can lead an IT employee to job dissatisfaction and a lack of organizational commitment, leading to a higher probability of intentions to leave

(Ahmadpanah et al., 2015; Cook, 2015; Maier et al., 2015; Naidoo, 2018). Dissanaike (2016), when considering her research on surgeons, would argue that IT employees that leave highly stressful environments are making a wise decision. Beginning with stress then advancing to burnout, Dissanaike argued that burnout eventually leads to major depression; and major depression can lead to suicide (Dissanaike, 2016). IT employees can choose to leave their organizations and job roles for health reasons.

Health. Employees working in the IT industry are likely to develop health issues, specifically diseases caused by elevated and sustained levels of mental and physical stress. Some common health issues caused by high stress are hypertension, insomnia, alcoholism, diabetes, irritable bowel syndrome, psoriasis, heart disease, and sexual dysfunction. These issues are either created, sustained, or intensified by high stress levels. High stress levels can also lead to anxiety, panic attacks, rapid heartbeat, and shortness of breath. Long-term exposer and an employee's family medical history can affect the severity level of such health issues (Kivimäki & Steptoe, 2018; Padma et al., 2015).

Dissanaike (2016) presented a continuum of stress (Figure 6) that ultimately can lead to suicide.

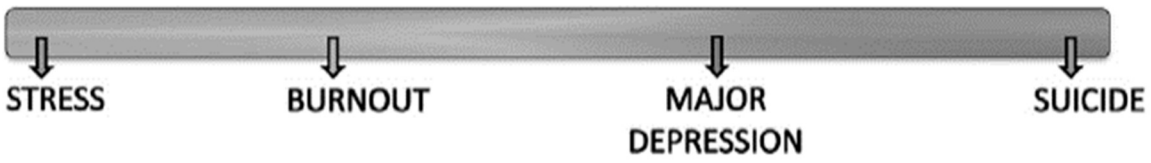

Figure 6. Continuum of stress. Reprinted from "How to Prevent Burnout (Maybe)," by S. Dissanaike, 2016, *The American Journal of Surgery, 212*(6), p. 2. Copyright 2016 by Elsevier Inc. Reprinted with permission (Appendix A).

High stress is evident in the IT industry due to the importance of IT in the organization (Naidoo, 2018). IT employees work longs hours, both during business and non-business hours, to reach business targets, goals, and objectives (Naidoo, 2018). IT employees commonly work nights, weekends, and even holidays. They respond to emergency incidents and requests, handle multiple tasks simultaneously, and address the varying needs of different end users (Naidoo, 2018). Role-related demands, such as insufficient time to complete tasks, lack of resources and support, and staying up to date with newer technology are dilemmas that can cause stress (Naidoo, 2018).

Due to the nature of the IT industry, IT employees often develop health problems that result from high stress (Padma et al., 2015). Due to these work conditions, IT employees may lose sleep or develop insomnia (Padma et al., 2015). Kubo et al. (2018) argued that this creates a cycle of declining health, as daily rest periods are essential to recovering from fatigue and stress among IT employees. As IT employees continue to work long hours and lose sleep without needed recovery time, their health continuously declines. IT employees that are continuously exposed to this type of work environment can develop serious health-related issues (Kubo et al., 2018).

Stress can affect memory. Shields, Sazma, McCullough, and Yonelinas (2017) found that when a person is stressed just before or during the retrieval of a memory, memory was impaired. Stress can also affect cognitive functions (Shields et al., 2017). Ostergren, Heeringa, de Leon, Connell, and Roberts (2017) agreed that stress resulting in memory loss and cognitive functions are health-related issues, as they found that both components are perceived as risk factors for Alzheimer's disease.

Kivimäki and Steptoe (2018) insisted that high levels of stress can act as a disease trigger. The effects of stress can be attributed to the development and progression of cardiovascular disease (Kivimäki & Steptoe, 2018). Adults with high levels of work-related stress have an increased chance of heart disease and stroke (Kivimäki & Steptoe, 2018). Ertürk and Vurgun (2015) stated that many aspects of the organization and a successful business depend on the IT that supports and drives it. IT employees are responsible for the availability and reliability of rapidly growing technologies (Ertürk & Vurgun, 2015), which can create a high stress working environment; and Kivimäki and Steptoe insisted that high levels of stress can lead to cardiovascular disease, which is a leading cause of health decline globally.

Expanding upon Kivimäki and Steptoe's (2018) work, Kivimäki et al. (2018) found that when considering cardiovascular disease, individuals who experienced job strain or work-related stress and obtained the disease had a higher mortality rate than those individuals with the disease and no work-related stress. The mortality rate was still high for individuals with work-related stress that otherwise had a healthy lifestyle, as indicated by diet and regular physical activity (Kivimäki et al., 2018). The rate was even higher than mortality rates due to hypertension, obesity, and high alcohol consumption. Kivimäki et al. was careful to note that targeting traditional risk factors to prevent or provide care for cardiovascular disease is ineffective in lowering the rate of mortality due to job strain and work-related stress. This notion implied that in addition to treating cardiovascular disease, work-related stress and job strain must be treated also.

IT Employees Are Terminated

Sometimes, it is not the IT employees' decision to leave. The IT manager and the organization decide to terminate their employment. However, the effect is the same. The IT manager has one less member on the team, and the organization has one less employee. A terminated IT employee is not a retained IT employee. Since the purpose of this study is to obtain strategies to retain IT employees, it is just as important for IT managers to develop strategies to help IT employees avoid termination as it is to develop strategies to encourage IT employees to stay with the organization. IT managers can terminate IT employees for many reasons.

Outsourcing. Some IT managers and organizations with internal IT departments choose to outsource all or some of its IT-related responsibilities. For example, IT managers may outsource IT security responsibilities only, which is common for some organizations (Cezar, Cavusoglu, & Raghunathan, 2017); or an organization may outsource their entire IT department. When outsourcing occurs, IT employees with job roles that are being outsourced often lose their jobs. IT managers or the organization can base the decision to outsource on budget, access to special IT skills, or a lack of need for IT resources (Cezar et al., 2017; Tiwana & Kim, 2016).

When an organization outsources a subset of the IT department, they often expect the remaining IT team members to work with outsourced IT workers. This process is often referred to as concurrent IT sourcing, which is a combination of insourcing and outsourcing IT resources (Tiwana & Kim, 2016). That subset of the IT department will often lose their jobs, and remaining IT team members may experience a feeling of job

insecurity. Cook (2015) noted that feelings of job insecurity may lead to stress and burnout, which could cause additional IT employees to leave.

Sometimes, the organization decides to remove the entire IT department and outsource all IT services and responsibilities. In this case, the organization terminates or lays off all IT employees, and the organization moves IT services to a third party. Removing internal IT employees and outsourcing the entire IT department affects how the organization is supported through IT. However, the advantages versus disadvantages of outsourcing IT is beyond the scope of this study.

IT employees may experience many of the stress factors that lead to burnout indicated by Cook (2015) when their employer outsources IT services and responsibilities:

- Lack of participation in decision-making
- Working with offshore team members
- Know someone who was laid off – job insecurity
- Insufficient recognition and respect (p. 8)

IT employees may discover that they were not allowed to have input on the decision to outsource IT services and responsibilities (Cook, 2015). If they were not consulted, they may feel insufficient recognition and respect, which may lead to job insecurity (Cook, 2015). All these components may cause stress that leads to burnout (Cook, 2015). Naidoo (2018) argued that stress can have a negative impact on an IT employee's job performance. An IT manager may choose to terminate an IT employee due to low job performance.

Performance. As the organization relies on IT for business operations, organizational goals, company objectives, and competitive edge, the performance of IT affects the performance of the organization (Bulson et al., 2017). The impact of IT plays a role in the success of the organization (Bulson et al., 2017). To ensure that IT aligns with business objectives and goals, supports daily operations, and stay highly available and reliable, IT employees perform tasks and participate in projects to make proper use of IT to support the organization (Otoiu & Titan, 2017), create competitive edge and discover new business opportunities.

As the performance of the organization can often be traced down to effective IT employees, the reverse also holds true. The performance of IT employees can be traced up to the success of the organization. If IT employees are deficient in completing meaningful tasks and failing to meet objectives and goals, the organization can suffer. Travis, Sarah, Bharat, and Jitendra (2017) believed that employees with a lack of motivation can be harmful to their respective team members. With more employees failing to meet performance goals, the effect on the organization is greater and possibly faster (Travis et al., 2017). Travis et al. stated that managers can respond in a few ways. They can continue to let poor work have a negative impact on the organization, they can speak to employees and hope their performance improves, they can transfer employees to another department, or they can terminate them (Travis et al., 2017). IT managers often terminate IT employees for insufficient performance (Travis et al., 2017).

Several researchers argued what causes low performing employees. Siddiqui and Zamir (2018) showed that training and development increases the performance of

employees, while no training and development leaves employees inert. Some researchers agreed that burnout causes lower employee performance and withdrawal from tasks (Biron & Eshed, 2017; Giorgi, Mattei, Notarnicola, Petrucci, & Lancia, 2018; Kim, Ra, Park, & Kwon, 2017; Olusoga & Kenttä, 2017). Kim et al. (2017) found that burnout can have a negative impact on an employee's job satisfaction and organizational commitment. Burnout can increase an IT employee's desire to leave an organization (Kim et al., 2017), and it can indirectly increase an IT manager's desire to terminate an IT employee (Travis et al., 2017).

Skillset. Sometime after an organization hires an IT employee, the IT manager must decide if the IT employee has a skillset that is relevant for the job role and effective for the tasks and responsibilities the IT manager delegates. If the answer is yes, the IT manager continues to move forward with the IT employee in hopes that the IT employee will become and remain a productive and effective member of the team. If the answer is no, the IT manager can make one of two decisions. The IT manager can train the IT employee in hopes of the IT employee developing a skillset that is suitable for the job role (Siddiqui & Zamir, 2018). The other option is to terminate the IT employee and restart the talent search (Travis et al., 2017). To prevent the probability of termination post-hire, it is important that the IT manager is transparent and clear about job responsibilities before and during the candidate selection process (Pattnaik & Sahoo, 2018).

Many organizations employ IT professionals to shape IT in a way that most benefits the organization (Otoiu & Titan, 2017). This includes scouring the right

applications, systems, networks, equipment, configurations, and employees to support the nuances of the organization to reach a defined success and create competitive edge. It is important that IT professionals have a skillset that allow them to be successful when addressing the distinctions of an organization (Siddiqui & Zamir, 2018). For instance, an IT employee with no website design experience acting as web administrator gives no benefit to the organization. The same goes for an IT manager with no management experience in relation to IT professionals. An IT employee's confusion about job role and responsibilities can lead to burnout (Cook, 2015).

IT evolves and changes rapidly. Mohammad Akhriza, Ma, and Li (2017) identified a gap between students' acquired skills and the everchanging skills needed to be effective in a rapidly evolving industry. Misra and Khurana (2017) explored the same concept to determine that not only must IT employees have a solid foundation, but they must also be adaptable and willing to embrace continuing education to acquire new skills. Misra and Khurana went further to argue that employees need more than technical skills for employability in the IT industry. Potential IT employees also need higher order thinking skills, personal skills, social skills, generic skills, and self-perceived employability skills (Misra & Khurana, 2017). Table 2 shows a description of each.

Table 2

Checklist of Employability Skills Characteristics

Employability skills	Action verbs
Technical Skills	Basic literacy (Reading, Writing, Speaking), Learnability, Technological skills, Numeracy skills, Adaptability
Higher order thinking skills	Occupational Knowledge, Learning, Reasoning, Creative thinking, Decision making, Problem-solving
Personal Skills	Knowledge, Integrity, Self-control, Self-confidence, Emotional literacy, Initiative
People/social skills	Teamwork, Respect, Ethics and Values, Networking, Interpersonal skills, Globally Aware
Generic Skills	Leadership, Team working, Project management, Oral communication skills
Self-perceived employability skills	Resilience, Behavioral Skills, Social Networking, Job-Seeking Skills, Labor Market Knowledge

Note. Reprinted from "Employability Skills Among Information Technology Professionals: A Literature Review," by R. K. Misra and K. Khurana, 2017, *Procedia Computer Science, 122*, p. 68. Copyright 2017 by Elsevier B.V. Reprinted with permission (Appendix A).

If an IT employee does not have the skills an organization needs, the organization nor the IT manager can benefit from the continued employment of the IT employee (Travis et al., 2017). Rather than continued financial loss, the IT manager may choose to terminate the IT employee (Travis et al., 2017). Moreover, if the IT employee is uncomfortable or stressed about being unable to fulfill the required role and responsibilities of the job, the IT employee may leave the organization voluntarily (Kim et al., 2017).

Organizational Effects

IT is the driving force behind many modern-day businesses (Bulson et al., 2017). Business owners and organizational leaders incorporate and leverage IT to push their businesses forward, accomplishing daily goals and reaching long-term success. Increases in IT intensive jobs results in organizational growth (Gallipoli & Makridis, 2018). Many industries have become reliant on IT (Bulson et al., 2017). Within every component of a business or organization, whether it be sales opportunities for new business or medical care for patients, users of IT applications, systems, and networks are able to complete tasks quicker and with more accuracy. The integration of IT can allow for enhanced communications from worker to worker or worker to customer (Goodman-Deane, Mieczakowski, Johnson, Goldhaber, & Clarkson, 2016; Smith, Patmos, & Pitts, 2018). IT allows for work mobility by providing remote access to mission-critical applications and systems so workers can respond to tasks at a moment's notice (Smith et al., 2018).

Hospitals and other healthcare facilities have successfully integrated electronic health records (EHR) systems into their environments (Little, McStay, Oeth, Koehler, & Bookman, 2018). Paper records often have no backups. They can be easily destroyed, lost, or misplaced. File systems may consist of filing cabinets that take up space and are cumbersome to search. Filing cabinets may also be unsecure with easy access.

EHR systems provide a way to convert healthcare information into a digital format (Little et al., 2018). To contrast, systems can be deployed to backup multiple copies of digital files. Security permissions and restrictions prevent unauthorized access and ensure integrity and confidentiality (Little et al., 2018). Each computer or terminal

has access to a centralized database of healthcare information that can be reached from multiple locations if desired. Finally, filing cabinets are no longer needed; and employees can get back workspace. EHR systems allow healthcare professionals to access patient information quicker, and the organization, security, and accuracy of such systems allow healthcare professionals to provider better and more efficient care that can be life-saving (Duarte & Azevedo, 2017; Little et al., 2018). Also, hospitals and healthcare facilities can allow patients access to their individual healthcare records (Duarte & Azevedo, 2017).

Enhanced communication abilities allow employees to communicate from anywhere in the world. No longer are employees tied to their desks, using their office phone to make calls to other employees and company contacts. Mobile phones, text messaging, video calls and conferencing, instant messaging, social media, and email are many forms of technology that have changed communication in the workplace. Due to the effectiveness of communication technology, employees can physically talk with each other less (Goodman-Deane et al., 2016; Smith et al., 2018).

Mobile technologies, including mobile communication technology, has allowed employees to always stay connected to the office. Laptops, smartphones, and tablets connected to company technical infrastructure allow employees to work in or outside the office while mobile or from the comfort of their own homes. Employees can be ready to respond to a critical task or an important customer at a moment's notice. Employees can attend conference calls and video conferencing calls while outside the office or complete

necessary tasks associated with an upcoming project (Goodman-Deane et al., 2016; Smith et al., 2018).

Many businesses and organizations use the internet to connect to resources outside their networks. These resources can include customer networks, vendors, and contacts that are essential to the success of the organization. Businesses can use the internet to connect to branch offices and remote workers. Workers can use the internet to research business solutions, discover new ideas, and search opportunities for new business (Castellacci & Viñas-Bardolet, 2019).

Without the technology that drives businesses and organizations, many businesses and organizations would fail to meet their objectives, lose revenue, and even cease to exist (Bulson et al., 2017). IT employees are at the head of every effort to deploy, support, or sustain any form of technology that drives the organization (Otoiu & Titan, 2017). Therefore, IT employees play a very important role in the success of the organization. Losing IT employees or failing to retain IT employees can be detrimental to the organization (Lo, 2015). IT employees ensure that applications, systems, and networks are reliable and highly available (Otoiu & Titan, 2017). They protect the transfer and storage of sensitive business and employee data, and they work to align the functionality of IT with the objectives, goals, and mission of the organization (Otoiu & Titan, 2017).

IT employees administer IT that promotes and develops new business, while ensuring that each employee of the business has the technical tools to work effectively and efficiently (Otoiu & Titan, 2017). IT employees support technology that creates

competitive edge, allowing businesses to become successful as market leaders and recognizable brands. Most modern businesses are successful through the use of IT (Bulson et al., 2017). IT employees are essential in embedding IT into the organization and routing its use to where it is most effective (Otoiu & Titan, 2017).

Due to the importance of IT employees in businesses and organizations, IT managers must retain staff members (Lo, 2015). IT employee turnover has a negative effect on daily operations, organizational processes, projects, and company objectives (Lo, 2015). The loss of IT employees adds administrative time and has a negative morale on remaining IT team members (Mitrovska & Eftimov, 2016). Moreover, turnover costs are substantial, as the turnover cost per IT employee can equal 150% of an employee's annual salary (Mitrovska & Eftimov, 2016). Costs could reach over 200% for IT employees with a special skillset (Mitrovska & Eftimov, 2016). Mitrovska and Eftimov (2016) even noted a correlation between turnover of staff within a company and the satisfaction of the company's customers, acknowledging that customers felt negative towards a company's staff turnover. Therefore, retaining IT employees is good for operations (Lo, 2015), finances (Mitrovska & Eftimov, 2016), and company image (Mitrovska & Eftimov, 2016).

The healthcare industry has become dependent on IT to manage the daily operations of healthcare facilities. Due to the sensitive nature of healthcare work, the loss of IT functions and services can affect the health and lives of patients. To address IT outages, it is important that IT staff work to bring systems back online in conjunction with a healthcare emergency response team. For IT employees, the responsibility of

bringing systems back online is just as important as working and communicating with the emergency response team (Bulson et al., 2017; Little et al., 2018).

Both Bulson et al. (2017) and Little et al. (2018) agreed on the importance of IT in the healthcare industry. Unplanned IT outages due to equipment failure or malicious activities can be a threat to patient care and healthcare operations (Bulson et al., 2017; Little et al., 2018). Bulson et al. insisted that in the event of an IT outage, IT employees must work with a healthcare emergency response team to ensure that the technology is repaired with consideration to patient care and hospital operations. Little et al. insisted on a systematic method to prevent IT outages and prepare healthcare facilities to address them properly should they arise. Healthcare facilities should include downtime response, workflows, identifying stakeholders, and departmental procedures in their incident response and sustainability plans (Little et al., 2018).

Many businesses exist to make a profit, and some of that profit is poured back into the business to keep the business operational. Even non-profit organizations need funding to continue their missions. For this reason, every cost is important to businesses and organizations. If businesses are paying more costs and seeing less profit, businesses will struggle to exist. Spending should be strategic and for the purpose of growing and supporting the organization. Businesses should try to avoid unnecessary and unexpected costs (Alberti & Varon Garrido, 2017).

IT employee turnover becomes a process that incurs cost for the organization. When an IT employee leaves the organization, whether voluntarily or involuntarily, a new employee must be recruited, interviewed, vetted, and hired. The organization incurs

costs by way of hiring a third-party recruiter, requiring drug and background screening, or relocating the candidate. After the hiring process, the organization can incur additional costs by training the new IT employee. The organization must also consider the cost of lost time until the replacement employee is able take on responsibilities and the impact it has on the loss of a full team to aid in production. IT managers are required to juggle a full workload with a diminished team while training a new employee. Costs at each stage usually depend on the complexity of the job, the salary for the new hire, and the level of training needed (Buzeti, Klun, & Stare, 2016).

IT employee turnover has a negative effect on many aspects of the organization, such as productivity, the reliability and availability of mission-critical applications, systems, and networks, costs, and the ability to accomplish objectives and meet organizational goals (Wu et al., 2015). Therefore, IT employee retention is a critical concern; and organizations, businesses, and IT managers must use strategies to prevent turnover and retain IT employees to support the goals and objectives of the organization.

Strategies to Retain IT Employees

When IT employees leave the organization, whether voluntarily or involuntarily, it can disrupt operation and extend projects. Disruptions in business operations causes loss in profit; and the organization suffers (Cui et al., 2015). The loss can be significant enough to impede the accomplishment of goals and objectives that affect the success of the organization (Cui et al., 2015). IT employee turnover is a profound phenomenon that hinders productivity, adds administrative overhead, and diminishes co-worker morale (Zylka & Fischbach, 2017). Since the functionality, availability, and reliability of IT is

crucial to the success of many businesses (Wu et al., 2015), organizations need IT employees to manage IT and IT managers to lead and guide IT employees. By retaining IT employees, IT managers are able to respond to the demands of everchanging, fast pace technologies that drive organizations toward meeting their objectives and goals, being successful and realizing their mission (Ertürk & Vurgun, 2015).

To form effective strategies to retain IT employees, IT managers must understand why IT employees leave organizations and businesses. Thoroughly analyzing why they leave can uncover mistakes or opportunities on behalf of the IT manager or the organization (Bledow et al., 2017). IT employees leave organizations for various reasons, and IT managers and organizations terminate IT employees for various reasons. IT employees leave organizations for reasons such as employability (Acikgoz et al., 2016), burnout (Cook, 2015; Maier et al., 2015; Naidoo, 2018), insufficient reward (Cook, 2015), low pay (Cook, 2015), and poor promotion prospects (Cook, 2015). IT managers and organizations terminate IT employees for reasons such as performance (Travis et al., 2017), skillset (Misra & Khurana, 2017), outsourcing (Cezar et al., 2017), and absenteeism. IT managers can develop strategies for retaining IT employees by mitigating or eliminating the circumstances that cause IT employees to leave or IT managers and organizations to terminate them, promoting change that leads to organizational success.

Strategy for employable IT employees. Most empowered IT employees know their worth. They understand their employability is high, and opportunities exist outside of their current organization (Kim & Fernandez, 2017). Many organizations may offer

pay raises and opportunity for promotion, which are benefits many IT employees want (Cook, 2015; Jung & Yoon, 2015). However, Pathak and Srivastava (2017) stressed the importance of emotional bond. With a study of 293 IT executives, Pathak and Srivastava were able to conclude that IT employees displayed more organizational commitment and were less likely to leave when they had an emotional bond with the organization. Furthermore, psychological empowerment has a positive effect on organizational commitment; and it results in IT employee retention (Pathak & Srivastava, 2017). IT managers can retain employable IT employees by increasing their commitment level (Pathak & Srivastava, 2017). To raise commitment levels, Pathak and Srivastava recommended presenting employees with recognition, challenges, and autonomy. IT managers can also give IT employees the power to make decisions and the ability to affect the outcome of projects and tasks, which can raise commitment levels (Pathak & Srivastava, 2017).

Bulińska-Stangrecka and Bagieńska (2018) saw an emotional bond in the form of trust from the IT employee to the IT manager. Bulińska-Stangrecka and Bagieńska's research of 175 employees from telecommunications companies showed that employees that were competent and cooperative were likely to also be trusting of their managers and the organization. An emotional bond in the form of trust from employee to manager supports organizational commitment (Bulińska-Stangrecka & Bagieńska, 2018; Pathak & Srivastava, 2017). Abdelmoteleb (2018) and Ahmadpanah et al., (2015) argued that organizational commitment can be increased if job stress is decreased. In many instances, research has shown that job stress has had a negative effect on employee

retention (Abdelmoteleb, 2018; Ahmadpanah et al., 2015; Cook, 2015; Maier et al., 2015; Naidoo, 2018). Therefore, IT managers can be effective by developing and implementing strategies that minimize stress-causing events and environments.

Strategy to prevent burnout. Dissanaike (2016) insisted that high and consistent levels of stress often lead to burnout. Describing how to detect burnout, Oe et al. (2018) stated that those experiencing burnout may experience symptoms such as anxiety, exhaustion, depression, and psychological distress (Oe et al., 2018). Upadyaya, Vartiainen, and Salmela-Aro (2016) and Rožman et al. (2018) agreed that burnout has a negative effect on work engagement and occupational health. Upadyaya et al. cited burnout to be associated with mental health diagnoses, while Padma et al. (2015) associated burnout with insomnia. Shields et al. (2017) associated burnout with memory loss, and Kivimäki and Steptoe (2018) argued that high levels of stress-causing burnout can lead to cardiovascular disease. Burnout can lead to IT employee turnover (Naidoo, 2018). Though many researchers studied the negative effects of burnout (Dissanaike, 2016; Kivimäki & Steptoe, 2018; Naidoo, 2018; Padma et al., 2015; Rožman et al., 2018; Shields et al., 2017; Upadyaya et al., 2016), Goodman and Berlinerblau (2018) noted that burnout is an employee's excessive attempt to control a level of productivity and performance for the sake of the organization. Therefore, an employee that reaches burnout is highly productive and high performing, which is even more reason to address burnout to keep employees from leaving the organization (Goodman & Berlinerblau, 2018).

Aronsson et al. (2017) insisted that stress-causing work exhaustion and burnout can be caused by the work environment, the workload, or the culture of the organization that causes job stressors. Considering IT systems are embedded into almost every component of business (Maceli & Burke, 2016), IT employees have responsibilities that encompass the entire organization. To address workload, the IT manager should ensure that the IT department has enough employee resources to cover the amount of work (Helfrich et al., 2017). Helfrich et al. (2017) saw issues with staffing stability as a driver of burnout. Moreover, having too few IT employees take on large workloads can cause work exhaustion (Helfrich et al., 2017). To compensate for the workload, IT employees may work longer hours and more days, which can lead to burnout. IT managers should carefully consider employee resources needed for daily operations and one-time projects, adjusting resources as needed for company growth (Helfrich et al., 2017). Then, the IT manager should delegate work-related tasks in a manner that no one individual IT employee is doing most of the work (Jokisaari & Vuori, 2018). Also, supporting team members may help with an employee's emotional state while facing heavy workloads (Avanzi et al., 2018).

IT managers should also delegate roles for IT employees. Jokisaari and Vuori (2018) showed that delegation from leaders has a positive relation to an employee's understanding of their job role, knowledge, and job satisfaction. For instance, software engineers and programmers should be engaged in work that involves programing and supporting applications. Network engineers should be engaged in networking, using routers, switches, and other network devices to connect applications, sites, and systems.

It is often cumbersome for one IT employee to retain both roles. IT employees that handle multiple differing roles with unrelated tasks and objectives to support differing deadlines are prone to burnout (Cook, 2015).

IT employees reported that constant removal from meaningful and important work to address menial tasks can eventually lead to work exhaustion and burnout. IT employees are constantly pulled off important and even mission-critical projects to address menial tasks that are meaningless or of little importance. During that loss of time, the workload of important tasks builds; and IT employees deal with the pressure of completing those tasks within a diminished time frame. If IT staff cannot avoid menial tasks, the IT manager should develop a strategy to either allow less busy IT employees to address them; or plan to address the tasks at a lower priority. To be an effective strategy, IT managers must communicate the importance of the approach to executives and top management (Cook, 2015).

Strategy to prevent health issues. Since consistent high levels of stress are the leading cause of health-related issues for IT employees in the workplace, strategies for minimizing stress can help to avoid health issues for IT employees. Dissanaike's (2016) continuum of stress showed depression as the result of high levels of stress followed by burnout. Based on the continuum in the context of the study, one can avoid depression by decreasing stress levels (Dissanaike, 2016). Another strategy to prevent health issues, is to remove the IT employee from the stressful environment. An option could be to move the IT employee to a different team that engages in different work tasks, allow the IT employee to work from home a few days a month, or allow more time off for recovery

(Kubo et al., 2018). Unfortunately, some serious health-related issues are irreversible; and once obtained, there is little one can do to recover. However, minimizing stress can often slow progression.

Strategy to avoid outsourcing. Many organizations outsource IT services due to cost benefits and the lack of need for a full-time IT department (Nyameboame & Haddud, 2017). IT managers and the organization should consider if cost benefit alone is reason enough for outsourcing. The advantages of in-house IT departments include quick response time and familiarity with users, applications, systems, networks, and documented issue resolutions (Nyameboame & Haddud, 2017). This advantage could prevent downtime and the loss of business. Outsourcing could cause inefficient management and slower response times (Nyameboame & Haddud, 2017). The IT manager should wage the savings in cost from outsourcing versus the savings in cost due to decreased downtime. Instead of outsourcing for cost savings, organizations could also offer part-time work for IT employees. This gives IT managers the option of having IT resources when needed while also spending less. In turn, fewer work hours could also lessen the IT employee's exposer to stress (Cook, 2015).

Strategy to avoid performance issues. IT managers should focus on recruiting high performing IT candidates during the hiring process. Selecting only those candidates that have proven high performing work ethic can limit the chance of incoming IT employees that are unable to perform at the expected level. IT managers should also offer incentives for work performed and other completed tasks. IT managers should develop a reward structure that helps IT employees understand what is needed to reach

each milestone. A milestone can be associated with a particular reward, such as a pay raise, job promotion, a day out of the office, or even an all-expense paid trip. The IT manager should develop the reward structure within the context of what is feasible and suitable within the organization. Increasing an IT employee's organizational commitment can also increase performance (Pathak & Srivastava, 2017).

Strategy to improve skillset. An employee's skillset is crucial. Since organizations use varying forms of IT in different ways to support business operations and objectives, the skillset of an IT employee is essential. Many IT professionals are versed in several different areas of IT, but rarely is any one IT professional well versed in all forms of IT. IT managers hire IT employees and delegate their work based on a job role. Sometimes, an employee that just knows how to perform an IT function is not sufficient, and a specific skillset is needed to perform the function in the context of the organization. Also, IT managers should look for IT employees with soft skills, as employees are required to interact with various system users and business leaders. An IT employee's skillset should match the job role the IT manager assigns. If there is a mismatch and the IT employee cannot perform the requirements of the job role, the IT department may struggle to meet the demands of the organization (Schirf & Serapiglia, 2017).

In order to retain the IT employee, IT managers should consider training the IT employee for the responsibilities the job role requires (EL Hajjar & Alkhanaizi, 2018; Siddiqui & Zamir, 2018). EL Hajjar and Alkhanaizi (2018) and Siddiqui and Zamir (2018) argued that training supplies IT employees with the skills they need to be

successful while van Gerwen, Buskens, and van der Lippe (2018) shared that training also promotes cooperation and engagement with work activities, which leads to employee retention. Employee training is essential to the success of the IT department and the organization (Esteban-Lloret, Aragón-Sánchez, & Carrasco-Hernández, 2018). The IT manager should consider a training strategy that is both effective for the IT employee and the organization.

IT managers should create and prioritize goals to establish guidelines for training programs (Sitzmann & Weinhardt, 2018). Options may include one-on-one training between the IT manager and the IT employee (Jin, Hewitt, & Thomas, 2018), work group training (Jin et al., 2018), in-class training with a school, or the review and study of company-based resources, such as a knowledgebase or video-based training. The IT manager should also consider a strategy for long-term continuing education. As IT rapidly evolves, IT employees should continue learning. IT managers can develop a training program to match IT employees to their job roles and increase their performance (Asfaw, Argaw, & Bayissa, 2015; EL Hajjar & Alkhanaizi, 2018).

Transition and Summary

This section included an overview of the general problem that IT employee turnover has a negative effect on organizational success while addressing the specific problem that IT managers lack strategies to retain IT employees. The purpose of this study is to explore those strategies while justifying the need by showing the effects of IT employee turnover throughout the literature. A qualitative multiple case study approach to the research is most appropriate to uncover responses to the central research question

that informs the study. The organizational learning theory provided the conceptual framework that implies that through developing and implementing strategies for retaining IT employees, IT managers and their organizations can learn the causes of IT employee turnover in order to prevent it. The review of the literature shows the causes and effects of IT employee turnover while offering strategies to prevent or mitigate those causes to avoid the effects. The literature shows the effects of IT employee turnover can be harmful to the IT employee, the IT manager, and the organization.

Section 2 continues the discussion of research methodology and the decision for the approach chosen for this study. Specifically, this section develops the role of the researcher, establishes participant criteria, expands the research method and design, details population and sampling, addresses ethical research, plans data collection and organization, and addresses validity of the data.

Section 2: The Project

Purpose Statement

The purpose of this qualitative exploratory multiple case study was to identify strategies that IT managers use to retain IT employees in order to support the goals and objectives of the IT organization. The target population was IT management professionals in the transportation industry, including IT managers, vice presidents, directors, and C-level executives. The study included interviews with participants who had employers in Memphis, Tennessee. The results of this study may help IT managers identify components that lead to IT employee turnover, develop organizational strategies to prevent or mitigate IT employee turnover, and retain IT employees. This study could also provide input into an organization's overall retention strategy. Some aspects of IT employee turnover can not only inhibit the organization, but also be devastating to IT employees. Components such as burnout and high stress levels can have a negative effect on IT employees' physical and mental health, and job-related health issues can affect the personal lives of those employees. Physical and mental health are social issues, and addressing them can imply social change.

Role of the Researcher

I was the primary data collection instrument. My role in this qualitative research study was to acquire truthful knowledge, avoid harm to participants, and present the findings of a valid and credible study. My role was to observe participants not only for research-related data, but also for emotions or behaviors consistent with distress, as some areas of study could have been sensitive for participants. Researchers should have a

process for addressing such situations (U.S. Department of Health & Human Services, 1979; Yip, Han, & Sng, 2016).

A productive and effective researcher stays on topic during the interview process to ensure that the data collected are relevant to the study while considering participants' different points of view and experiences (Yip et al., 2016). I stayed on topic during the interview process by using an interview protocol (see Appendix C). I informed participants about their role in the study before and during the process. Researchers should also be respectful of participants' time and answer any questions or address concerns they may have (Yip et al., 2016). I restricted interviews to 1 hour, being consistent with the first notion of time as indicated in the consent form. I was open to any questions or concerns about the research or interview process. Researchers should collect data through an interview process, interpret and analyze the data, and present data within a research study in an unbiased manner (Toledo-Pereyra, 2012).

In my career, I have held various roles in the IT industry, including IT administrator, network engineer, IT manager, and IT director. My personal experience, along with hearing the concerns of peers in the IT industry, provided my motivation to pursue this pragmatic research topic. I did not have any professional or personal relationship with the participants.

The Belmont report contains a summary of ethical principles and guidelines that researchers should follow when conducting studies with biomedical and behavioral aspects that involve human participants (U.S. Department of Health & Human Services, 1979). The purpose is to resolve ethical problems that may occur with research that

includes human subjects (U.S. Department of Health & Human Services, 1979). My role was to consider whether the research required human participants. If so, I was expected to adhere to guidelines listed in the Belmont report. The guidelines include respect for participants, appropriateness of the research, continuous informed consent, and protecting the rights of participants (Miracle, 2016; U.S. Department of Health & Human Services, 1979). I adhered to the standards set forth by the Belmont report.

Observational and qualitative studies can be susceptible to bias. A biased study lessens the credibility of the research, and the role of the researcher is to limit bias as much as possible (MacDermid, 2017). Researchers can avoid selection bias by choosing participants who have no professional or personal relationship to the researcher (MacDermid, 2017). Participants for this study were chosen based solely on the criteria and purpose of the research. I had no relationship, whether professional or personal, to any participant. Researchers should be careful that research questions do not guide or push participants toward a desired outcome on the researcher's behalf (MacDermid, 2017). The researcher should present the outcome of the research based only on the data collected (MacDermid, 2017). I followed the interview protocol to mitigate any type of bias. Interview questions (see Appendix C) for this study were only used to collect relevant data without purposely influencing the outcome of the study to fit my beliefs.

Data for this study were collected by conducting interviews with the participants. This approach was chosen to obtain the participants' experiences, perceptions, and knowledge of the subject matter. In-person interviews were chosen to observe the participants' behavior when responding to the interview questions. The use of an

interview protocol is necessary to ensure that the interview process is productive and ethical while informing the research (Castillo-Montoya, 2016; U.S. Department of Health & Human Services, 1979). I created an interview protocol for this study (see Appendix C). The interview protocol refinement framework (IPR; Castillo-Montoya, 2016) was used as a guideline for the interview process of this study. The IPR ensures that the interview questions align with the research when a researcher is conducting an inquiry-based conversation with participants (Castillo-Montoya, 2016).

Participants

Participants in a qualitative study should fit set eligibility criteria to ensure that the data collected inform the research effectively (Popescul & Jitaru, 2017; Roulston, 2018). The eligibility criteria for this study indicated that participants needed to be IT managers who had used strategies to retain IT staff members to support the goals and objectives of their organization. The strategies that participants used focused primarily on prevention methods for components and scenarios that lead to IT employee turnover.

Participants in a study should be those individuals who will best inform the research (Sargeant, 2012). Accordingly, participant selection for this study was purposeful. Participants included IT professionals with current or former IT management roles, including vice presidents, directors, managers, and C-level executives. Participants provided knowledge as well as their experiences about the topic of study. For this study, an IT management role was defined as a role held by an IT professional who had five or more subordinates and delegation duties. The geolocation of this study was multiple transportation businesses in Memphis, Tennessee.

A researcher should consider the context of the study when selecting participants. In order to identify and study IT employee retention strategies for IT managers, I selected participants who were IT managers and had used IT employee retention strategies. Participants who meet specific criteria will inform the researcher of a specific topic, thus the need for alignment (Popescul & Jitaru, 2017; Roulston, 2018).

A researcher should also consider other components of a study. If a researcher plans to offer monetary-based incentives, for instance, budgetary limitations should be a concern; and if the research process has a time restriction, the researcher should consider the number of participants in relation to the amount of time allowed for the research (Martínez-Mesa, González-Chica, Duquia, Bonamigo, & Bastos, 2016). For this study, I offered no monetary incentives, and the length of each interview was 1 hour or less.

Researchers must also address the logistics of how participants will be contacted, where meetings will take place, and how to conduct the data collection process (Martínez-Mesa et al., 2016). I made initial contact with potential participants through LinkedIn, a professional social media platform. I then sent emails to participants requesting their consent to participate in the study, explaining the data collection process, suggesting a location where we could meet, and answering questions.

I did not have a prior relationship, professional or personal, with any of the participants. MacDermid (2017) argued that a relationship between researcher and participant can cause selection bias. Moreover, rapport between researcher and participant can lead to response bias, as well as behaviors that support the researcher's

perceived beliefs (Latkin et al., 2016). The introduction of bias into the research process can misshape the results of a study (Galdas, 2017).

Participants fitting the selection criteria were solicited via email, direct messages, or phone calls. Participant selection criteria or qualifications were listed on the consent form. The email invitation (see Appendix B) and the consent form provided a request for participation and consent along with a description of the study that included qualifying participant questions and the roles of the participants and the researcher. A request for consent must inform the reader about the study while lessening the possibility of any type of coercion or compulsion to participate (Manti & Licari, 2018). The reader should have a clear understanding of the study and the role of the participants (Hallinan, Forrest, Uhlenbrauck, Young, & McKinney, 2016). Participation must be voluntary (Eisenhauer, Tait, Rieh, & Arslanian-Engoren, 2019).

For the purpose of face-to-face interviewing, I initiated a working relationship with participants by explaining the scope of the study and how participants would fit into the research, as indicated in the interview protocol (see Appendix C). I informed participants through the consent form that I would be following ethical procedures, ensuring that their identities and participation would remain anonymous. Castillo-Montoya (2016) and Yip et al. (2016) insisted that anonymous participants and their activities are part of ethically sound research. Wilson, Kenny, and Dickson-Swift (2018) insisted that researchers can protect participants by practicing anonymity and confidentiality. Participants were required to respond to the participation email with their consent in order to take part in the study.

Research Method and Design

I chose an exploratory qualitative multiple case study research design method for this study. An exploratory qualitative case study is an in-depth study of a phenomenon in its natural environment through the experiences and perspectives of people who are involved in it (Gaikwad, 2017). A researcher using this method seeks highly descriptive and detailed data provided by participants that reflect their feelings and understanding of the phenomenon (Arseven, 2018).

Case studies are among the most frequently used qualitative methodologies (Yazan, 2015). Mohajan (2018) stated that case studies are valuable in practice-related fields, such as public administration, management, and education. A case study was appropriate for this IT-related research. An exploratory qualitative multiple case study expands research by identifying multiple cases of the same phenomenon in different environments (Arseven, 2018). For this study, I chose participants who were IT managers at multiple sites in order to explore strategies that they used to retain IT employees. This structure was well suited to a multiple case study approach.

Method

For this study, the qualitative research method was chosen. The qualitative method is an approach to research that involves the consideration of human qualities, emotions, and experiences as input into research findings (Popescul & Jitaru, 2017). A researcher using the qualitative approach considers participants' perceptions of a phenomenon to provide in-depth descriptions and personal understanding, giving

meaning to participants' experiences (Popescul & Jitaru, 2017). Interest in participants' points of view is an attribute of the qualitative method (Arseven, 2018).

The qualitative method is more efficient when considering areas of research that involve human participants in their circumstances and environments (Popescul & Jitaru, 2017). It centers on the nature of inquiry, which leads to asking questions (Sarma, 2015). The qualitative research method uses open-ended interview questions. The use of open-ended questions allows participants to share information beyond yes-or-no responses (Popescul & Jitaru, 2017). The use of open-ended questioning allows expansive responses that can contain a participant's experience, perception, or understanding (Popescul & Jitaru, 2017). Depending on the nature of the questioning, results may include a participant's thoughts, opinions, suggestions, or ideas. Overarching research questions can lead to subquestions that inform the research study (Popescul & Jitaru, 2017). A qualitative researcher uses data obtained from questioning to identify themes relevant to the study (Bansal, Smith, & Vaara, 2018). A qualitative approach is grounded in the participants' interpretation of a phenomenon, and the role of the researcher is to be adequate and consistent with an understanding of the data provided by participants and how the data affect the research study (Arseven, 2018). The researcher understands the phenomenon as each participant understands it (Arseven, 2018). The participants' reflections, reactions, words, and environment are used to build a context for the phenomenon to benefit the research study (Arseven, 2018).

The qualitative approach was the best choice for this study. The study involved participants and their response to a phenomenon's occurrence in their natural

environment. To obtain an in-depth understanding of IT managers' use of strategies to retain IT employees, it was important to understand IT managers' perception of factors that may lead to IT employee turnover, such as IT professional burnout. It was an assumption that their perception and understanding of these factors influenced the components of the organizational strategies that they used. By answering open-ended questions, they shared information in the form of their personal experiences and points of view that provided insight into how those strategies affected IT employees and what made those strategies effective in their environments.

The quantitative method was not chosen for this study. A quantitative approach does not allow data in the form of participants' perceptions, understanding, and personal experiences (McCusker & Gunaydin, 2015). It is effective when a researcher expects to collect data that are quantifiable and statistical, and the data are used to support one or more hypotheses versus the null hypothesis (Barnham, 2015). Although quantitative data can be more efficient, such data do not account for aspects of social life and contextual detail (McCusker & Gunaydin, 2015; Popescul & Jitaru, 2017). A quantitative approach is used to measure a phenomenon to answer questions of how much and how many, whereas the qualitative approach is used to answer questions of what, how, and why (McCusker & Gunaydin, 2015).

A mixed-method approach was outside the scope of this research study. A qualitative approach was sufficient to answer the question of what strategies IT managers use to retain IT employees. A metric to determine how many times a strategy reoccurs or how effective one strategy is compared to another strategy was beyond the purview of

this study. This study did not address a relationship or correlation between variables, as would be the case in a quantitative study (Cathala & Moorley, 2018). This study did not include the collection of numerical data, nor did it include the use of metrics and tools to produce statistical results. Numerical data and statistical results are components of quantitative research (El-Masri & Fox-Wasylyshyn, 2018). The lack of use or need for quantitative methods in this study negated the need for a mixed-method approach. A mixed-method approach requires the integration of both qualitative and quantitative methods (McCusker & Gunaydin, 2015).

Research Design

For this study, a multiple case study design was chosen. A researcher using qualitative methods chooses among four types of research design: ethnographic, narrative, phenomenological, and case study. In order to choose a design that fits the study, the researcher must consider the topic, the approach of the study, and the research questions. The chosen research design implies an approach to participant selection and data collection (Rutberg & Bouikidis, 2018).

An ethnographic design allows for the study of a culture-sharing group; a researcher using this design is immersed in the daily lives of participants (Mannay & Morgan, 2015). The researcher becomes part of a participant community (Kassan et al., 2018), observing the everyday behaviors of participants (Fusch, Fusch, & Ness, 2017). Some researchers have argued that immersion should begin before the application of tools to extract data for the research (Mannay & Morgan, 2015). Experiencing the lives of participants before data are collected and analyzed could answer why the data consists

of certain attributes (Mannay & Morgan, 2015). Immersion into the lives of participants was not appropriate for the research. Participants were not considered to be part of a cultural group, and the study was restricted to their workplaces. Therefore, an ethnographic design was not useful in the context of this study.

A narrative design approach presents the lives and experiences of participants through the process of storytelling, narratives, and discussions (Bruce, Beuthin, Sheilds, Molzahn, & Schick-Makaroff, 2016; Hill & Burrows, 2017). Narrative researchers attempt to present real-life stories through the experiences of participants (Wang & Geale, 2015). People share their stories about who they are and who they perceive others to be (Clandinin, Cave, & Berendonk, 2017). In doing so, they explore and interpret their past in relation to these stories (Clandinin et al., 2017). Researchers can interpret these stories as the participant's experience, which is data towards the research. The experienced lives of participants shared through storytelling was not a focal point of this study. Narrative stories often reveal the patterns of a participant's life (Wang & Geale, 2015). Such revelations were beyond the scope of this study. I did not choose a narrative approach for this study.

A phenomenological design centers on the lived experience of participants; and much of the research is a reflection on those experiences (Adams & van Manen, 2017; Cypress, 2017; Errasti-Ibarrondo, Jordán, Díez-Del-Corral, & Arantzamendi, 2018). Phenomenological researchers explore how individuals make sense of a phenomenon (Adams & van Manen, 2017). Participants' lived experiences were also outside the scope of this study. Errasti-Ibarrondo et al. (2018) argued that phenomenological research is

reflective; and in order to be reflective, the researcher must write. Some researchers consider phenomenological research to be a writing activity (Errasti-Ibarrondo et al., 2018). For these reasons, this approach did not align with this study. The purpose of this study was to explore strategies that affect a phenomenon rather than explore how participants make sense of a phenomenon through their lived experiences. The phenomenological approach was not chosen for this study.

A case study design is used to obtain an in dept knowledge of a phenomenon through participants' view while in the natural setting of the phenomenon (Arseven, 2018). The case can consist of an individual or a group of individuals (Ray, 2015). This natural setting is often real-world environments (Harrison, Birks, Franklin, & Mills, 2017). For the purpose of this study, participants consisted of IT managers in multiple environments, thus a multiple case study was applicable. A multiple or collective case study permits multiple cases (Arseven, 2018). Case studies are descriptive in nature, and they are bound to the environment itself (Harrison et al., 2017). Therefore, the study of the phenomenon is in relation to the environment and the participants that experience it (Harrison et al., 2017).

A case study design allows researchers to approach the topic of study in its natural setting, which allows for consideration of these aspects in relation to the phenomenon in natural occurrences (Arseven, 2018). By using this approach, the researcher is able to place the participant within the environment that the phenomenon occurs. Moreover, this places the IT manager within the organization that seeks strategies to retain IT employees. As the IT manager is affected by the phenomenon within the environment,

the IT manager is able to provide information about the phenomenon from a personal point of view.

To reach data saturation, I collected data until redundancy occurred and the same answers were repeated by participants. When no new data or discovery had occurred, data saturation was reached. Lowe, Norris, Farris, and Babbage (2018) stated that when collecting data fails to reveal new discovery, saturation is reached. Therefore, data saturation is the concept of justifying the amount of data obtained due to no more data needed for research (Saunders et al., 2018). Data saturation is defined by sufficient quality rather than quantity (Fusch & Ness, 2015).

Population and Sampling

The target population for this study was IT managers from transportation companies in the city of Memphis, Tennessee. The target population is the entire set of subjects that can inform the research (Martínez-Mesa et al., 2016). To sample is to take a portion of a population, universe, or environment; and researchers use samples to conduct studies rather than entire populations (Banerjee & Chaudhury, 2010). I used purposeful sampling to select participants for this study. Purposeful sampling can be used in qualitative research for cases rich in information that have limited resources (Palinkas et al., 2015). Therefore, I identified individuals expected to be knowledgeable about IT employee retention based on the criteria for participants. In this study, the criteria for participants were IT managers having experience with strategies for retaining IT employees, which informed the research question of what strategies do IT managers lack to retain IT employees. Moreover, IT employee turnover was identified as the topic of

the study, and participants in the population had experience implementing effective strategies to prevent or mitigate IT employee turnover in order to retain IT employees. I selected participants that fit that criteria. I took a homogeneous approach. A homogeneous purposeful sample is selected for characteristics that are significant to the research (Palinkas et al., 2015). For this study, IT managers were defined as IT management professionals with subordinates and delegation responsibilities. I focused the research on this specific job role similarity. Therefore, it was required that each participant met these characteristics in order to fit the criteria for the study.

Malterud, Siersma, and Guassora (2016) argued that the more information a participant is able to provide for relevant research, the fewer number of participants needed for the study. Therefore, I used purposeful sampling to select individuals that were highly knowledgeable about IT employee retention, allowing me to choose a smaller number of participants for the study. The selected individuals had decades of experience in recruiting, managing, and retaining IT employees. Dworkin (2012) noted that a large amount of qualitative research centered on sample size suggested that researchers choose the number of participants in the range from 5 to 50. I began with five participants due to the amount of relevant information participants said they could provide. One participant was chosen from five different organizations, which represented five different cases for the multiple case study. The final number of participants was determined by the point of data saturation. I experienced reoccurring data at the third participant, and I reached data saturation at the fifth participant. Data saturation is the concept by which further collection of data is not necessary based on the data already

obtained (Saunders et al., 2018). Data saturation is the point at which collecting more data will not yield new discoveries in the research (Lowe et al., 2018). Often upon reaching this point, the researcher will see the same instances of data repeatedly (Nelson, 2017). Data saturation is not about the quantity of the data, how many resources have been exhausted, or how many participants are in the study, but the dept and quality of the data (Fusch & Ness, 2015). To reach data saturation, I continued collecting data from additional participants until the information collected became redundant. Reaching redundancy signaled that data saturation was met, and new information no longer surfaced.

Interview Setting

Since the results of a research study are largely based on the data collected, the interview process is of great significance. Interviews were the method used to collect data for this study. Not only is the process by which interviews are conducted is important, but also the location and setting are just as important (Dikko, 2016). Data collected can shape and shift a research study. For this reason, it is important that the data a researcher obtains is clear and free from misunderstanding (Dikko, 2016). The researcher should be able to hear participants plainly (Seitz, 2016), and both the researcher and participants should be free from distractions and interruptions (Dikko, 2016). The setting should be free of bystanders and others that may pose a threat to data quality (Lau et al., 2017). An interview site setting could distract both the researcher and participants, and both the data collection process and the data itself could suffer (Dikko, 2016).

To reduce or eliminate work-related distractions, the interviews were conducted on-site with the participants. On-site interviews will also allow the observation of social cues to supplement data collection (Seitz, 2016). I informed participants of the amount of time to allocate towards the interview. Dikko (2016) suggested that participants select a time and day that is most convenient for them.

Ethical Research

To address ethical concerns of this study, I required participants to provide their consent to participate in the study and allow the use of their data in the research. Acquiring informed consent and voluntary participation is ethical research practice (Eisenhauer et al., 2019). After a description of the study and data collection process, participants were asked to confirm their agreement to participate by replying to the informed consent email. The informed consent email outlined the purpose, benefits, risks, and nature of the study. It also informed the participants that the researcher would record the audio of the interviews, and participants must consent to the audio recording. All participants in this research study were required to respond to the email, acknowledging the process of the research and their agreement to participate. I informed participants that any and all participation is voluntary. All participants must enter research voluntarily with sufficient information to decide whether to participate (U.S. Department of Health & Human Services, 1979; Yip et al., 2016). Participants making an informed decision to volunteer confirm that participants know the purpose of the study, and they understand their role and the role of the researcher. The participant is

aware that they will be part of a research study, and they have agreed to work with the researcher.

Participants were allowed to withdraw from the study at any time by sending an email stating that they want to withdraw. If a participant chose to withdraw from the study, any information the participant had shared during the study would have been permanently destroyed immediately. Ethical researchers respect an individual's self-government and the importance of an individual's opinions, judgements, and actions (U.S. Department of Health & Human Services, 1979; Yip et al., 2016). There were no incentives for participation in this study. I ensured participants that all involvement in the study would be completely anonymous and non-identifiable. A researcher's duty is to protect the privacy and confidentiality of participants (Yip et al., 2016). All relational identifiable information, such as name, company, and specific job title was omitted from the research. Any reference to a participant was coded as a number. I will retain all data collected for research in secure and encrypted cloud storage for a period of 5 years. After 5 years, I will permanently delete the data.

To assure that the ethical protection of participants is adequate, I adhered to the guidelines set forth by the Belmont Report. Signed into law in 1974, the National Research Act resulted in the creation of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (U.S. Department of Health & Human Services, 1979). This commission set out to develop basic ethical principles and ethical guidelines to follow when conducting research that involves human subjects to ensure ethical research. This process is referred to as The Belmont Report (U.S.

Department of Health & Human Services, 1979). The Belmont Report urges strongly against the mistreatment of research participants and subjects (U.S. Department of Health & Human Services, 1979). A lack of concern for diminished self-government, exposure to harm, manipulation, exploitation, and a lack of concern for well-being are unacceptable in research practice (U.S. Department of Health & Human Services, 1979; Yip et al., 2016). Such actions are considered mistreatment and unethical research.

Established through the National Research Act of 1974 and a direct result of The Belmont Report, institutional review boards (IRBs) are responsible for regulating and protecting individuals acting as participants in research studies (Caldamone & Cooper, 2017). To further ensure the safety of participants, I submitted my work to Walden University's IRB, approval number 08-05-19-0579735, before collecting data. During all communication with participants, I ensured they were comfortable with the research process and considered their well-being throughout the study.

Data Collection

Instruments

I was the primary data collection instrument. Researchers are required to be reflexive when conducting a qualitative approach (Sutton & Austin, 2015). While ignoring biases, researchers are expected to present their studies so that readers can understand their approach and findings (Sutton & Austin, 2015). Data collection is a pillar to any research study (Keedle, Schmied, Burns, & Dahlen, 2018). Determining which approach to take during the data collection phase of research is important to the overall study and its validity (Keedle et al., 2018). The most common methods of data

collection in a qualitative study are interviews, focus groups, document analysis, and observation (Gill, Stewart, Treasure, & Chadwick, 2008; Sutton & Austin, 2015). I used interviews and document analysis for this study.

Qualitative interviews allow for rich and informative data that progresses the research (Gill et al., 2008; Sutton & Austin, 2015). They provide a deeper understanding of the subject matter (Gill et al., 2008). Interviews allow participants to share deep insights about a topic, and they can be conducted one on one to prevent a reluctancy to reveal information in a group environment (Gill et al., 2008). I chose semistructured interviews for this study. Semistructured interviews center on a specific topic as a guide to the interview process (O'Keeffe, Buytaert, Mijic, Brozović, & Sinha, 2016). They help guide the conversation in a way that is standardized and relevant to the study while also allowing participants to be open to revealing additional relevant information, which allows reciprocation between researcher and participant (Kallio, Pietilä, Johnson, & Kangasniemi, 2016; McIntosh & Morse, 2015; O'Keeffe et al., 2016). Semistructured interviews are based on a predetermined set of questions followed by subquestions (McIntosh & Morse, 2015; Morse, 2015), which fit the approach to this study.

I conducted semistructured interviews, using the questions from the interview protocol (see Appendix C). I created the interview questions as open-ended questions and subquestions that would inform the research question. Castillo-Montoya (2016) and Gesch-Karamanlidis (2015) stated that relevant, open-ended questions and subquestions will promote conversation with participants. During the interview, I asked additional questions or follow up questions that derived from the responses of participants. The

intent of this approach is to obtain a deeper understanding of the participant's viewpoint (Gill et al., 2008). At no point during the interview did I interrupt participants. I maintained a conversation that allowed participants to share as much as they wanted, change statements, and revisit topics. I asked for clarification on any response I found vague or unspecific.

Before each interview session, I participated in 10-15 minutes meditation sessions for mind clarity. The purpose of mediation sessions is to clear the mind of previous thoughts and emotions or stress and anxiety that may affect the data collection process and to set aside any preexisting assumptions or judgments about the study (Lemon, 2017; Schwind et al., 2017). I also avoided seeing any interview as good or bad in relation to how the data affects the study. The absence of favor or disfavor for a particular interview helps to prevent bias in the research (Robinson, 2014). Data from each interview process was input into QDA Miner, a Computer Assisted Qualitative Data Analysis Software (CAQDAS) application, for analysis.

I reviewed organizational documents pertaining to IT employee retention strategies and general company information. I obtained documents that were publicly available. The turnover and retention documents provided direct insight into effective retention strategies. General company information referred to marketing material and other documents that share the organization's mission and vision. It revealed high level company objectives or goals that IT employees support. Document analysis is an organized process for reviewing and evaluating documents (O'Connell, Mc Carthy, & Savage, 2018). A researcher can use document analysis to gather facts about the

organization (Dunne, Pettigrew, & Robinson, 2016), and the documents can provide insight into how the organization presents itself as a business (Lawson, 2018). These facts can be used to answer questions pertaining to the research study. In some instances, document analysis may reveal relevant information that the researcher would not encounter otherwise (Dunne et al., 2016). A researcher can also use document analysis to corroborate information obtained from participants to further validate the study (Dunne et al., 2016). Therefore, it is imperative to ensure the credibility of the documents and their usefulness to the study (Dunne et al., 2016). Along with other participant data, I will securely keep organizational documents for a number of 5 years before safely and securely discarding them. Researchers should always protect the privacy and confidentiality of participants and participant-related data throughout the research process (Miracle, 2016; U.S. Department of Health & Human Services, 1979; Yip et al., 2016).

Data Collection Validity

The question of validity is relevant for any research study. The validity and credibility of the research directly affects the strength and plausibility of the findings of the study (Cypress, 2017). Validity is a measure of the accurate representation of a concept. The relevance of the research depends on its accuracy (Cypress, 2017).

Pilot interview. Pilot interviews increase the validity of the interview process (Dikko, 2016; Majid, Othman, Mohamad, Lim, & Yusof, 2017). Hurst et al. (2015) argued that qualitative research is an iterative process, thus piloting or pretesting data collection can increase reliability and rigor in the research. I conducted a pilot interview with one subject matter expert (SME). A pilot study conducted with the use of a SME is

meant to test the effectiveness and plausibility of interview questions before actual interviews take place (In, 2017; Majid et al., 2017). Correspondence with the SME takes place outside of the official data collection process, and the SME is not considered part of the research population (In, 2017; Majid et al., 2017). A session with a SME is meant to provide the researcher with feedback that can be used to strengthen the interview questions to better align with the study and research question (Liu, 2018). I did not include the data I collected from the SME in the actual research study. I only used it as feedback to improve the interview questions.

Before the meeting took place, I informed the SME of the specifics of the study and the role of the SME in the research. Once the SME gave consent, the meeting and interview took place. After the interview, I consulted with the SME for feedback, recommendations, and suggestions. After the evaluation of the pilot interview, I decided if another pilot interview with a different SME was necessary before continuing with the actual interview process. I incorporated the results of the pilot interview into the interview process to create a more refined approach to data collection. The results of the pilot interview did not provide data to be analyzed for the actual research study.

Member checking. I used member checking to ensure that the study was valid and reliable. Member checking is a process to ensure credibility and validity in a qualitative research study (Nowell, Norris, White, & Moules, 2017). It relies on feedback from the participant. Member checking ensures that the researcher understands the participant's given information from the participant's point of view (Lub, 2015). The participant is given the opportunity to evaluate the researcher's account of the data

collected to avoid misunderstandings or misrepresentation of the data (Lub, 2015). The researcher can present the data collected to the participant by providing a transcript of the interview, a case summary, or a draft of the research study (Thomas, 2017).

Member checking is a way that the researcher and participant can work together to prevent bias, which adds to the validity of the data collection process. Member checking is not without flaw or challenge. However, when used properly in a study that fits, member checking can support a level of credibility and validity in the research (Lub, 2015).

I planned an approach to member checking before conducting the interviews. After 1 or 2 days to review interview responses, I conducted member checking sessions by telephone or email. I read the participants' responses back to them to ensure accuracy and completeness. If I needed clarification, I asked follow-up questions until I understood the information and was able to relay the information back to the participant successfully. The purpose of member checking is to confirm and reaffirm information participants offer (Lub, 2015). I conducted member checking to ensure the interpretation of the data were aligned with the participant's thoughts and intentions.

Data Collection Technique

Semistructured interviews and organizational documents were the data collection tools for this study. The data collection technique included gaining access to selected participants who met the criteria, collecting informed consent from each participant, and agreeing to scheduled meetings and meeting locations. I also searched for organizational documents that could inform the research. Interviews should consist of pre-planned

questions that align with the study and follow an IPR (Castillo-Montoya, 2016). I conducted the interview with pre-established questions from the interview protocol (see Appendix C). I acquired IRB approval before gaining access to participants and collecting data.

Without gaining access to the selected participants, the researcher will be unable to collect data (Peticca-Harris, deGama, & Elias, 2016). Gaining access to participants is the first important step, as all other steps in the interview process depend on it. For participants, researchers can contact someone they know, cold call, or work with a gatekeeper who may make recommendations (Peticca-Harris et al., 2016). Much of a participant's desire to participate in research depends on how the researcher presents the study. I used LinkedIn, a popular social media website for career advancement, networking, and other business-related opportunities, to contact participants. I identified them by selecting individuals in the transportation industry who listed IT management-related job roles on their profile. They also listed Memphis, Tennessee as their location. Once I obtained a participant's contact information, I emailed the participant a brief summary of the research project that explained the purpose of the study and the role of the researcher and participant. I offered no incentive. I also explained how the findings of the study can imply improvements for industry and social change.

Once participants consented to participating in the study, I worked with participants to schedule a suitable time and place to meet for the interview. Since participants were located in my geographic area of Memphis, Tennessee, I was able to meet for face-to-face interviews. I worked to settle on a day, time, and place that was

convenient for the participant, carefully noting the duration of the interview. I also considered day, time, and place in relation to choosing an interview environment that did not have a negative effect on the interview process.

Any distractions, disruptions, or unexpected occurrences the researcher or participant may experience can have a negative impact on data collection, causing misunderstandings, inaudible conversation, or disjointed communication (Lau et al., 2017). Distractors could include office bystanders, opened windows, telephones, knocks at the door, background noise, or the need to be elsewhere during the interview process (Lau et al., 2017). Interview site and setting can influence the content and process of data collection, and the researcher should eliminate or minimize as many distractions as possible by recommending a suitable place to conduct the interview (Dikko, 2016).

I offered to conduct the study at the participant's place of employment. A researcher using a qualitative case study focuses on the phenomenon in its natural environment (Arseven, 2018; Popescul & Jitaru, 2017). Having the IT manager in place where IT employee retention strategies are developed and implemented may trigger detailed information that may otherwise go unexploited.

I sent the participant an email and calendar invitation for the agreed upon day, time, and place of the interview. Upon arrival 15 minutes early, I conducted a 10-15-minute meditation session to promote mindfulness and rid the mind of all things irrelevant to the study. Each face-to-face interview for each participant was one hour or less in length. This included an introduction and interview questions and responses. I continued interviewing participants until I reached data saturation.

I obtained consent from participants to record the audio of the entire interview process from introduction through member checking. However, participants were able to choose to not be recorded at any time. Notes taken by hand can distract the researcher and cause vital information to be missed while the practice of mindfulness requires the qualitative researcher to be highly aware of the moment and consumed by the participant's correspondence (Haydicky, Wiener, & Schecter, 2017; Lemon, 2017). Tessier (2012) argued that the use of audio recordings allows researchers to hear tone and passion in participants' voices, while reducing loss of context and time management associated with data collection. Such keen awareness can help the researcher identify and unlock vital information that may have otherwise been missed. Using an audio recorder will free me from the distraction of notes taken by hand.

Furthermore, the use of audio recordings can accelerate the data analysis process (J. Neal, Z. Neal, VanDyke, & Kornbluh, 2015). Neal et al. (2015) argued that qualitative data analysis can be labor intensive, and using audio recording as a tool is a quicker and efficient way to analyze the data. A researcher can use audio recordings to become familiar with the data by re-listening and revisiting the recordings (Ibrahim & Edgley, 2015; Noble & Smith, 2015), which can rapidly identify the appearance of themes (Neal et al., 2015).

I also transcribed the audio-recorded interviews. Transcribing the audio allowed me to study the data once more, becoming familiar with what the participant shared and how that information fit the study. After each interview, I reflected on the interview process and the data collected.

Reflection is a common practice in the qualitative approach to research. Reflexivity is being self-aware in an attempt to understand the relationship between the researcher and the topic of research (Ibrahim & Edgley, 2015). Experienced researchers suggested that novice researchers reflect on their earlier attempts at the interviewing process to identify their strengths and weaknesses (Dikko, 2016; Gesch-Karamanlidis, 2015; Majid et al., 2017). Reflection may reveal mistakes in the interview process that the researcher can correct by refining the interview style. Such reflection can reveal opportunities for improvement. Any qualitative researcher may use reflection to review the interview process and the data collected to become intimate with the data (Gesch-Karamanlidis, 2015). Reflecting on a pilot study can greatly improve a researcher's approach to a full-scale interview (Dikko, 2016; Gesch-Karamanlidis, 2015; Majid et al., 2017). A firm understanding of the data helps the researcher understand how the data influences the study, how it can be analyzed, and how it can be presented (Gesch-Karamanlidis, 2015).

Before conducting data collection, I reviewed the constructed interview protocol and ensured it was ready for use based on feedback incorporated from the pilot interview session. After introductions, I reminded the participant that it was important that they feel comfortable with the interview process. They could be open and honest about any response. They could also withdraw their participation at any time. Castillo-Montoya (2016) and Hoover, Strapp, Ito, Foster, and Roth (2018) agreed that researchers should create a situation that allows participants to be open in sharing their honest opinions, feelings, and emotions, creating human-to-human interaction and rapport. After

obtaining the participant's consent to begin, I asked each question, allowing the participant to answer completely. I asked follow-up questions and allowed the participant to share their experiences. If I discovered an opportunity to yield more relevant data, I asked additional follow-up questions. Castillo-Montoya and Gesch-Karamanlidis (2015) insisted that researchers should use interviews to create an inquiry-based conversation. I continued the interview until I asked every question and the participant had responded to all questions.

Data Organization Techniques

I supported data integrity and increased the accessibility of the data by practicing proper data organization. When properly organizing the data, I streamlined the data analysis process, while interpreting and understanding the information.

I used roman numerals to label a folder for each participant in the study. The numbers did not identify the participants in any way. It is important to practice ethical research by protecting the anonymity and confidentiality of participants (Castillo-Montoya, 2016; Wilson et al., 2018; Yip et al., 2016). The subfolders of each number-labeled folder contained participate-related data, including audio and transcribed interview data, member checking data, organizational documents, emails, and the consent form. The files and folders are stored on a secure and encrypted cloud storage server. All paper documents, such as organizational documents, collected during the data collection process were converted to electronic data and uploaded to Google Drive cloud storage to allow file version history control and recovery from deletion. Then, paper hard copies were shredded and destroyed to protect the confidentiality of participant data. All

electronic data will be retained in secure and encrypted Google Drive cloud storage for a period of 5 years. After 5 years, I will delete all electronic data to prevent access and retrieval.

For further organization, I used Microsoft Excel to create a spreadsheet that associated each numbered participant with their associated data. Developing a spreadsheet with the data collected offered me a quick and efficient way to see what information is associated with which participant for analysis purposes. Bengtsson (2016) noted that it is important to make the data transparent and ensure its quality. Accessing the stored folder structure multiple times for data comparison among participants would have been time consuming.

Nurdiantoro, Asnar, and Widagdo (2017) stated that spreadsheets are commonly used for data organization and analysis. Developing a spreadsheet for this purpose makes the data readily accessible (Juluru & Eng, 2015; Shapiro & Oystrick, 2018). The spreadsheet consisted of columns for the numbered participants and rows for data relating to each participant. This allowed me to sort and group for continued organization. It also allowed me to quickly see relating data to identify themes and concepts. I used identified themes and reoccurring concepts to assist in developing the findings of the study.

Data Analysis Technique

When data is not properly organized, data analysis is more difficult for the researcher. The purpose of data analysis is to find meaning within the data collected that is relevant to the research questions and purpose of the study (Bengtsson, 2016). For the purpose of this study, I analyzed the data to find meaningful information that relates to

strategies IT managers lack to retain IT employees in order to support the goals and objectives of the IT organization.

When analyzing the data, it is important that the researcher follows the data wherever it may lead (Robinson, 2014). Since data analysis can uncover the findings of a study that may support or contrast a researcher's beliefs or worldview, it is important that the researcher continues to protect the study from bias (Robinson, 2014). This means that analysis should be honest and coherent. The researcher should identify meaningful data to draw a realistic conclusion to the research question and the purpose of the study (Bengtsson, 2016).

The overall process of data analysis included repeated review of the data to find meaningful information that informed the research. Specifically, I looked for data that answered the central research question of what strategies do IT managers use to retain IT employees to support the goals and objectives of the organization. Data analysis is the process by which one reviews data repeatedly to find correlation, similarity, or contrast that allows ideas and meaning to form for the purpose of the research (Bengtsson, 2016; Fusch & Ness, 2015). The researcher can consolidate large volumes of data by grouping similar topics, content, and themes. Grouping can allow for even better data analysis, as it allows the researcher to focus and isolate the data to a smaller set (Maguire & Delahunt, 2017).

I used methodological triangulation for the data analysis process. Methodological triangulation is the use of multiple data collection methods to analyze data to reach a more complete, detailed, and valid understanding of a phenomenon (Abdalla, Oliveira,

Azevedo, & Gonzalez, 2018; Morse, 2015). Rather than rely on the interview process only, I also depended on organizational documents to reveal a more detailed picture of the organization and the topic of research. The purpose of methodological triangulation is to avoid a one-method data analysis process, which can be bias (Abdalla et al., 2018; Morse, 2015). Analyzing the data through multiple and independent methods that yield the same conclusions results in an analysis process that shows a more accurate picture of the phenomenon (Abdalla et al., 2018; Fusch & Ness, 2015). One can add validity to the research by producing an accurate and logically sound approach to data analysis (Abdalla et al., 2018).

To begin the data analysis process, I reviewed the research in detail multiple times. I confirmed understanding once again while searching for completeness and any additional meaning. I made note of any revelation of themes, similar concepts, and similar content. I continued taking notes throughout the analysis process, reflecting on the analysis in real time. I imported any relevant and supported thoughts into the analysis process. The data analysis process included several runs at coding data to group the data in an attempt to reveal themes, similar concepts, patterns, and similar content. The purpose of this process was to find meaning within that data that informed the central research question. Codes were grouped into categories that were relevant in addressing the research question. Further organization of these categories supported the presentation of the research findings in a more streamlined layout. I repeated the process as necessary to extract meaningful information from the data that was relevant to the research question.

While qualitative researchers can perform many forms of coding and data analysis manually, a Computer Assisted Qualitative Data Analysis Software, or CAQDAS, tool is a software, computer-based option that can automate the data analysis process (Moylan, Derr, & Lindhorst, 2015). CAQDAS software has evolved over the years, and researchers are able to use it to assist with coding, transcription analysis, content analysis, text interpretation, and many other tasks associated with qualitative data analysis (Moylan et al., 2015). Many CAQDAS programs also offer visual representation of data through the use of charts and graphs. Researchers argue that the use of CAQDAS software for qualitative data analysis provides better results than manual analysis (Moylan et al., 2015).

QDA Miner is CAQDAS software that can be used for text-based analysis, specifically analysis for interviews and open-ended questions. CAQDAS software supports coding and code frequency analysis, memos and note taking, common document importation, and Boolean text search (Moylan et al., 2015). I input the data collected from the interviews, member checking, audio transcription, and organizational documents into QDA Miner. I used the coding function of the software to analyze the data into relevant groups, categories, and themes, allowing me to see relationships and relevance among the data. I used the software to interpret text and analyze content to reveal emerging themes that informed the research question. I continued performing this function until the software revealed meaningful information that I could interpret for the purpose of the study. Specifically, I looked for reoccurring strategies, descriptions of

strategies, and relating strategies for IT employee retention. In QDA Miner, I took the following steps:

1. Created a case that pertains to each participant
2. Imported the participant's collected data into their case
3. Created a hierarchy to distinguish between cases and data pertaining to each case
4. Ran the text retrieval tool to search for text patterns and considered those patterns for code creation
5. Ran the keyword retrieval tool to search for keywords and considered those words for code creation
6. Created codes and ran the code frequency tool to reveal themes

The data analyzed was data obtained from organizational documents and interviews. I used this data to inform most of the research. However, the study also included newly published literature that was relevant to the study.

Reliability and Validity

Reliability and validity are necessary components for quality of the research. Researchers often review the work of other researchers with a level of skepticism. The inquirer of qualitative research is the primary instrument of data collection, which leaves the research open to subjectivity and bias. This makes the notion of reliability and validity crucial to all research studies (Cypress, 2017).

Reliability of a study refers to the idea that the findings of a study can be replicated by using the same objective methods (Cypress, 2017; Gleason, Harris, Sheean,

Boushey, & Bruemmer, 2010). The more times the findings can be replicated, the more reliable the study is. Validity refers to the idea of being meaningful, logically sound, and relevant (Cypress, 2017; Gleason et al., 2010). The researcher must show truth and reason within the logic of the study. The researcher strengthens the study by carefully addressing reliability and validity, thus creating a credible, well-founded study (Noble & Smith, 2015). Moreover, it is important that qualitative researchers consider reliability and validity before and during the course of the research. Flaws or issues revealed after the conclusion of the research may be significant enough to require correction or a repeat of the study (Cypress, 2017).

Issues can exist with the reliability of a qualitative study. Although reliability means replicability in the research, the behaviors or responses of participants can differ for multiple studies (Cypress, 2017). Therefore, the possibility exists that no two data sets of multiple attempts of the same study will be exactly the same. In this case, researchers should focus on consistency and dependability of the data (Cypress, 2017). It is also vital to ensure that the findings of a study are consistent with the data collected. A qualitative approach to the research requires that the researcher explicitly gives detail of all processes and methods included in the research study (Cypress, 2017).

Validity of the research is also relevant to how others, those both inside and outside the research community, perceive the study. Participants are more likely to participate in a study that is logical, where they can understand the purpose of the study (Korstjens & Moser, 2018). Since validity and credibility are staples of the research community, a researcher's approach to both can affect the researcher's image in the

research community (Korstjens & Moser, 2018). Finally, people of society have respect for research that is well-rounded and sound. They are more likely to believe or even support the researcher's argument. They find the research trustworthy. In order for a study to be trustworthy, the researcher should consider the criteria of dependability, credibility, transferability, and confirmability (Korstjens & Moser, 2018).

Dependability

Dependability determines the repeatability and consistency of research (Forero et al., 2018). In qualitative research, a study is dependable if it is repeatable with the same or similar methods and processes to reach the same conclusion (Forero et al., 2018). Processes and methods to increase the dependability of a study can include member checking, transcript review, and pilot testing. It is important for the researcher to leave an audit trail that contains complete, detailed notes of the thought process and decision-making that influenced the research (Korstjens & Moser, 2018). This method of explaining the research leaves a transparency that allows another researcher to follow the path of the previous study. If the same path leads to the same results, the study is dependable. Dependability adds reliability and validity to the study (Forero et al., 2018). To increase the dependability of the study, I conducted member checking and pilot testing. I also left a detailed audit trail that discusses the methods and processes of the study that lead to my findings.

Member checking is an effective method for establishing dependability in the research (Nowell et al., 2017). Member checking allows participants to evaluate and confirm the accuracy of the information the researcher collects (Nowell et al., 2017). It

also includes the opportunity for the researcher to ask follow-up questions to ensure comprehension, avoiding or correcting any misunderstandings or misconstrued statements. Researchers use member checking to develop themes, descriptions, and viewpoints directly from the data while confirming that each are in line with participants' thoughts and the information they convey (Nowell et al., 2017). I used member checking to ensure that the understanding and interpretation of the data were consistent with the thoughts and intentions of the participants. Once I was able to interpret themes, descriptions, and a viewpoint, I asked participants if those interpretations matched and reflected their point of view.

Leaving an audit trail increases the dependability of the research (Forero et al., 2018). When a researcher leaves complete, detailed instructions on processes, methods, and interactions with participants, another researcher can follow the same path to complete a study with similar findings (Korstjens & Moser, 2018). I used a detailed method of explaining the research, which included notes, thoughts, and opinions. An explanation for decisions made at each stage of the research process was included. This included population and sampling decisions, data collection decisions, and methods for organizing and analyzing data. Transparency of the study allows another researcher to follow the study's path and understand how the process concluded with the presented findings (Korstjens & Moser, 2018; Nowell et al., 2017). I took notes to document steps taken toward the research, their intended outcomes, and their actual outcomes. I documented my approach taken towards population sampling, building interview questions, conducting interviews, and data organization and analysis. I shared my

reasoning for the decisions I made and why I made them. The purpose was to create transparency and reveal to other researchers my thought process, which will aid them in replicating my study.

Credibility

In qualitative research, credibility is when the viewpoints of participants align with the researcher's representation of those viewpoints (Korstjens & Moser, 2018). The representation of the data is true to the data collected in its raw form. Therefore, credibility is a measure of truth-value. Researchers have an ethical responsibility to participants that includes trustworthiness and truthfulness (Korstjens & Moser, 2018). I continually respected all participants by being truthful about the research throughout the study. I also presented data for the study that aligned with participants' viewpoints. Honoring that responsibility by addressing credibility yields an approach to research that is both ethical and reliable (Cypress, 2017; Korstjens & Moser, 2018). I ensured that I understood a participant's response based on the participant's meaning and intent. This allowed me to share the participant's truth and input creditable data into the study.

A researcher can use several techniques to establish the credibility of a study, including member checking, prolonged observations, and data triangulation (Korstjens & Moser, 2018). A researcher can influence the credibility of a study through data collection (Korstjens & Moser, 2018). The researcher's approach to data collection can determine if the researcher's representation of the data aligns with the participant's viewpoints. Member checking is one of the most important processes for establishing credibility in the context of a study (Korstjens & Moser, 2018).

Triangulation, in the context of this study, is the process of using multiple data collection methods to obtain the best version of the truth (Abdalla et al., 2018). Through the interview process, observations, and member checking, researchers can garner a more complete view of the phenomenon (Abdalla et al., 2018). I used triangulation to reach data saturation. Once I identified and documented themes and content, I continued to collect data until the themes and content were reoccurring and no new information appeared.

After conducting interviews, I spent a day or two carefully listening to the audio recordings, transcribing each word, and understanding participants' responses. Then, I scheduled a follow-up phone call or sent an email to initiate the member checking process. I used the member checking process to confirm my understanding or correct my misunderstanding of the collected data based on the responses I gathered from the phone call or email. I concluded a viewpoint that was meant to represent the participants' thoughts, opinions, and feelings, encouraging participants to evaluate the information for consistency, alignment, and truth. Participants and I participated in qualitative inquiry until the participants agreed that I had a complete understanding of their viewpoint. This process ensured that I completed data collection with data that was in alignment with the viewpoint of participants. This ensured that the data were credible. I used interviews, organizational documents, and member checking for triangulation. Once I was able to identify themes and content that satisfied the research question, I continued to acquire data until the information became repetitive. Once I observed that new and significant data no longer appeared, I conclude that I had reached data saturation.

Transferability

The transferability of research refers to the degree to which the research can be generalized or transferred to research outside of which it was intended (Forero et al., 2018). Research is transferable if it can be used in other contexts or environments. The researcher is unlikely to know if a study will be transferrable to certain environments (Forero et al., 2018). However, through the process of providing rich descriptions of the research approach and methods, the researcher can provide other researchers with information to determine if the study will fit their environment, thus enhancing transferability (Nowell et al., 2017). Not only does transferability add to the validity and reliability of a study; but it also widens the impact of a significant study, as it is transferrable to other environments and contexts (Forero et al., 2018; Korstjens & Moser, 2018).

Within the context of this study, I provided rich descriptions of all processes, methods, and actions taken for the purpose of this research. I presented the data collection method and research protocol in rich detail in order to provide insight into my thought process and decision-making. Moreover, I equally detailed the background of the study, population and sampling, and data analysis phases of the study. Finally, I provided details of the results of the study. The detailed information that I provided will give the study transparency and accessibility. Providing rich details that address the specifics of the study gives other researchers a path to reproduction if they determine the research is transferable to their environment and context of study (Forero et al., 2018; Korstjens & Moser, 2018).

Confirmability

Confirmability is the notion that the research would be confirmed, corroborated, or supported by others in the research community (Forero et al., 2018; Nowell et al., 2017). Research that has confirmability is a study that a researcher conducts with findings derived directly from the data. The researcher bases the interpretations, viewpoint, and findings on the data. The researcher must achieve dependability, credibility, and transferability before the research has confirmability (Forero et al., 2018; Nowell et al., 2017).

I plainly described the logic behind each decision made for the purpose of the study. I accomplished this by documenting and providing rich detail in the form of descriptions, notes, thoughts, choices, and decisions. I conveyed the understanding that led to choices and decisions made on the research approach to every component of the study. Another approach to reaching confirmability is methodological triangulation (Abdalla et al., 2018). As the research bases the findings of the study on the data collected, I will ensure the data were a complete and truthful representation of the topic.

Triangulation, member checking, repeatability, alignment, and generalizability are input into confirmability. Each component of dependability, credibility, and transferability are requirements for confirmability. It is important for the researcher to address the validity and reliability of the research to solidify the study in credibility and integrity. If other researchers can follow and reproduce the findings of the study, the research is reliable, dependable, and trustworthy. A valid and reliable study can be useful

to other researchers in other environments and contexts (Forero et al., 2018; Nowell et al., 2017).

Transition and Summary

This section contained the proposed plan for methods and processes in the research study. Research study components of this section included the role of the researcher, participants, research method and design, population and sampling, and data collection, organization, and analysis. Quality research is ethically sound with protection of participants. Finally, this section included the processes and procedures administered to ensure reliability and validity of the research. The next and final section of the study will include the findings of the study, applications for professional practice, implications for social change, recommendations for action and further study, a reflection on the research process, and a conclusion.

Section 3: Application to Professional Practice and Implications for Change

The focus of this study was identifying strategies that IT managers use to retain IT employees in order to support the goals and objectives of their IT organization. In this section, I present the findings of the research and its application to professional practice to effect organizational and social change. This section includes an overview of the study, the presentation of the findings, applications to professional practice, implications for social change, recommendations for action and further study, a reflection on the research process, and a conclusion.

Overview of Study

The purpose of this qualitative exploratory multiple case study was to identify strategies that IT managers use to retain IT employees in order to support the goals and objectives of the IT organization. Data came from interviews and member-checking sessions with IT management professionals in the transportation industry and publicly available organizational documents from transportation companies. The findings reveal strategies, methods, and processes in the form of four themes pertaining to the approaches that the IT management professionals used to retain IT employees: (a) communicate to executive management, (b) create career opportunities, (c) place in appropriate job role, and (d) address the needs of IT employees.

Presentation of the Findings

The analysis of the data revealed four themes that refer to strategies for IT employee retention. This section contains a discussion of each theme. The purpose of this study was to address the overarching research question: What strategies do IT

managers use to retain IT employees in order to support the goals and objectives of the IT organization? The answer to the central research question can be used to address the specific IT problem that some IT managers lack strategies to retain IT employees in order to support the goals and objectives of the IT organization. While conducting research for this study, I used semistructured interviews to collect data on recommended and implemented strategies used by five IT management professionals from five different organizations to retain IT employees. I collected and reviewed 13 publicly available organizational documents related to IT employee retention, incentive programs, training, career growth, and organizational mission. After data analysis, four main themes appeared from the research: (a) communicate to executive management, (b) create career opportunities, (c) place in appropriate job role, and (d) address the needs of IT employees. IT managers can use each theme to form a foundation for developing a strategy to retain IT employees.

Theme 1: Communicate to Executive Management

The first theme to appear from the data was communicate to executive management the role of IT in the organization by showing how the use of IT sustains and progresses the business. The theme appeared by combining the purpose in business code, the communication code, and the business case code. I applied the purpose in business code to data that described the purpose of IT in a business of the participant's reference. I applied the communication code to data that described communication between IT managers and executive management, and I applied the business case code to data that described the use of IT applied to a business case. All participants indicated that by

communicating the purpose of IT in business and making a case for business by using IT, IT managers can communicate to executive management the role of IT in the organization by showing how the use of IT sustains and progresses the business. Many organizations do not meet business objectives and goals without IT (Bulson et al., 2017). All participants reported that many organizations do not completely understand the role of IT, and that lack of understanding can put IT employees in undesirable positions, which increases the chance of turnover. All participants noted that the first step to remedy this problem is to communicate to executive management the role of IT in the organization.

Participant 1 responded that although some organizations consider IT one of the most important functions in the company, other organizations think that IT is a pain. He also noted that IT deserves a seat at the decision-making table, explaining that many companies do not truly understand that the strategic support of IT knowledge and experience impacts the entire company. Participant 2 stated that some companies believe that all IT people are the same. He responded that a desktop support IT employee could not be expected to code applications, contending that failure to understand this could lead to wasted time, lost productivity, and frustrated IT employees, which the participant indicated as a cause of IT employee turnover. Participant 3 stated that IT is more effective when an organization views it as a business partner rather than a service. Participant 4 responded that many executives do not understand IT, contending that this lack of understanding can result in fewer successful IT projects. He went on to state that

the better an organization's IT people are, the better its tools are, and that becomes the organization's competitive advantage.

Participants 1, 2, 3, and 4 agreed that executives who do not understand the role of IT in the organization can create an environment harmful to IT employee retention. This supports Lo's (2015) argument that IT managers who understand the importance of IT employees in businesses and organizations understand the importance of retaining those employees. Participant 1 stated that IT should be included upfront on all business projects, especially those with objectives supported by IT solutions. Including IT gives the opportunity for IT employees to show the role of IT in the project management process.

Participants 1, 3, 4, and 5 reported that executive management can understand the role and value of IT by understanding what the organization loses when IT employees leave. This is supported by Mitrovska and Eftimov's (2016) finding that the loss of IT employees can add administrative time and have a negative impact on the morale of remaining IT team members. They reported that turnover costs can reach 150% of an employee's annual salary (Mitrovska & Eftimov, 2016).

Participant 1 stated that IT employees take years of knowledge with them when they leave, and Participant 3 explained that organizations stand to lose unique business domain knowledge due to IT employee turnover. Participant 5 stated that the practical job knowledge that IT employees acquire is gained with experience, noting it may take years for a replacement to obtain the same experience when an employee leaves the organization. Participant 4 answered that some IT employees have a unique skillset that

is hard to find. Communicating to executive management that it may take months to rebuild after those IT employees leave is an effective way to help executives understand the value of IT employees. All participants agreed that IT managers must communicate that IT is needed to push the organization forward to acquire and support new business and increase the efficiency of employees in the organization. Participant 5 offered that IT managers must be brutally honest and transparent with executive management. All participants communicated that IT managers should communicate to executive management that business and operations suffer immediately after the loss of the job knowledge of an IT employee, arguing that this adverse impact continues until the level of job knowledge is replaced with a new IT employee. This supports the theme that IT managers should communicate with executive management.

I collected 13 organizational documents, and I found examples that supported participant data on how IT managers can communicate to executives and how IT can be used to push the objectives of the organization. The purpose in business code appeared nine times (see Table 3) throughout the organizational documents. The communication code and the business case code appeared three times (see Table 3). According to the organizational document *Outbound Transportation Management and Reverse*, customer service, productivity, and outbound supply chain suffered due to human-based decisions and manual operations. IT managers were able to communicate with executive management that a third-party vendor was needed to provide a solution to automate certain user-based processes. This strategy supports Theme 1. IT employees worked with a solution provider to map, build, and roll out a transportation management system

that met key performance indicators in areas of performance, cost, and productivity. Participant 1 recalled IT employees completing an IT project that cut the cost of shipping a product per unit, allowing the organization to offer premium service at a reasonable price. In both instances, IT employees delivered a solution that drove the organization forward. IT managers were able to identify how IT could be applied to the problem, and they were able to communicate with executive management to obtain buy-in for a project that provided a solution. This also supports Theme 1. Moreover, this supports Otoiu and Titan's (2017) research indicating that IT employees are essential in embedding IT into the organization and routing its use to where it is most effective.

According to the *Implementing Best Practices in Transportation Management* organizational document, enabling and managing technology improves processes, reduces rates, and improves service levels. However, without buy-in from executive management, technology cannot be implemented to the benefit of the organization. Therefore, IT employees must communicate to executive management the importance of technology and technology systems, according to the document. This document supports data collected from Participants 3 and 5. Participants 3 and 5 shared that without the IT team's communication to executive management about a mission-critical IT application at their organization, their organizations would not have been successful. They stated that the applications were built by IT employees for the specific purpose of running and growing the business. Participants 3 and 5 continued to share that IT employees are needed to address critical issues quickly and support high availability of the applications. The experiences of Participants 1, 2, and 4 also aligned with organizational documents.

Each gave examples of IT projects that IT managers used to communicate the importance of IT, employees who manage IT, and their role in the organization. Two organizational documents support the innovation of IT to advance the transportation industry. Similarly, Participant 5 indicated that IT employees can drive innovation in ways that executives do not understand, creating efficiencies and solutions before they are known to be needed.

Table 3

Codes for Communicate to Executive Management

Code	Participant mention count	Document mention count
Purpose in business	7	9
Business case	11	3
Communication	14	3

The review of the literature provided insight into how incorporating IT into the business can affect the organization. Realization of such effects can help those in executive management understand the role of IT in the organization to sustain and support business operations. When IT managers communicate the role of IT to executive management, they should communicate that IT is the driving force behind the business of many modern-day organizations, and many organizations have become reliant on IT to accomplish their goals and objectives (Bulson et al., 2017). Without IT, many businesses and organizations would fail to meet their goals and objectives, lose revenue, and even cease to exist (Bulson et al., 2017). Participants 3 and 5 explained that their organizations were built around an application that created businesses. Without that

particular application, their organizations would cease to exist. This supports Bulson et al.'s (2017) research that many organizations would not be successful without IT. Participants 3 and 5 had made the case to executive management to retain IT employees based on the importance of the availability and reliability of their mission-critical applications. This finding supports Otoiu and Titan's (2017) notion that IT employees are essential in embedding IT into the organization. Wu et al. (2015) agreed that IT employee turnover has a negative effect on the reliability and availability of mission-critical applications, systems, and networks. Therefore, IT managers must retain IT employees (Lo, 2015).

Participants 1, 3, 4, and 5 reported that executive management can understand the role and value of IT by understanding what the organization loses when IT employees leave. This finding supports the work of Mitrovska and Eftimov (2016), who calculated that the turnover cost per IT employee can equal 150% of an employee's annual salary, with costs potentially reaching over 200% for IT employees with a special skillset. Participant 4 offered that some IT employees have a unique skillset that is hard to find. Participant 1 stated that when IT employees leave, organizations lose years of knowledge. Participant 5 said that it takes years to gain practical knowledge and experience. Participant 4 stated that communicating to executive management that it may take months to rebuild after IT employees leave is an effective way to help executives understand the value of IT employees. If members of executive management understand the value of IT, they will act to assist IT managers with retaining IT employees. This supports Lo's (2015) research that failing to retain IT employees can be detrimental to the organization.

Researchers have supported the need for those in executive management to understand the value of IT and the negative impact of employee turnover. Mitrovska and Eftimov (2016) argued that IT employee turnover can be harmful to an organization's health. If those in executive management do not understand the role and value of IT and IT employees in the organization, the business may suffer (Bulson et al., 2017).

Organizational learning theory, which formed the foundation for this study, supports the findings. Once IT managers identify that executive management lacks knowledge of the role of IT and IT employees in the organization, IT managers can develop strategies to communicate the role of IT in the organization by showing how the use of IT sustains and progresses the business. The organization can learn from its mistakes (Argyris & Schön, 1978), which is the basis of organizational learning theory. Effective strategies can help executive management understand the importance of IT and IT employees in relation to organizational success. Once members of executive management have this understanding, they can support and assist IT managers with retaining IT employees.

Theme 2: Create Career Opportunities

The second theme that appeared in the data was the importance of creating career opportunities within IT in the organization to improve employee turnover. The theme appeared upon combining the training code, the career path code, and the involvement code. I applied the training code to data that described the importance of IT employee training to benefit the organization and the IT employee. I applied the career path code to data that described an IT manager's plan for IT employee advancement to higher job

roles within the organization, and I applied the involvement code to data that reflected the importance of IT employees being involved in projects, decision making, and other business-related tasks. All participants indicated that many IT employees want to continue learning and acquire new skills. The literature revealed that insufficient training could lead to turnover (Cook, 2015). It is important for an organization to have options for training internally or be willing to send IT employees to external resources for training. Training increases the performance of employees (Siddiqui & Zamir, 2018). All participants agreed that training should be part of a career path that encompasses a hierarchical map of higher job roles and responsibilities that IT employees can obtain by meeting certain guidelines and organizational standards. All participants also communicated that IT employees want to make decisions, be consulted, and determine the outcome of projects and other business-related tasks. Cook (2015) concluded that IT employees cited lack of participation in decision making as leading to burnout and IT employee turnover. IT employees want to be involved, and they want to feel as though their involvement makes a difference. Each participant stated that many IT employees want to understand what is required to obtain higher job roles, be promoted, and move from entry-level positions to more advanced roles and even executive-level positions. All participants also indicated that if IT employees do not have a path for professional growth within a particular organization, they may leave to find opportunities for growth in another organization. A review of the literature revealed that poor promotion prospects can lead to IT employee turnover (Cook, 2015; Kim & Fernandez, 2017). All

participants stated that their strategy to defend against this risk and retain IT employees is to create a career path to show opportunities within IT in the organization.

Participant 1 responded that most technology people want to advance, and they want to be promoted. Participant 4 stated that everyone wants to know their future opportunities with their organization. Lack of opportunity for promotion can lead to turnover (Cook, 2015; Kim & Fernandez, 2017). He also stated that organizations must have a career path, and reaching those goals requires participation, training, and involvement on the part of the employee. Participant 3 responded that it is important to establish a common set of goals, a performance planner for the employee. He stated that it is important to find out what the employee would like to accomplish in their career and try to align that with the goals and needs of the organization. Role ambiguity can be a significant component of burnout, which can lead to turnover (Cook, 2015). He said it is a good way to determine what the IT manager can offer the IT employee in terms of career advancement. Participant 1 agreed with Participant 3 that a career path should be tailored to the individual IT employee. Participant 1 was careful to note that all IT employees do not want to be managers. Therefore, their career path should be mapped to higher job roles that do not include management-related job responsibilities.

Participant 2 communicated that IT employees need to see a career path, which includes their career growth in compensation and job role. He stated that if an organization wants to keep employees long-term, IT employees have to see where they are going career-wise. This supports Pathak and Srivastava's (2017) argument that recognition and challenges, such as those presented in a career path, raises an employee's

commitment level, which increases longevity in employment. Participant 3 communicated that if the organization offers a career path, it is less likely that IT employees will look outside of the organization for career growth. Participant 2 noted that he created a career path that plainly states and outlines the goals an IT employee must accomplish to obtain a promotion to a higher job role. He said it gives employees aspiration, and it gives the organization their commitment. This supports Pathak and Srivastava's research that increased commitment levels reduce the likelihood of turnover. However, Pathak and Srivastava also found that higher commitment levels increase employee performance (Pathak & Srivastava, 2017).

I reviewed organizational documents that supported the use of employee career paths that include training and involvement. The training code appeared four times (see Table 4) throughout the organizational documents. The career path code appeared twice, and the involvement code appeared once throughout the documents (see Table 4). The document *Retention Problem? It's not the Employee, It's the Leader* was centered on the notion that most business professionals strive for professional growth and development. This supports statements by Participant 1 and Participant 4. Participant 1 mentioned that most technology people want to advance, and they want to be promoted. Participant 4 stated that everyone wants to know their path up. It is stated in the organizational document *Our Values* that organizations should provide opportunities for continual development. Moreover, these statements can be corroborated by Cook (2015) and Kim and Fernandez (2017)'s research that argued that a lack of opportunity for growth and promotion can lead to turnover. Involvement is necessary for growth, as implied by

Cook and Kim and Fernandez. Participant 1 stated that one strategy he uses to keep his team involved is to include them on all project planning and to allow them to form relationships with key vendors. Participant 5 communicated that it is important to keep IT employees involved in impactful projects that affect the company. He stated that involving IT employees in meaningful work is an effective retention strategy.

It is discussed in the document *Retention Problem? It's not the Employee, It's the Leader* that many employees are unable to develop accurate paths for themselves, due to being new to the company or being unfamiliar with direct objectives that lead to promotions. It is important that IT managers encourage IT employees to learn and provide resources for them to do so. Participant 4 and Participant 3 agreed and communicated the importance of training along with the responsibility of the organization to provide resources. A review of the literature supported their ideas. EL Hajjar and Alkhanaizi (2018) and Siddiqui and Zamir (2018) concluded that in order to retain IT employees, IT managers should consider training IT employees for skills that the job role requires. It is also discussed in the document that more opportunities to learn and grow raises an employee's commitment levels. Pathak and Srivastava's (2017) argument was that commitment levels increase retention.

Table 4

Codes for Create Career Opportunities

Code	Participant mention count	Document mention count
Training	9	4
Career path	8	2
Involvement	4	1

To apply the conceptual framework, the organizational learning theory, to any business process is to first identify the "mistake" or area for improvement (Argyris & Schön, 1978). Lack of promotion, training, and involvement can ultimately lead to IT employee turnover (Cook, 2015). The next step is to analyze the area for improvement, identify how that area can be improved, and develop strategies to take action for improvement (Argyris & Schön, 1978). A career path, as indicated by all participants, is a mechanism for training and involvement that results in promotions and higher job roles. Developing a career path for IT employees can offer IT employees opportunity for growth and development, involvement, promotion, and aspiration. The lack of these components can increase the possibility of IT employee turnover. Therefore, creating a career path to show opportunities within IT in the organization can be developed as a strategy to retain IT employees.

Theme 3: Place in Appropriate Job Role

The third theme to appear from the data is the importance of placing IT employees in appropriate job roles. The theme appeared by combining the local talent

code, the role assignment code, and the training code. I applied the local talent code to data that described the significance of acquiring local IT talent versus outside IT talent. I applied the role assignment code to reference data that reflected an IT employee's job role within the organization, and I applied the training code to data that described the importance of IT employee training to benefit the organization and the IT employee. All participants agreed that it is important that IT employees are placed in appropriate job roles.

Participant 2 and Participant 3 communicated the importance of acquiring local talent versus outside talent. They agreed that hiring local talent, rather than hiring from a broader job pool, may be a better fit for job roles. Both participants stated that local talent can be less prone to turnover. Participant 3 stated that IT employees from outside locations can become homesick and desire to return home. Participant 2 mentioned that local career fairs are great for IT talent, and Participant 3 said his organization sees value in partnering with local community colleges and universities to source IT talent. Though both participants gave a preference of local IT talent, each participant noted that it is more important to acquire an IT employee that fits the job role. This supports Schirf and Serapiglia's (2017) argument that if an IT employee does not fit the job role, the IT department may struggle to meet the demands of the organization. Both participants shared a willingness to acquire outside talent if needed.

Participant 1, 2, 3, and 4 communicated the importance of appropriate role assignment. They agreed that an IT employee's fit for a job role can affect turnover probability. Participant 1 stated that poor IT management can be the result of an IT

employee with poor management skills being promoted to a manager position. He referred to this as a gross error. He further stated that this type of promotion may occur when an IT employee has a high level of technical skill but lack managerial and leadership skills. In turn, he stated that poor management and leadership can deter IT employees to the point of turnover. This supports Siddiqui and Zamir's (2018) argument that it is important for IT professionals to have a skillset that allows them to be successful when addressing the distinctions of an organization. Participant 2 and Participant 3 explained their use of role assignment as a way to avoid IT employee turnover. They acknowledged that it is possible to make a mistake in calculating an IT employee's fit for a particular job role. Rather than risk factors, such as stress and burnout that lead to turnover, they seek to reassign the IT employee to a different job role, ideally a role where the IT employee can be successful. A review of the literature revealed that IT employees that experience burnout are more likely to leave their jobs (Cook, 2015; Maier et al., 2015; Naidoo, 2018). Kim and Fernandez (2017) believed that a trained employee in a job role that fits their skillset exhibits self-efficiency and organizational worth. Participant 4 stated that he often outsources mundane tasks to third party technical services because he wants his team engaged and working on more important items and projects that push the organization forward to reaching its goals. He stated that mundane tasks do not challenge his team enough, and they will become disinterested and consider leaving. This supports Cook's (2015) study which identified IT employees who stated that menial tasks distracted from real work. An IT employee consumed with menial and

mundane tasks is a component that lead to high stress levels, burnout, and eventually turnover (Cook, 2015).

I reviewed organizational documents that supported the importance of placing employees in appropriate job roles. The local talent code appeared once (see Table 5) throughout the organizational documents. The role assignment code appeared once, and the training code appeared four times throughout the documents (see Table 5). In the organizational document *Our Values,* it was stated that it is important to have the correct employees for the correct environment. This supports Schirf and Serapiglia's (2017) argument that it is important for the IT employee to fit the job role in order to meet the demands of the organization. It was stated in the document that organizational fit is important, and whether an employee fits a job role is a portion of organizational fit. IT managers can meet the demands of the job role by hiring for the right talent. Participant 4 stated that it is important for his IT department that lower end tasks are delegated to contracted workers. He stated that it keeps the permanent staff focused on projects that move the organization forward. He also stated that if he identifies a contract employee that has the necessary talent for a higher end job role, he will consider hiring that IT employee to his permanent staff. Pathak and Srivastava (2017) argued that IT managers should focus on recruiting high performing IT candidates during the hiring process. Selecting candidates with a proven high-performance work ethic can limit the chance of hiring an IT employee that does not perform at the expected level (Pathak & Srivastava, 2017).

All participants mentioned that offering some form of training is important to retaining IT employees. Training the candidate is important for the job role and organizational fit (EL Hajjar & Alkhanaizi, 2018). Participant 1 stated that it is very important for organizations to recognize the importance of training and be willing to fund it if necessary. Participant 2 added that no matter how experienced an IT employee is they will still need training for a specific environment, organization, or job role. Participant 3 mentioned the development of a training program that introduces IT employees to newer technologies that may not currently be in use within his organization. Participant 4 stated the importance of continuing education and staying current with the IT industry. Insight from all participants revealed that IT managers should train IT employees for job roles. This supports the argument that in order to retain IT employees, IT managers should consider training the IT employee for the responsibilities the job role requires (EL Hajjar & Alkhanaizi, 2018; Siddiqui & Zamir, 2018). van Gerwen et al. (2018) added that training promotes cooperation and engagement with work activities, which leads to employee retention. Participant 2 communicated that it is important to have a strong internal training program. Jin et al. (2018) stressed the importance of one-on-one training between the IT manager and the IT employee while Jin et al. (2018) recommended work group training. Research supports the notion of a training program to match IT employees to the job roles for retainment and to increase their performance (Asfaw et al., 2015; EL Hajjar & Alkhanaizi, 2018).

Participants did not communicate the consequences of an IT employee in a job role that is not a fit for the IT employee's skillset. Moreover, participants did not provide

information about an IT employee's lack of understanding of a job role. However, a review of the literature revealed some insight. Cook (2015) argued that an IT employee's confusion about their job role and responsibilities can lead to burnout. Some researchers agreed that burnout causes lower employee performance, withdrawal from tasks, and even turnover (Biron & Eshed, 2017; Giorgi et al., 2018; Kim et al., 2017; Olusoga & Kenttä, 2017). Travis et al. (2017) stated that if training is unsuccessful, another option is to terminate the IT employee and restart the talent search. To prevent the probability of termination, it is important for IT managers to be transparent about the job role and responsibilities during the hiring process (Pattnaik & Sahoo, 2018).

Table 5

Codes for Place in Appropriate Job Role

Code	Participant mention count	Document mention count
Local talent	2	1
Role assignment	6	1
Training	9	4

IT managers can apply the organizational learning theory to address issues in job placement for IT employees. Pattnaik and Sahoo (2018) identified that in order to obtain a suitable new hire for a particular role, it is important that the IT manager practices transparency with the responsibilities of the job role. This technique gives IT managers the opportunity to identify high performance candidates and choose individuals that meet the specifications of the job role (Pathak & Srivastava, 2017). This is a strategy that

exhibits the organizational learning theory by avoiding mistakes during the hiring process to ensure a chosen candidate is the appropriate fit for the job role. The strategy mitigates the probability that the IT employee will display low performance measures or experience burnout due to a mismatch in job roles. A mismatch in job roles can also limit the IT department's ability to meet the demands of the organization (Schirf & Serapiglia, 2017). If an IT employee experiences burnout, a mismatch of job roles, or some other component that may lead to turnover, the IT manager can implement strategies based on an analysis of the component the IT employee is experiencing. Participant data revealed choosing local talent, changing role assignments, and training are affective strategies. Triangulation of the research and organizational documents showed support for those strategies (Asfaw et al., 2015; EL Hajjar & Alkhanaizi, 2018; Kim & Fernandez, 2017; Travis et al., 2017).

Theme 4: Address the Needs of IT Employees

The final and most prevalent theme to appear from the data was the importance of addressing the needs of IT employees. The theme appeared by combining the personal needs code, the incentives code, and the communication code. I applied the personal needs code to data that referenced the needs of IT employees outside the workplace. These personal needs also have a way of affecting the IT employee's job. I applied the incentives code to data that described incentives an IT manager may offer to meet the needs of an IT employee, and I applied the communication code to describe data that reflected the importance of communication between the IT manager and IT employees. All participants indicated the importance of listening to IT employees when they

communicate their personal needs. All participants communicated that failing to consider and understand an IT employee's personal needs may cause the relationship between the IT manager and the IT employee to deteriorate. This deterioration can ultimately lead to turnover.

Participant 1 said that IT people think differently, which may reflect their needs, basis for incentives, and overall outlook for career advancement. He said the way they think should be considered when acknowledging and addressing their needs. He also noted that IT managers should empathize with personal issues that the IT employee may be experiencing. Participant 3 stated that a personal issue may be a family situation, a sick relative, or a spouse that is offered a job opportunity that requires relocation. He also mentioned doctor appointments, activities with their kids, and the need to have personal time during non-business hours. Participant 4 stated the need to communicate with IT employees on a regular basis to show concern for their feelings about their workplace and their work assignments. He stated that IT managers should get a sense of whether the IT employee is happy with their circumstances and look for areas of dissatisfaction. Participant 1, 2, and 4 recommended surveys and polls to get a reading on the thoughts and feelings of IT employees as it pertains to issues inside and outside of the workplace. Participant 5 even acknowledged the need for an IT employee to leave the organization to pursue goals and aspirations that could not be satisfied by the IT manager and the organization. This notion supports the argument by Acikgoz et al. (2016) that employees' belief that they can find what they desire in a new job is related to the probability they will leave their current job.

All participants reported the importance of the IT employee's personal need for incentives to motivate performance, increase commitment levels, and mitigate the probability of turnover. Participant 1 and Participant 4 stated that IT managers have to understand when money can motivate which IT employees. Participant 3 and Participant 4 indicated a willingness to pay more if the result is a high performing employee. Participant 1 indicated that IT managers and the organization must be willing to pay for an IT employee's talent, skillset, and education to fill the need of the IT department to support the organization. Participant 2, 4, and 5 communicated that money is not a motivator for everyone. They said it is important to identify the IT employee's motivator in order to properly incentivize them. Participant 2 and Participant 4 indicated the need for other incentives such as promotions, education reimbursement, paying for certification exams, and other forms of continuing education. Participant 4 was careful to note that the purpose of incentives is to motivate the IT employee in a way that benefits both the IT employee and the organization. He said that though the IT manager can offer the opportunity, IT employees have to invest in themselves in order to meet the goals set forth by the IT manager and the organization. Ironically, Participant 1 indicated that his experience has been that some employees do not want to be promoted. He said they are content with staying in their job role, and they are satisfied with their level of responsibility. Participant 1 and Participant 2 said that sometimes incentives can be in the form of exposure to newer technologies, and Participant 4 communicated that some IT employees are incentivized by their need to feel their work makes a difference in the organization and in society. In contrary, Cook (2015) argued that constant removal from

meaningful and important work to address menial tasks can lead IT employees to work exhaustion and burnout.

All participants shared the importance of communication between the IT manager and IT employees. Participants 1 indicated the importance to communicate the direction of executive management and how that direction affects IT employees. This gives IT employees a feeling of involvement and insight into the objectives and goals of the IT department and the organization. He went further to state that proper communication between the IT manager and IT employees ensures that IT managers are always aware of the needs of their team members. He felt that if IT managers are more open with IT employees, most IT employees will be open with their managers. Participant 2 felt that if an IT employee's aspirations are aligned with the goals of the IT department, that both can be successful. He stated that communication is important to identify where the two align, and that communication can identify common ground to satisfy both the IT employee and the IT department. He also stated that communication can reveal an IT employee's motivator, which can be used for incentives and increased performance. Participant 3 communicated that communication should be solid from the top down, that is from executive management to the IT manager then the IT employee. He stated that IT employees become frustrated with management if they do not understand the decisions made by management. Participant 2 stated that happy employees will be more open about their feelings and what they have heard about the feelings of other team members in their department. Participant 5 stated that open communication can lessen confusion among job responsibilities, project tasks, and daily work activities. This supports Cook's

(2015) argument that when IT managers do not communicate job responsibilities, requirements, and expectations to IT employees, it can cause role ambiguity, which is confusion that can lead to work-related stress.

I reviewed organizational documents that supported the importance of addressing the needs of IT employees. The personal needs code appeared once (see Table 6) throughout the organizational documents. The incentives code appeared four times, and the communication code appeared three times throughout the documents (see Table 6). In the organizational document *Turnover Rate Business*, it discussed the development of the Survey Feedback Action Program (SFA). The SFA is a program that evaluates employee relations, needs, and satisfaction. The surveys are part of an internal strategy aimed at employee retention. Participant 2 and Participant 4 agreed with the survey strategy that is discussed in the *Turnover Rate Business* document. Both participants communicated the usefulness of using surveys to get an understanding of the needs, feelings, thoughts, and opinions of IT employees. As a retainment strategy, IT managers can use surveys to understand what causes IT employees to leave. This supports Bledow et al.'s (2017) argument that by understanding why IT employees leave, IT managers can develop strategies that prevent and lessen the probability of IT employee turnover. In the organizational document *Leverage an Incentive Structure*, it is discussed that an incentive structure can promote high performance in employees. Pathak and Srivastava (2017) agreed, as they argued that providing an incentive to IT employees can increase their organizational commitment; and increased organizational commitment can result in higher performing IT employees. All participants agreed that incentives are important for

IT employee retention. Participant 1 and Participant 4 communicated that IT managers should understand when money can be used as an incentive; and Participant 2 and Participant 4 agreed that other incentives should be considered, especially when money is not available or is not a motivating factor.

In the organizational document *The Communication Programs Concepts*, the development of a process for addressing employee complaints, concerns, and needs is discussed. Communication within the process has contributed to a better understanding between employees and management, and the result has been an increase in employee retention. All participants were aligned with the communication processes in *The Communication Programs Concepts* document. Participant 1 stated that open communications lessens confusion about job role and organizational direction. Participant 4 indicated that with proper communication and transparency, IT managers can obtain buy-in from executive management and IT employees to successfully complete IT projects. Cook's (2015) study supported the importance of communication. IT employees that experienced high stress levels and turnover risk often experienced mixed messages and confusion about responsibilities and tasks from their managers. The organizational document *Hiring New Ground Drivers* had a directive to communicate to employees any changes that are made to their job role or workplace. Keeping employees informed is part of the employee retention strategy. In agreement, Participant 1 stated that IT employees want to be aware of changes and involved in important projects. This supports Cook's work that argued that role ambiguity can be a major stress causing factor for IT employees. Such stress can lead to IT employee turnover.

By identifying that the lack of concern for the personal needs of IT employees is a cause of IT employee turnover, IT managers can communicate with each IT employee to determine and understand what their personal needs are. Once those needs are identified, IT managers can develop strategies to address those needs, having a purpose to increase IT employee retention. Those strategies can be based on the organizational learning theory. The basis of the organizational learning theory is to identify the mistake, analyze the mistake to learn how to prevent or lessen it, and implement the strategies learned to improve the organization (Argyris & Schön, 1978).

Table 6

Address the Needs of IT Employees

Code	Participant mention count	Document mention count
Personal needs	19	1
Incentives	5	4
Communication	14	3

Applications to Professional Practice

This study was significant to IT employee retention practices in several ways. The purpose of this study was to identify strategies IT managers use to retain IT employees in order to support the goals and objectives of the IT organization. The findings from participants in this study revealed four major strategies: communicate to executive management, create career opportunities, place in appropriate job role, and address the needs of IT employees. The results of the study indicated that proper and

consistent communication with executive management is necessary to establish an understanding of the role of IT and IT employees in the success of the organization. IT role ambiguity can lead to IT employee turnover (Cook, 2015), and many organizations do not meet business objectives and goals without IT (Bulson et al., 2017). The results also stressed the importance of the development of career opportunities to retain IT employees. A career path should encompass a hierarchical map of higher job roles and responsibilities that IT employees can obtain by meeting certain guidelines and organizational standards, such as training and involvement in assignments. Most IT employees want to know how to advance, through promotion, upward within the organization. Lack of training, lack of involvement, and lack of promotion prospects can all lead to IT employee turnover (Cook, 2015; Siddiqui & Zamir, 2018).

The importance of placing IT employees in appropriate job roles was also identified as a strategy. If an IT employee does not fit the job role, the IT department may struggle to meet the demands of the organization (Schirf & Serapiglia, 2017). The goal should be to hire the right candidate for the right job role. However, if a mismatch between IT employee and job role occurs, the participants indicated that IT managers can offer additional training or move the IT employee to a more suitable job role. This approach avoids termination of the employee thus increasing retainment. The final strategy identified from the data was to address the needs of IT employees. Both personal needs and professional needs can affect an IT employee in the workplace. Failing to consider and understand an IT employee's personal needs may cause the relationship between the IT manager and the IT employee to deteriorate. This

deterioration can ultimately lead to turnover. IT management must communicate with IT employees to understand their needs (Cook, 2015).

The findings of this study can benefit IT managers. IT managers can use the findings to develop the four strategies within their organizations to retain IT employees. Once factors that cause IT employees to leave are identified, IT managers can develop strategies to address those causes. IT, along with IT employees, are crucial to business operations and organizational goals. Therefore, IT managers must retain IT employees. IT employee turnover can have a negative impact on the objectives and goals of the organization (Lo, 2015), a negative impact on finances (Mitrovska & Eftimov, 2016), and a negative impact on the morale of remaining IT team members (Mitrovska & Eftimov, 2016). The findings in this study can benefit organizations. Understanding IT and IT employees as a key component to success, organizations can give assistance to IT and IT employees by supporting the IT managers' efforts to reduce turnover.

The participants in this study were IT management professionals with decades of experience in leading both small and large IT teams. They shared strategies they used over the years to retain IT employees and reduce turnover. Based on those strategies, IT managers should communicate to executive management, create career opportunities, place IT employees in appropriate roles, and address the needs of IT employees to reduce IT employee turnover. Findings from the study showed that when IT managers properly communicate to executive management the importance and purpose of IT, executive management has more understanding and appreciation for IT and IT employees. Furthermore, when IT employees feel that executive management understands and

appreciates their role in the organization, IT employees are more committed to the organization. High commitment levels reduce the probability of turnover (Pathak & Srivastava, 2017). The findings also showed that many IT employees want to pursue higher job roles within the organization. Lack of promotion opportunities can ultimately lead to IT employee turnover (Cook, 2015). A career path was identified as a strategy to provide IT employees with opportunities for higher job roles. IT managers should develop career paths that are specific to the aspirations of each IT employee. IT managers should use career paths to show available promotions and higher job roles, their benefits, and requirements that IT employees must meet to reach them. IT managers using this strategy, give IT employees opportunities to look within the organization for higher job roles, lessening the chance IT employees will look to other organizations for opportunities.

The results from this study also showed the importance of placing IT employees in appropriate job roles. The research showed that a mismatch in job role can cause the IT manager to terminate the IT employee or the IT employee can leave the organization due to job role related stress. To prevent turnover and increase retention, IT managers should work to hire the appropriate candidate for any new job role. Additionally, IT managers should support IT employees with sufficient training for their job role. IT managers should also consider moving an IT employee from one job role to another job role if another job role is a better fit. Finally, the findings showed that IT managers should address the needs of IT employees. It is important for IT managers to listen to IT employees to identify workplace and personal needs. An IT manager that fails to

consider and understand the needs of IT employees is an IT manager faced with the probability of IT employee turnover, as the relationship between manager and employee deteriorates. The research showed that IT employees showed more organizational commitment and were less likely to leave when they had an emotional bond with the organization. That bond begins with their manager. IT managers should empathize with personal issues that IT employees are experiencing, whether it is sickness or the loss of a loved one. IT managers should be sensitive to an IT employee's personal time that may be spent on activities with their kids, leisure, or other forms of family engagement. IT managers should also consider time for doctor and dentist appointments, flexible daytime hours due to extended afterhours work, and the permission to work from home at times.

The findings of this study are meaningful to IT employee retention because they provide strategies that IT managers can develop and implement in their environments to reduce turnover and increase retention. The findings shed light on reasons why IT employees leave and strategies to address those reasons for the betterment of the IT department. Addressing IT employee turnover improves IT practice by creating an environment that supports the aspirations and needs of IT employees while also addressing the needs of the organization. A better IT department is equipped with the resources and ability to support the goals and objectives of the organization. This provides a rich academic argument as to why and how the findings of this study are relevant to improved IT practice.

Implications for Social Change

As society continues to rely on IT to drive businesses and improve the way of life, the need for IT employees remains critical. As IT jobs continue to increase (U.S. Department of Labor, Bureau of Labor Statistics, 2015), IT managers and organizations are faced with the challenge of retaining current IT employees while also searching for new talent. Businesses and organizations that retain IT employees are able to innovate to find new uses for technology while supporting and optimizing technology already in use. IT employees in those environments are essential in aiming technology toward competitive edge and creating new business opportunities. As businesses offer services to the general public, society benefits from the creativity and innovation driven by IT-supported organizations. Therefore, retaining IT employees ensures that technology continues to advance, companies continue to innovate, and society continues to benefit. IT-supported organizations influence society and way of life.

The findings of this study reveal strategies IT managers can use to prevent or lessen IT employee turnover. Some causes of IT employee turnover, such as high stress levels and burnout, can have harmful physical and mental effects on IT employees (Naidoo, 2018; Rožman et al., 2018). The research shows that individuals working in the IT industry are likely to develop health issues, specifically diseases, such as hypertension, insomnia, diabetes, and heart disease, that are caused by elevated and sustained levels of psychological and physical stress (Kivimäki & Steptoe, 2018; Padma et al., 2015). Long-term exposure can affect the severity level of such diseases (Kivimäki & Steptoe, 2018;

Padma et al., 2015). Long work hours may cause an IT employee to develop insomnia (Padma et al., 2015) and impaired memory and cognitive functions (Shields et al., 2017).

By addressing components that cause IT employee turnover, such as high stress levels and burnout, IT managers can develop strategies that lead to healthier IT employees. This implies that addressing work-related stress factors and illnesses can result in healthier employees. Healthier employees promote healthier communities that may see less occurrences of disease and illness. Furthermore, strategies found in this study support the development and advancement of society through organizations and businesses driven by the work of IT employees.

Recommendations for Action

IT managers should study components in their environments that lead to IT employee turnover. The findings of this study revealed that communication with employees and conducting surveys are two strategies to identify why employees leave organizations. IT managers should seek to understand why those components exist and how they can be manipulated. For instance, if an IT employee leaves the organization due to being subjected to long work hours, IT managers should consider why longer work hours are required. If an IT employee leaves the organization due to lack of promotion opportunities, IT managers should consider why those opportunities do not exist.

IT managers should develop strategies centered on addressing each component while lobbying for the support of executive management. Strategies should be created to either eliminate or mitigate the components. IT managers should evaluate the effectiveness of the strategy, continuously improving it when necessary. Since IT

managers can use the strategies to target components that cause IT employee turnover specifically, the strategies can be an effective method for IT employee retainment. Finally, the strategies should continuously evolve to address different components of IT employee turnover and different IT employees. The significance of this study is particularly important to IT professionals with management-based job roles and directly reporting subordinates. The findings of this study are also significant to any IT-supported organization. The strategies revealed by the findings of this study are as follows:

- Communicate to executive management
- Create career opportunities
- Place in appropriate job role
- Address the needs of IT employees

Moreover, IT managers can develop the key components of the organizational learning theory to identify other causes of IT employee turnover in order to develop other strategies. IT managers must retain IT employees that are capable of successfully addressing the demands of the organization. IT employee turnover can cause disruption in business; and that disruption can cause loss of profit and failure to meet business objectives and goals (Cui et al., 2015). I will disseminate the results of this study through conferences, speaking engagements, and journal publications. I may also disseminate through training and consulting.

Recommendations for Further Study

The findings of this study present strategies IT managers can use to retain IT employees in order to support the goals and objectives of the IT organization. IT

managers need to retain IT employees in order to respond to the advancements of technology that drive organizations towards meeting business objectives and goals (Ertürk & Vurgun, 2015). The limitations of this study included the job role of participants, sample size, the industry, and the geographical location. Participants were IT managers, specifically IT professionals with management-based responsibilities and direct subordinates. Strategies for IT employee retention were from their perspectives. Further study is needed to explore IT employee retention from the IT employee's perspective. Researchers can explore strategies that IT employees use to retain their positions in the IT departments of organizations. I conducted the study with a smaller sample size. A larger sample size may reveal a larger number of strategies that are beneficial to IT managers. This study is also bound by industry and location. Participants were selected from the transportation industry, and their employers have business locations in the city of Memphis, Tennessee. I recommend that further study expands into other industries and geographic locations. Organizations employ IT employees to shape IT in a way that most benefits the organization (Otoiu & Titan, 2017). Therefore, the dynamic of IT employees could differ in different industries and geographic locations.

During the course of this study, other areas of research appeared that were beyond the scope of this study. They present additional opportunities for further research:

- Researchers can consider a quantitative or mixed methods approach to measure how effective a particular strategy is in retaining IT employees.

- Researchers can explore how an IT manager's likeability affects retention when no other retention strategies exist.
- Further research might explore effective IT employee retention strategies for smaller organizations or nonprofit organizations that are unable to offer common retention strategies, such as pay raises and promotions, due to funding or revenue.
- Researchers can explore the IT employee retention rates of IT employees that work onsite versus work from home.

As with this study, each opportunity for further research seeks to improve the retention of IT employees. As organizations continue to depend on technology for operations, new business, and competitive edge (Wu et al., 2015), IT managers must retain IT employees to meet the needs of the organization.

Reflections

I did not know what to expect when conducting research at the doctoral level. The process was revealing in ways I could not have predicted, and the experience has added to my professional and personal body of knowledge, while striking my curiosity to learn more. I was most intrigued by the process of triangulation and strategies for corroborating data and truth-finding. Hearing the advice and experiences of participants was fascinating also, as I learned valuable IT processes from each interview. The data collection process allowed me to network with IT professionals in my city more than I had in the past. The result was opportunities to present at meetings of professional

organizations, collaboration opportunities, and IT industry information I can use to benefit my company. This experience has been beneficial to me as an IT professional.

To avoid personal bias, I made sure that my interview questions were mapped to the research question, problem statement, and purpose of the study. I restricted myself from leading participants on how to answer questions, and I accepted all answers no matter how long, how short, or how off topic they were. Sometimes answering a question led participants to recall an event, project, or employee. During the data collection process, I found that sometimes those recollections were relevant to the research and sometimes they were not. I accepted all information to avoid bias on what I believed participants' answers should have been.

As an IT professional, I am eager to develop a plan for implementing some of the strategies presented in the findings of this study in my environment. All participants communicated that they experienced success with IT employee retention strategies they have implemented for their organizations. I am also excited about sharing this research with my local IT community and the IT industry, hoping that IT managers can use it to develop strategies for their companies.

Summary and Study Conclusions

IT employees are invaluable to organizations that depend on IT to drive business and revenue, create new business opportunities, and support organizational goals and objectives. Today's society is one that relies on IT in several aspects, such as business, government, and the consumer space. IT employees are needed to support the operation and use of IT, to drive innovation for new uses of IT, and to educate communities about

IT. The retainment of IT employees is not only relevant but crucial to the success of businesses and organizations, impacting various aspects of society. The specific IT problem for this research study was that some IT managers lack strategies to retain IT employees in order to support the goals and objectives of the IT organization. This qualitative case study identified strategies that IT managers can use to retain IT employees. The study answered the following research question: What strategies do IT managers use to retain IT employees in order to support the goals and objectives of the IT organization? Five participants, consisting of IT management professionals with decades of IT experience, participated in semistructured interviews for this study. Participants had transportation industry experience with organizations that have offices in Memphis, Tennessee. The data collection process consisted of interviews and the collection and review of organizational documents. I used methodological triangulation for the data analysis process, incorporating interviews, organizational documents, and past and current research literature, to support the findings of this study. The process of data analysis revealed the following four themes: (a) communicate to executive management, (b) create career opportunities, (c) place in appropriate job role, and (d) address the needs of IT employees. All participants answered all interview questions, and I transcribed the audio recorded interviews in their entirety. I uploaded the transcribed interview documents and organizational documents into QDA Miner, a qualitative data analysis application, for text retrieval, coding, and theme emergence. Based on the research, each of the four themes discovered from the data are basis for IT employee retention strategies.

The findings of this study identified strategies that IT managers can use to retain IT employees. By identifying why IT employees leave organizations, IT managers can implement combating strategies to retain them. Components that affect IT turnover intention, such as burnout, high stress levels, and lack of promotion, may differ with each individual IT employee and each company. Therefore, IT managers must shape strategies to fit their environments; and IT managers should build strategies that address the specific needs and aspirations of each individual IT employee. Communication is essential between both the IT manager and executive management and the IT manager and IT employees. IT managers should obtain executive buy-in for the role of IT and IT employees while communicating with IT employees to identify areas to address for retention. IT managers should offer IT employees a clear path to higher job roles, and IT managers should promote employee success by offering training and placing IT employees in appropriate job roles. IT managers need to retain IT employees to meet the demands of the organization.

The findings of this study were consistent with the organizational learning theory conceptual framework, as the research literature and participants communicated to identify the problem or mistake, analyze why it is a problem and how to address it, and implement strategies to mitigate or eliminate it. Many organizations of today depend on IT for daily operations, business objections, and organizational goals. IT employees work to ensure that IT is highly available and reliable, mapping its use to align with business focus. IT managers need to retain IT employees to support the goals and objectives of the organization. The findings of this study can benefit IT managers

looking to reduce IT employee turnover and retain IT employees to provide their IT departments with sufficient resources to support their companies.

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Appendix A: Permission to Reprint, Adapt, and Credit Work

Re: Permission to Adapt and Credit Work

Sara L Cook [redacted]

Sat 12/15/2018 6:57 AM

To: Stephen Horton [redacted]

Stephen,
Yes. Good luck with your study.
Sara

Sent from my iPhone

On Dec 15, 2018, at 12:27 AM, Stephen Horton [redacted]

Hi Dr. Cook,

My name is Stephen Horton, and I am conducting a doctoral study in my pursuit of a Doctor of Information Technology degree from Walden University. I am researching strategies for IT employee retention, and I am exploring burnout as a reason why IT employees leave their jobs.

I would be honored to have your permission to adapt Table 1: Focus Group Factors, as published in the following article:

Cook, S. (2015). Job burnout of information technology workers. *International Journal of Business, Humanities and Technology, 5*(3), 1-12. Retrieved from https://pdfs.semanticscholar.org/0500/d3c6ea9f3a61203b5ae8499405f5698aa0c8.pdf

I will be sure to cite the article properly to acknowledge you and show recognition of your work. Please let me know if you are willing to grant permission and if you have any concerns. I appreciate your time and look forward to your response.

Thank you,

Stephen Horton, MS
DIT Student
College of Management & Technology
Walden University

Re: Permission to Reprint and Credit Work

Dissanaike, Sharmila [redacted]

Sat 11/10/2018 2:35 AM

To: Stephen Horton [redacted]

Sure no problem. Good luck with your doctorate!
Regards
SD

Sent from my iPhone

On Nov 9, 2018, at 10:31 PM, Stephen Horton [redacted] wrote:

> **CAUTION:** This email originated from outside of [redacted] Do not click links or open attachments unless you recognize the sender and know the content is safe.
>
> Hi Dr. Dissanaike,
>
> My name is Stephen Horton, and I am conducting a doctoral study in my pursuit of a Doctor of Information Technology degree from Walden University. I am researching strategies for IT employee retention, and I am exploring burnout as a reason why IT employees leave their jobs.
>
> I would be honored to have your permission to reprint the Continuum of Stress figure, as published in the following article:
>
> Dissanaike, S. (2016). How to prevent burnout (maybe). *The American Journal of Surgery, 212*(6), 1-5. doi:10.1016/j.amjsurg.2016.08.022
>
> I will be sure to cite the article properly to acknowledge you and show recognition of your work. Please let me know if you are willing to grant permission and if you have any concerns. I appreciate your time and look forward to your response.
>
> Thank you,
>
> **Stephen Horton**, MS
> DIT Student
> College of Management & Technology
> Walden University

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Requestor Location	Stephen Horton

Subject: Re: Permission to Reprint and Credit Work
Date: Thu, May 23, 2019 at 02:00
From: "McCarthy, Mary [redacted]
To: "Stephen Horton" [redacted]

Yes

On May 22, 2019, at 10:27 PM, Stephen Horton [redacted] wrote:

> Hi Dr. McCarthy,
>
> My name is Stephen Horton, and I am conducting a doctoral study in my pursuit of a Doctor of Information Technology degree from Walden University. I am researching strategies for IT employee retention, and I am exploring organizational learning as a conceptual framework.
>
> I would be honored to have your permission to adapt Figure 1: The Experiential Learning Cycle and Basic Learning Styles, as published in the following article:
>
> McCarthy, M. (2016). Experiential learning theory: From theory to practice. Journal of Business & Economics Research (JBER), 14(3), 91-100. doi:10.19030/jber.v14i3.9749
>
> I will be sure to cite the article properly to acknowledge you and show recognition of your work. Please let me know if you are willing to grant permission and if you have any concerns. I appreciate your time and look forward to your response.
>
> Thank you,
>
> **Stephen Horton**, MS
> DIT Student
> College of Management & Technology
> Walden University

Appendix B: Email Invitation

Subject: Invitation for Research Study Participation

Dear [Recipient],

My name is Stephen Horton, and I am conducting a doctoral study in my pursuit of a Doctor of Information Technology degree from Walden University. I am conducting a research study on IT employee retention. The purpose of the study is to identify strategies IT managers can use to retain IT employees and reduce IT employee turnover. I would like to request your participation in the study. Participation is voluntary, and you may cease participation at any time. Please see the attached consent form for a detailed description of the research study and the opportunity to consent to participate.

Thank you for your consideration,

Stephen Horton, MS
DIT Student
College of Management & Technology
Walden University

Appendix C: Interview Protocol

Interviews: Strategies for IT Employee Retention

1. Introduce myself, thank the participant for participating, and ask if the participant has any questions before we begin.
2. Verify consent and remind the participant that the audio of the interview will be recorded.
3. Begin recording. Then, state the date and time, the participant number, and the title of the research study.
4. Begin interview and ask all interview questions. Allow the participant to answer each question with as much information the participant is willing to provide. Ask follow-up questions if necessary.
    a. What is your current job title and job role?
    b. What is your perception of IT employee retention in your organization? How would you define employee retention in your organization?
    c. How can IT employee retention improve your work environment?
    d. What issues have you seen that led to IT employee turnover, and how have these issues affected your employees and your work environment?
    e. Why do IT employees leave the organization?
    f. How did IT turnover affect the organization? How did it affect you as the IT manager?
    g. What is the purpose of IT in your organization, and how are IT employees relevant to the operations and goals of your organization?

h. What are some strategies you implemented to retain IT employees? How have IT employees responded to these strategies?

i. How do you determine if a strategy is effective, and how can the strategies that you implemented be improved?

j. What advice would you give to another IT manager who seeks to improve IT employee retention?

k. How were you able to convince executive management that your retention strategies were not only necessary but required? How did you address any resistance?

5. Ask the participant if they would like to share more relevant information.
6. Explain how member checking informs the study and schedule a follow-up phone call.
7. End recording.
8. Thank the participant for participating. Offer to be contacted after the interview for any questions, concerns, or additional information.