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Manager Perceptions on the Efficacy of Telecommuting for Technology Professionals

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Walden University
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Abstract

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by

Gabriel Ndubisi George

M.Phil, Walden University, 2019

M.Sc, University of Liverpool, 2014

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

There has been an increase in the number of teleworkers across all industries. The purpose of this qualitative exploratory case study was to explore and understand the management perspective in adopting telecommuting as a timesaving tool for IT professionals in Gwinnett County, Georgia. The theoretical foundation of this study was based on the Technology Acceptance Model, which addressed technology acceptance behaviors among individuals in different information system constructs. The key research question inquired about the management perspective in adopting telecommuting as a time-saving tool for technology professionals in Gwinnett County, Georgia. An exploratory case study design involving interviews with 16 technology management professionals was applied. A thematic analysis of the 16 transcripts retrieved seven themes. The themes were increased productivity, cost-saving, accountability, lack of physical human interactions, effective time management, work-life balance, and diverse hiring options. It was identified that telecommuting was an effective, time-saving tool that fostered increased productivity, promotes cost-saving, and provided diverse hiring options. Conversely, IT management professionals were concerned that teleworking affects work-life balance results in a lack of physical human interactions, and hinder accountability. The findings from this study can be used to inform decision-making advocacy for positive social change, involving the adoption of telecommuting in businesses where employees can execute their professional duties remotely. Understanding the management perspective regarding telecommuting may lead to ways to deal with concerns so that more IT personnel can work remotely.

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Dedication

I feel incredibly humbled that this capstone journey, which started with considerable uncertainties, has come this far. In dedicating this doctoral capstone, words cannot express enough gratitude to my wife, who has been without doubt, my driving force throughout this doctoral process. You had believed in me even when I had doubted myself. To my four incredible children, your love and encouragements are immeasurable. I am forever grateful for your unconditional love and faith in me. To my mother, you are indeed a virtuous woman of God and would never relent in your persuasions, demanding the best out of me. To my siblings, you are the rock in my life, and I am truly grateful for your encouragements. I dedicate this doctoral study to you all.

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When I started on this doctoral capstone journey, I thought my commitment to hard work was enough but was wrong. I am deeply proud to recognize, but more so, grateful to the efforts of many people who had contributed invaluably to my capstone success. I am particularly grateful to my dissertation committee chair, Dr. Kimberly Anthony. Your matching orders with the persistent words, "you can do it," kept me going even on times that I had considered taking a break. I am also grateful to my committee member and subject matter expert, Dr. Elizabeth Thompson. You had, in your thorough reviews of my works, reassured me that hard work pays. To all my professional colleagues, extended families and friends who had in more ways that I dare mention influenced my success, I am deeply thankful to you all.

To all the faculty members, the student advisory team, and many others that I could not mention here, I am deeply grateful for your contributions to my success. Lastly but most importantly, may all the glory and praise be to my heavenly father, who would ceaselessly remind me that "I can do all things through Christ who strengthens me." – Philippians 4:13 (NKJV).

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Chapter 1: Introduction to the Study

The concept of telecommuting provides employees with the choice of working from the traditional office setting or remote locations (Ansong & Boateng, 2018). For example, some companies allow employees to select compressed work weeks or choose start or end hours, depending on the amount of work to be completed (Beno, 2018). The arrangement ensures employees who telecommute to meet their managers' expectations while working in remote locations (Spreitzer et al., 2017). This blended working arrangement allows employees to develop flexible schedules, provided they complete work tasks on time and communicate with their colleagues whenever required (Spreitzer et al., 2017). Telecommuting has provided an alternative method of working, utilizing information technology infrastructure (Ansong & Boateng, 2018). Statistics indicate that approximately 3.2% of workers in the United States work remotely compared to traditional office settings (Simovic, 2020). More so, about 16% of companies in the United States employ remote workers exclusively (Simovic, 2020). A large proportion of employees are also using telecommuting to proceed with unfinished work tasks at home.

Telecommuting allows such employees to save significant amounts of time by working in remote locations, resulting in improved productivity and work-life balance. However, managers are still reluctant to allow many employees to telecommute because of the lack of awareness of the potential of this arrangement to save significant time for workers (Ansong & Boateng, 2018). Researchers have found telecommuting as a potential solution for minimizing the extended periods commuting workers spend in their vehicles and traffic jams (Spreitzer et al., 2017). However, management professionals are

still reluctant to allow employees to telework because of inadequate knowledge and awareness (Madlock, 2018).

The purpose of this qualitative exploratory case study was to explore and understand the management perspective towards adopting telecommuting as a timesaving tool for IT professionals in Gwinnett County, Georgia. The study was important because it improved awareness of how teleworking can be adopted to improve employee performance in terms of timesaving. This chapter provides a comprehensive overview of the background, purpose, and nature of the case study, the research questions, theoretical foundation, conceptual framework, assumptions, scope, and delimitations related to the study and finally, the potential implications of the study to theory, social change, and practice.

Background of the Study

The concept of telecommuting was introduced in the 1970s to find alternative working models with minimal commuting (Allen et al., 2015). In the 1990s, many organizations allowed some of their employees to work remotely to comply with the Clean Air Act (Allen et al., 2015). Over time, scholars have investigated the benefits and limitations of telecommuting for employees, organizations, and the community (Van Yperen & Wörtler, 2017). Telecommuting has gained significant interest from practitioners and scholars (Bentley et al., 2016). Rapid advancement has further stimulated this work arrangement in mobile and telecommunication technologies, which are more efficient and cost-effective (Adisa et al., 2017). A commonly reported advantage of telecommuting is timesaving resulting from less commuting, which

employees can use for additional work tasks, improving productivity (Allen et al., 2015). Telecommuting also improves employees' focus by minimizing the likelihood of distractions that may lead to procrastination or time wastage (Adisa et al., 2017). Singh et al. (2017) indicated that telecommuting employees usually save significant time by scheduling their working patterns to minimize distractions and procrastination.

The advancement in computer and telecommunications was encouraging organizations to adopt various telecommuting arrangements to minimize operational costs, reduce environmental pollution, decrease traffic delays, and improve employees' work-life balance (de Vries et al., 2018). Organizations who adopt telecommuting allow employees to perform all or part of their duties at home, or in alternative remote locations (Adisa et al., 2017). Though the adoption of telecommuting in businesses has increased over the past few decades, some managers are still reluctant because of the lack of awareness and concerns regarding the impact of teleworking on employee engagement and loss of socialization (Madlock, 2018).

Since its introduction in the 1970s, various studies have evaluated the potential, benefits, and limitations of telecommuting in different work environments (Allen et al., 2015; Van Yperen & Wörtler, 2017). These studies focused on the history, prevalence of telecommuting, types and definitional challenges, blended workplaces, and comparisons between teleworkers and nontelecommuters. However, only a few studies have attempted to explore management perspectives regarding the use of telecommuting as a tool for timesaving among technology professionals (Ansong & Boateng, 2018). The varying definitions of telecommuting complicated the understanding the implications of shifting

from the conventional office model to telecommuting and associated terms such as teleworking and working from home.

There was a literature gap in understanding the perspectives of management on the adoption of telecommuting as a timesaving tool among technology professionals. Only a few studies had thoroughly investigated the impact of telecommuting on employees and organizations in general, with most articles focusing only on employees who telecommute (Chung & Van der Horst, 2018). Existing studies had yielded conflicting findings on the potential benefits and limitations of teleworking for businesses. The aim of this exploratory case study was to improve understanding of how allowing technology professionals to work from remote locations could help them save time. Awareness of the association between telecommuting and timesaving can guide organizations' recruitment and policymaking.

Problem Statement

The general problem in this qualitative exploratory case study was that many people who could work remotely are required to commute to work, causing time losses and lateness to work (Boell et al., 2016). Findings from a national survey on employee lateness showed that about 29% of all Americans who commute to work arrive late at least once a month (CareerBuilder, 2017). Tardiness costs U.S. businesses billions of dollars because it interferes with productivity (Mattress Clarity, 2019). A national survey by Mattress Clarity that assessed 2,750 workers in the United States indicated that the costs of tardiness were more than $700 million per annum in New York State, about $1 billion in California, and $500 million in Illinois (Mattress Clarity, 2019).

The specific problem was that although many technology jobs can be accomplished remotely, and there is considerable time lost in commuting to work, many companies have not embraced the concept of telecommuting (Choi, 2018). Evaluation of official labor market data showed that the extent of working from home increased from 2.9% in 2001 to 4.4% in 2012 (Felstead & Henseke, 2017). Statistics indicated that only 7% of Americans telework (Desilver, 2020). However, approximately 50% of workers were required to telecommute due to the coronavirus pandemic (Hickman & Saad, 2020). With more than half of the population still reporting to fixed working space in a span of over 10 years of telecommuting in existence, teleworking was considered to be the least revolutionary (Allen et al., 2015; Felstead & Henseke, 2017). The gap in the literature exists with a limited understanding of the management perspective in using telecommuting for time loss remediation (Pirdavani et al., 2014).

Purpose of the Study

The purpose of this qualitative exploratory case study was to explore the management perspective in adopting telecommuting as a timesaving tool. The study was completed among IT management professionals in Gwinnett County, Georgia. Findings from this research provide a rationale for why most IT companies have not embraced telecommuting despite the considerable time lost by employees commuting to work that impacts productivity (see Choi, 2018). The study was completed by conducting interviews with management professionals to explore their perspective regarding the adoption of telecommuting as a timesaving tool for technology employees in Gwinnett County, Georgia. A sample of about 20 managers of technology professionals in the

north region of Gwinnett County, Georgia, was contacted for interviews. The project findings also addressed the gap in the literature by providing the perspectives of various management professionals regarding the adoption of telecommuting as a remedy for time losses in commute amongst employees.

Research Questions

The main objective of the exploratory case study was to understand the management perspectives of how telecommuting could be used as a timesaving tool among technology professionals. The study focused on addressing one central question: What is the management perspective in adopting telecommuting as a timesaving tool for technology professionals in Gwinnett County, Georgia?

Subquestion 1: What are the concerns that IT management professionals have regarding adopting telecommuting for employees?

Subquestion 2: What are the benefits of adopting telecommuting as perceived by IT management professionals?

Theoretical Foundation

The theoretical foundation of the study was based on the technology acceptance model (TAM), which involves a systematic method of evaluating and explaining individuals' acceptance of various personal technologies (Davis et al., 1989). Fred Davies created the TAM in 1986 (Davis et al., 1989). The main goal of the TAM was to provide a framework for determining the association between external factors and people's intentions, beliefs, and attitudes towards accepting technology (Lai, 2017). The primary proposition of the TAM was that two individual beliefs, perceived ease of use and

perceived usefulness, mediate the impact of external factors on people's acceptance of technology (Davis et al., 1989). The concept of perceived usefulness refers to the likelihood that a given technology or system would improve the users' performance (Hubert et al., 2018). Conversely, perceived ease of use involves the extent to which users expect the technology or system to be easy to utilize (Lai, 2017).

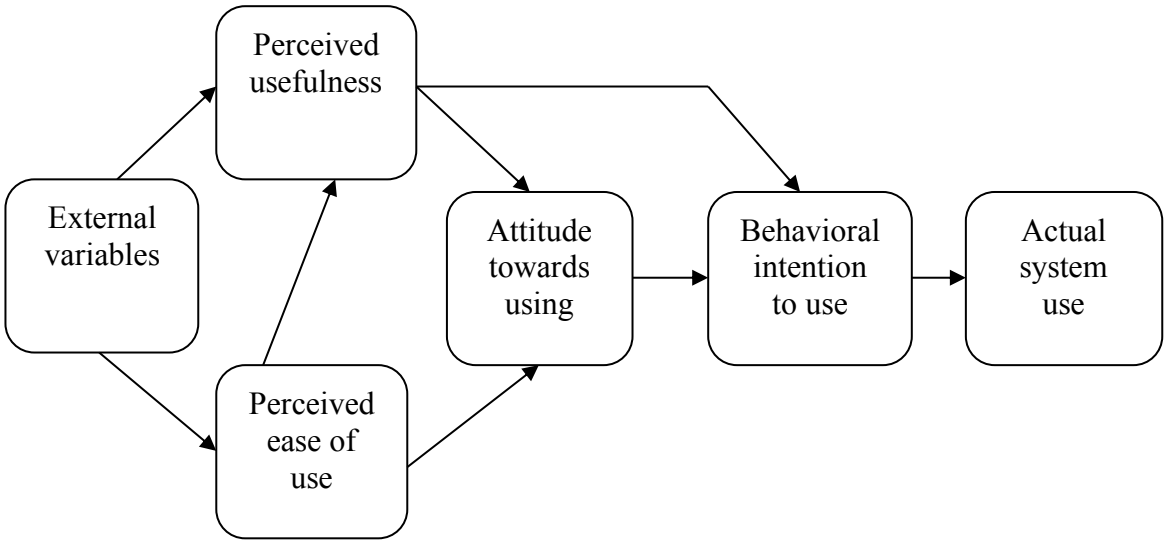
According to Davis et al. (1989), the TAM can be applied to determine flaws that system users view as unacceptable and finding solutions. Various studies have used the TAM to describe people's intentions and behaviors relating to telecommuting-related technologies such as computers, chat, and cloud computing (Ansong & Boateng, 2018; Meroño-Cerdán, 2017; Silva-C, 2019). These studies utilized the TAM to describe users' behaviors towards technology acceptance. For instance, Ansong and Boateng (2018) applied the model to explain the organizations' adoption of telecommuting in developing countries. A study by Meroño-Cerdán (2017) applied the TAM to understand the perceived barriers and benefits of adopting telecommuting in Spanish family companies. More so, Silva-C (2019) employed the TAM to evaluate managers' attitudes towards telecommuting and why the arrangement was difficult to adopt. In the exploratory case study, I used TAM to provide a framework for explaining management perceptions on adopting telecommuting as a time management tool was explored.

Conceptual Framework

TAM contains six components. The adoption of new practices was described based on two factors, namely perceived usefulness and perceived ease of use (Surendran, 2012). Figure 1 provides the theoretical framework of the study based on the TAM.

Figure 1

Technology Acceptance Model



Perceived usefulness was the subjective probability of a prospective user to utilize the specified application system to enhance various aspects of their lives. Perceived ease of use has been defined as the extent to which a prospective user anticipates the use of the specified system to be free of effort. The two factors, ease of use and perceived usefulness, are subject to influence from external variables such as social, cultural, and political factors. Social factors comprise skills, language, and facilitating conditions. Political factors encompass the impact of using the specified technology in politics and addressing political crisis (Surendran, 2012). The attitude towards using the specified system is based on the user's evaluation of the desirability of the consequences of using the system application. The behavioral intention was a measure of the probability of a person using the specified system application.

Using the TAM model was appropriate because it was developed to assess the technology acceptance behavior amongst individuals in varying information system constructs (Fayad & Paper, 2015). Fedorko et al. (2018) used the framework of the TAM to investigate e-commerce behaviors among consumers. The premise of the model is that the attitude of people towards the choice of a technology model might be based on two factors, namely perceived usefulness and perceived ease of use (Surendran, 2012). Based on the TAM framework, the management perceptions of the research participants on adopting telecommuting as a time management tool was explored. Participants were also interviewed for their perception of telecommuting in comparison to reporting to the office for duty. The responses were used to evaluate the behavioral intention of each participant towards adopting telecommuting in their organizations. A systematic assessment of the responses was used to establish trends that show the management perception about the viability of adopting telecommuting.

Nature of the Study

In this research, the qualitative method was used in an exploratory case study design to explore and understand the management perspective in adopting telecommuting as a time management tool for technology management professionals in Gwinnett County, Georgia. The target population for this research was 20 IT management professionals working for firms based in Gwinnett County, Georgia. The population was appropriate because professionals working in IT can execute their duties from different locations when they have access to the internet. Also, the sample size was appropriate because many qualitative research studies use about 15-20 homogeneous interview

participants (Vasileiou et al., 2018). The sample size may be sufficient, but data saturation was determined during collection and analysis.

A purposive convenience sampling approach was used to select the sample. The approach was appropriate because participants were selected based on their availability at the time the project activities have been scheduled and accessibility (Etikan et al., 2016). Participants were asked to sign an informed consent as confirmation for their desire to be engaged in the interviews. Exploration of the perspectives of the participants was performed by conducting semi-structured interviews. The questions asked during the interview sessions were open-ended to accommodate the diverse perspectives of different IT professional managers (Weller et al., 2018). Data from the interview were transcribed and analyzed using NVivo. The information was examined using thematic analysis. The approach involved reading through the responses of the participants to understand the information. Repeated measures were identified, and the passages marked with different codes. Evaluation of the information under different codes was performed, and labels for each category were generated. An interpretation of the resulting information was established using a textural and structural description of the perception of the management about the adoption of telecommuting.

Definitions

Information Technology: Information technology refers to applying technologies such as computers, infrastructure, and networking to address organizational problems (Jabbouri et al., 2016).

Organizational culture: According to Adıgüzel and Küçükoğlu (2019), organizational culture included common behaviors, goals, values, and assumptions among employees within an organization.

Technology professionals: Technology professionals have undergone education and training in computer-related systems and work in the information technology sector (Saputra & Shara, 2017).

Telecommuting: According to Ansong and Boateng (2018), telecommuting involves the practice where employees substitute part of their normal working hours to work from a remote location utilizing technology to communicate and interact with colleagues as needed to perform their tasks.

Assumptions

This exploratory case study involved various assumptions relating to the sample, methods, and design. For example, I assumed that all participants provided honest responses during the interviews. Social desirability bias is among the limitations of interviews and qualitative research (Bergen & Labonté, 2019). Inaccurate or incorrect responses by participants may negatively influence the outcome of the study. It was also assumed that the technology professionals being interviewed have managed teleworkers for a significant amount of time. The assumption was essential because it ensured that the participants' feedback on the impacts on timesaving was genuine and reliable. Interviewing participants who have directly managed teleworkers for an extended period would enhance the reliability and validity of the findings. In addition, I assumed that the

selected sample was representative of the population of managers within Gwinnet County.

Scope and Delimitations

The scope of the project was the perceptions of technology managers regarding using telecommuting as a timesaving tool. Technology management professionals from specific companies within Gwinnett County were recruited and interviewed. The case study was aimed at addressing the gap in the literature on management perspectives of the adoption of telecommuting as a timesaving tool. The final case study involved 16 IT management professionals to understand their perspectives regarding telecommuting and its impacts on timesaving among technology professionals. I collected qualitative data and conducted a thematic analysis to synthesize an in-depth explanation of the participants' perceptions and attitudes.

The focus of this case study was to explore perspectives of telecommuting as a timesaving tool among technology professionals from IT managers. To further improve understanding, I focused on telecommuting among IT professionals within the United States. In addition, various firms in Gwinnett County were selected, where IT management professionals were interviewed to explore management's perspectives on adopting telecommuting as a timesaving tool. The case study also delimited to include only IT companies or departments. Another delimitation involved the recruitment of IT professionals. In addition, I excluded IT professionals who were self-employed from the case study. These delimitations were consistent with Allen et al. (2015), who described

telecommuting workers as those who work primarily from remote locations or home for a portion of their normal work times.

Another delimitation of the case study approach was using a convenience sample, which increased the possibility of researcher bias. According to Jager et al. (2017), convenience samples are prone to researcher bias because the selection of participants was solely based on the investigator's judgment. The use of a convenience sample also limits the external validity of findings (Jager et al., 2017). Another delimitation of the case study was the inadequate time allocated for conducting interviews. Given that the interviews were conducted in a single day, I was limited to only 60 minutes with each participant. As a result, the scope of the interviews was limited.

A potential delimitation of the case study was the use of a small sample size. I recruited 16 participants, which was considerably small, introducing the likelihood of bias and reducing the representativeness of the study. Cheung et al. (2017) indicated that small samples limit the scope and increase the likelihood of voluntary response and avoidance of bias. Another delimitation was the use of a qualitative approach, which reduced the reliability and generalizability of findings (Smith et al., 2018). The timeline for the study was also a delimitation as it was stipulated for a specific period.

Limitations

A primary limitation of the exploratory case study was the lack of a standard definition of telecommuting. The lack of a common definition of telecommuting complicated the interpretation of employment relationships between workers and organizations. The case study used Allen et al.'s (2015) definition of telecommuting

based on a wide range of empirical evidence. Another limitation of the exploratory case study was my lack of control of the selected organizations' cultures and their influence on managers' perspectives on telecommuting. Organizations have different cultures that determine how employees are viewed and treated. Some organizations have a supportive culture, while others are indifferent.

In addition to being time-intensive, qualitative designs do not determine causality, and findings cannot be verified. Harrison et al. (2017) indicated that exploratory case studies are time-intensive and limit the transferability of findings considerably. Similarly, exploratory case studies are susceptible to researcher bias as the investigator's interpretation and judgment influence the findings and conclusions. However, I reduced the likelihood of bias by keeping a reflective journal. The exploratory case study was also limited by the number of managers who agreed to participate. Thus, the sample was not representative of the population of managers. In addition, the exploratory case study was limited to the honesty and openness of the participants.

Significance of the Study

This research reduced the gap in understanding the management perspective in using telecommuting to mitigate time losses in commute for the professional workforce (Pirdavani et al., 2014). The findings revealed the viability of the practice in an actual setting. There were vast empirical validations on the importance of telecommuting. According to empirical assertions, the numerous values of telecommuting include significant cost savings and employee retention (Day & Burbach, 2011). The case study had various implications for theory, practice, and social change.

Significance to Practice

The findings supported the viability of teleworking in an actual setting. There are vast empirical validations on the importance of telecommuting. According to empirical assertions, the numerous values of telecommuting include significant cost savings and employee retention (Day, & Burbach, 2011). The technological advancement in telecommunications and computers continues to pressure organizations to adopt telecommuting for some jobs that can be performed remotely. This arrangement has the potential to improve productivity and the employees' work-life balance as minimal time is spent on traffic and procrastinating. Managers and organizational leaders continue to seek possible ways of increasing employees' engagement and productivity while minimizing operational costs and optimizing office space. Telecommuting has proven effective in freeing up office space and improving organizations' flexibility when recruiting employees (Spreitzer et al., 2017). Management's reluctance to allow more employees to telework was linked to the lack of adequate awareness of telecommuting, especially regarding its potential to save time for technology professionals. The collected data may be beneficial to organizations by facilitating effective work plans for employees working from remote offices or locations.

There are vast empirical validations on the importance of telecommuting. Amongst the numerous values of telecommuting, according to empirical assertions, includes significant cost savings and employee retention (Dima et al., 2019). However, Kim (2017) challenged the economic relevance of telecommuting as a sustainable

alternative to the traditional work model and its contributions in reducing travel costs, congestion, emission, and pollution, and greenhouse gas.

Significance to Theory

The TAM was used as the theoretical foundation for the case study. The model informed the development of the strategies for exploring the management perspective in adopting telecommuting as a timesaving tool. In addition, the TAM aided in developing recommendations for improving management perceptions on the utilization of telecommuting as a tool for timesaving among technology professionals. Various studies indicate that telecommuting offers many benefits to organizations and employees (Allen et al., 2015; Meroño-Cerdán, 2017; Van Yperen & Wörtler, 2017). Proponents of telecommuting have presented compelling arguments to the importance of the model. According to the empirical literature, telecommuting contributions include workforce retention and higher productivity (Allen et al., 2015). Other cases point to the absence of high performance due to a lack of acceptance to this workforce commute model (Macauley, 2018). In this research, the goal was to contribute to existing telecommuting practice frameworks where management perspective can be valued attributes.

Significance to Social Change

The empirical evidence reviewed thus far provided compelling evidence on the importance of adopting telecommuting as a catalyst to business efficiency and growth. Findings from this research were used to describe the management perspective regarding adopting telecommuting as a timesaving tool for technology professionals in Gwinnett County, Georgia. These findings can be used to inform decision-making advocacy for

social change, involving the adoption of telecommuting in businesses where employees can execute their professional duties remotely. Understanding the management perspective regarding telecommuting may lead to ways to deal with concerns so that more IT personnel can work remotely.

Summary and Transition

The purpose of this qualitative exploratory case study was to explore and understand the management perspective in adopting telecommuting as a timesaving tool for IT professionals in Gwinnett County, Georgia. The target problem was management's unwillingness to allow employees to telecommute despite evidence of its benefits and lack of awareness. There was a gap in research on management perspectives of how telecommuting can be adopted as a timesaving tool among technology professionals. Previous evidence confirms the presence of a relationship between telecommuting and improved efficiency, which allows workers to save significant time that would otherwise be spent on traffic and procrastinating (Meroño-Cerdán, 2017). Despite the evident benefits of teleworking, managers are still unwilling to allow employees to telework.

Chapter 2 contains a comprehensive review of literature on the background of telecommuting, including its benefits and limitations. The TAM, employees' attitude towards telecommuting, management's perception of telecommuting, the influence of leadership on telecommuting, and the impact of telecommuting on work-life balance and timesaving are addressed in Chapter 2. Chapter 3 contains a description of the qualitative methodology and exploratory case-study design that guided the study. In Chapter 4, a

description of the thematic data analysis and results is included. Chapter 5 contains a discussion of the results, conclusions, and implications.

Chapter 2: Literature Review

The general problem in this qualitative exploratory case study was that many people who could work remotely are required to commute to work, causing time losses and lateness to work (Boell et al., 2016). The specific problem was that although many technology jobs can be accomplished remotely, and there was considerable time lost in commuting to work, many companies have not embraced the concept of telecommuting (Choi, 2018). In 2014, the rate of teleworking in the United States was only about 9%, despite multiple legislations that have been aimed at promoting and mandating this mode of working (Nicholas, 2014).

The prevalence of teleworking was also significantly low in Europe compared to Africa, the Middle East, Latin America, and the Asia Pacific, which have at least 24% of the population working remotely (Nicholas, 2014). There was a plethora of current evidence on the benefits of telecommuting to organizations, including flexibility, timesaving, and minimal commuting, which creates additional time for employees to complete work tasks (Allen et al., 2015; Singh et al., 2017). This research was completed among IT management professionals in the North region of Gwinnett County, Georgia. The purpose of this qualitative exploratory case study was to explore the IT management perspective in adopting telecommuting as a timesaving tool in order to understand why they have not embraced telecommuting for their employees. In this chapter, I present a comprehensive review of literature about telecommuting, discuss the theoretical foundation of the study, and address implications of the strategies employed in the studies on the methodology.

Literature Search Strategy

An electronic search for available literature was conducted to facilitate the identification of peer-reviewed articles. The utilized databases included Google Scholar and PsycINFO. The databases were queried utilizing various keywords that included: *Telecommuting, managers, teleworkers, attitude, employee engagement, technology acceptance, telecommuters' perception, work-life balance,* and *productivity*. Boolean operators "AND" and "OR" were utilized to combine the keywords into search phrases and narrow the focus of the obtained results. The formulated search phrases included: "*Managers AND telecommuting AND attitude,*" "*remote working AND employee engagement AND productivity,*" "*telecommuting AND work-life balance,*" and "*managers AND attitude AND technology acceptance.*" On Google Scholar, the utilized search phrases were *"managers AND telecommuting AND attitude"* and *"telecommuting AND work-life balance,"* that returned 4,690 and 3,300 results, respectively. Any published works that did not comprise scholarly articles were eliminated from the review. On PsycINFO, the utilized search phrases were "*managers AND attitude AND technology acceptance"* and *"remote working AND employee engagement AND productivity"* that returned 4,619 and 354 results, respectively.

The inclusion criterion required that the selected articles were: (a) available in full text, (b) peer reviewed, (c) published between 2016 and 2020, and (d) written in the English language. Articles were excluded for synthesis if they: (a) were not published in the English language, (b) were unavailable in full-text, (c) had been published before 2015, and (d) did not contain relevant information.

A total of 112 articles were found to be suitable for the review. After appraising the articles' abstracts, 87 manuscripts yielded information related to the research topic. Of the 87 articles chosen for synthesis, 35 were determined to be relevant to this review. There were four major themes found within these articles: (a) employees' attitude towards telecommuting, (b) management perception of telecommuting, (c) telecommuting and work-life balance, and (d) the influence of leadership on telecommuting.

Conceptual Framework

In this project, the technology acceptance model (TAM) was selected as the preferred conceptual framework. TAM was introduced by Davies in 1986. The primary objective of TAM was to investigate human behavior related to their acceptance of technology. Scherer et al. (2019) noted that human beings' acceptance of the technology was a factor of their perceived usefulness and ease of use of the proposed change. The authors noted that behavioral intentions have a significant influence on technology use. In this study, the managers' perception of telecommuting was evaluated based on their perceived usefulness of remote working and its impact on timesaving.

Perceived usefulness entails the extent to which the target population believes the proposed technology generates positive value (Vahdat et al., 2020). In the evaluation of a technology's perceived usefulness, the intended participants compare their desired goals and the consequences of utilizing the proposed change. A match between their intended goals and perceived consequences of actual system usage leads to a positive change in their attitude (Scherer et al., 2019; Vahdat et al., 2020). Similarly, managers' perception

of telecommuting was dependent on their evaluation of the congruence between remote working and their objectives related to improved timesaving that has been associated with increased employee productivity. Where managers perceive that telecommuting leads to improved timesaving, they are likely to develop a positive attitude towards remote working (Scherer et al., 2019). In contrast, a negative perception of the influence of telecommuting on timesaving may lead to a negative attitude towards remote working.

Perceived ease of use constitutes the extent to which the intended participants believe that the proposed technology was simple to utilize (Vahdat et al., 2020). Users are unlikely to accept technology that they perceive complicated to understand and utilize. Individuals' perceived ease of use also comprises an essential aspect of their belief related to a technology's convenience (Manis & Choi, 2019). Consequently, a positive perception related to the ease of use of a proposed technology was expected to improve participants' attitudes and behavioral intentions. Managers' perception of the ease of implementing telecommuting has a significant influence on their attitude towards remote working. Manis and Choi (2019) noted that users embraced technologies that they perceived to be effort-free. Consequently, managers' perception related to the complexity of supervision and coordination of teleworkers determined their attitude towards remote working.

Taherdoost (2018) observed that based on the two-identified foundations for TAM, users might perceive a proposed technology to be either favorable or not. In addition, the author noted that the users' attitude might influence their perceived

usefulness of the proposed technology. Thus, in the study, there was a need to evaluate the managers' attitude when determining their technology acceptance level.

Taherdoost (2018) noted that external factors might affect users' acceptance of the technology. Aspects such as prior training, user participation in planning, and implementation may influence individuals' perception of the proposed technology. There was also a need to evaluate the impact of social influence on technology acceptance that has been cited as a significant limitation of TAM. In this study, the managers' cognizance with telecommuting were inquired to determine possible correlation to their perspectives.

Khan et al. (2018) observed that organizational support was essential to improved technology acceptance. The authors noted that organizational support was a significant moderator between people's behavioral intentions and their perceived usefulness of the technology. The inclusion of immediate stakeholders provides an opportunity to inform them of their expected benefits. For example, perceived benefits such as improved working conditions and reduced fatigue lead to a favorable employee attitude that has been associated with more significant technology acceptance. Additionally, managers' anticipation of improved employee engagement, commitment, and accountability was expected to increase their acceptance of a proposed technology (Naujokaitiene et al., 2015). In this study, the managers were interviewed to determine whether they consider timesaving a viable reason to implement telecommuting.

The TAM model has been considered to be a hybrid of the theory of planned behavior (TPB). Some authors, such as Joo et al. (2019), have examined TPB and TAM as substitute models, whereas Cheng (2019) conducted a comparative analysis of the

frameworks. Joo et al. (2019) noted that TPB posited a significant correlation between attitude, perceived behavioral control, and human behavior. These components of TPB have been related to TAM's aspects of perceived usefulness and ease of use, respectively. Joo et al. (2019) sought to examine librarians' likelihood to utilize social media to achieve their marketing objectives. Based on TPB, the librarians' attitude towards social media was dependent on whether they perceived the online platform as a viable marketing media.

Additionally, the librarians' likelihood to utilize social media was also based on their perceived ability to maintain the habit that constitutes regular online interactions. Similar to TPB, the librarians' intention to utilize social media was dependent on both their perceived usefulness and ease of use of the online platforms. Joo et al. (2019) concluded that TPB and TAM were both viable in understanding human behavior related to technology acceptance. However, Cheng (2019) observed that whereas TPB was effective in understanding human behavior, the model was inferior to TAM, especially in the examination of technology acceptance. The superiority of TAM to TPB in the evaluation of technology acceptance ascertained the model's suitability for this study.

Similar to TPB, the theory of reasoned action (TRA) has been compared to TAM. The significant similarity between TAM and TRA has been attributed to Davis (1986), who utilized the latter theory as a foundation for the model. Buabeng-Andoh et al. (2019) noted that TRA was founded on human behavioral intentions that were a consequence of their attitude. The reliance on behavioral intentions on attitude highlight a significant commonality among TPB, TRA, and TAM that have attributed human action to their

perceived usefulness and ease of operating a proposed technology. Unlike TAM, TRA identifies the influence of subjective norms on people's perceived usefulness of the technology. Buabeng-Andoh et al. (2019) observed that people's perception of a system might be distorted by opinions from parties that they considered more significantly informed.

Scholars have modified TAM severally to improve its evaluation of technology acceptance. Some modifications were intended to improve the original framework proposed by Davis (1986), whereas others sought to introduce and rearrange the determinative factors of technology acceptance. Davis et al. (1989) sought to modify TAM by introducing people's intention to use a system as a vital determinant of technology acceptance. The authors argued that people's perceived usefulness of technology had an influence on both their attitude and intention towards the system. Further, people were willing to accept a technology whose benefits outweighed their concerns with the system. In the context of telecommuting, Davis et al.'s (1989) argument provides that managers were likely to accept remote working in the event that the arrangement was attributed to improved employee engagement, productivity, and employee motivation.

Based on the modifications made by Davis et al. (1989), Venkatesh and Davis (1996) sought to combine people's attitudes and intention to use technology. The scholars built on Davis et al.'s (1989)'s research findings indicating a direct influence of the perceived usefulness of technology on people's behavioral intention. Additionally, the authors identified the social cognitive theory of self-efficacy as an essential foundation

for TAM. Venkatesh and Davis (1996) observed that people's belief in self-efficacy had a significant influence on their perceived ease of use of a system. Based on the social cognitive theory of self-efficacy, the authors noted that people formed their perception of a system's ease of use from previous interactions or observations of similar technology. In the context of the social cognitive theory of self-efficacy, managers' acceptance of telecommuting could be promoted by providing successful case studies or through interaction with a functional system.

TAM may be applied to evaluate people's perception of telecommuting. Meroño-Cerdán (2017) conducted a study that utilized TAM to examine people's perceived benefits and barriers to the adoption of teleworking. The author argued that people's acceptance of teleworking was dependent on their expected benefits and barriers that determined their attitude towards a system and their intention to accept the change. Perceived positive outcomes, such as improved job satisfaction and productivity, were classified under a technology's usefulness. Additionally, people's perceptions of the ease of adopting teleworking had a significant influence on their acceptance. In this exploratory case study, the managers' perception related to the influence of telecommuting on timesaving was evaluated. Meroño-Cerdán (2017) observed that people's perception of their ability to implement teleworking increased individuals' technology acceptance.

Literature Review

The literature review part contains information relevant to the project. The literature was derived from studies related to the topic and problem statement of the

project. The information presented in the literature review was organized into themes. The themes relate to management perception of telecommuting, employees' attitude towards telecommuting, the influence of leadership on telecommuting, the relationship between telecommuting and timesaving, and telecommuting and work-life balance. Other themes covered in the literature review are the effects of telecommuting on travel cost, telecommuting and work productivity, telecommuting and employee retention, organization's perspective of challenges of telecommuting, and methods and methodology in the literature.

Management Perception of Telecommuting

Unlike workers, a significant portion of managers showed concerns about the influence of telecommuting on organizational performance. Farrell (2017) noted that traditional management was the most critical of telecommuting as it associated remote working with reduced productivity. Conventional managers believe that regular employee monitoring was essential to productivity. Compared to employees, managers had a more negative perception of telecommuting (Stiles, 2020). Farrell (2017) highlighted a case study concerning Yahoo's chief executive officer (CEO) who banned teleworking. The CEO, Marissa Mayer, required teleworkers to report to Yahoo facilities that were set up in different regions across the United States. Mayer's concern was that remote working hindered collaboration that was attributed to improved productivity (Farrell, 2017). The studies conducted by Farrell (2017) and Stiles (2020) highlighted the significance of users' perceived benefits of technology and their acceptance levels. In the case of the

Yahoo CEO, the undesirable perceived usefulness of telecommuting led to a negative attitude, hence the cancellation of remote working (Farrell, 2017).

Managers' perceived benefits and attitudes towards telecommuting may also be examined based on the nature of the work. Lembrechts et al. (2016) highlighted that supervisors' support of remote working was dependent on whether a job was delegated at an individual or group level. Managers are less likely to support telecommuting, where employees are expected to coordinate their efforts to complete a task. Similar to the managerial concerns addressed by Farrell (2017), Lembrechts et al. (2016) noted that supervisors were pessimistic about their employees' ability to maintain optimal productivity levels when working remotely. Teleworking has also been associated with diminished managerial control that supervisors associate with an increased risk of undesirable outcomes. The observations made by Lembrechts et al. (2016) highlight the significance of assessing the influence of supervisors on employees' adoption of telecommuting. Supervisors have a first-line role in the implementation of telecommuting policies. Managers' attitudes related to telecommuting may lead to the adoption of supportive or punitive policies that ultimately have an influence on employees' productivity and job satisfaction. Further, the study conducted by Lembrechts et al. (2016) highlighted a gap in the literature related to the influence of external factors such as managerial support on the productivity and job satisfaction of remote workers. The authors noted that a significant portion of the existing literature investigated the correlation between telecommuting and employee performance. However, there was a

need for a descriptive qualitative analysis to explain the influence of managers' attitudes related to remote working on the productivity of telecommuting employees.

Managers' concerns related to reduced collaboration with remote working has prompted a need to evaluate the influence of technology on employee engagement. Karia and Asaari (2016) observed that managers' concerns about employee collaboration might be addressed by utilizing the available online communication platforms. Recent advancements in technology have led to the emergence of media platforms that facilitate both professional and social interactions. Holland and Bardoel (2016) also noted that virtual communication channels such as Skype and teleconferencing tend to bridge the geographical gaps between workers and make managers' concerns void. Further, Karia and Asaari (2016) observed that supervisors should have a positive perspective of remote working that allows organizations to create a competitive edge. Through telecommuting, managers can recruit skilled workers from across the globe to promote diversity at reduced human resource expenditure. Consequently, managers would be expected to have a positive perception of the significance of telecommuting (Holland & Bardoel, 2016; Karia & Asaari, 2016).

Employers have expressed significant concerns related to the influence of reduced engagement on their workers' productivity. Harter et al. (2016) observed that regular employee engagement was associated with improved productivity. Further, workplace isolation has been associated with reduced engagement, collaborations, and productivity. The findings of this study differ from that conducted by Bernstein and Turban (2018), who conducted a two-phase quasi-field experiment to examine the influence of

managers' attempts to promote collaboration on employees' isolation and engagement. The authors investigated the influence of closed and open space offices on employee interactions. The participants were assigned sociometric badges that recorded all interactions between employees in both isolated and shared office spaces. An analysis of the collected data indicated a 70% reduction in employee interaction when workers were placed in an open floor office. Additionally, there was a 50% decline in email communication among employees. These findings indicated an apparent reduction in workers' engagement when employees were stationed together. Bernstein and Turban (2018) concluded that employees' close proximity to each other was not correlated to employee isolation and engagement. Consequently, managers' concerns related to reduced employee engagement may not be directly attributed to telecommuting.

Employees' Attitude towards Telecommuting

Technology acceptance has been attributed to people's perceptions and attitudes, as identified by the TAM framework (Scherer et al., 2019). Employees comprise an essential stakeholder in telecommuting that ascertains the significance of their attitude towards remote working. Masuda et al. (2017) noted that employees' attitude was a factor of their organizations' actions. The authors noted that employees were likely to develop a positive attitude based on their managers' decision to avail telecommuting as an option (Menezes & Kelliher, 2017). Consequently, the formulation of telecommuting policies may result in workers' increased commitment to the organization (Masuda et al., 2017).

To understand employees' attitudes towards telecommuting, Smith et al. (2018) conducted a study that evaluated workers' personality characteristics. The authors

identified openness, conscientiousness, and agreeableness as essential personality traits that led to favorable employees' attitudes towards remote working. Openness relates to employees' readiness to receive training concerning remote working. Agreeable workers are described as being cooperative and trustworthy that are essential aspects of teleworking (Seddigh et al., 2016). In contrast, Smith et al. (2018) and Seddigh et al. (2016) highlighted that extraversion and neuroticism had a negative influence on employees' attitudes towards telecommuting. Extraverted workers excel on regular colleague interactions and social relationships that are limited in remote working. Neuroticism has been attributed to irregular influences on employees' attitudes because it was dependent on the workers' preferred extent of autonomy (Seddigh et al., 2016).

In addition to the influence of personality traits on workers' attitudes, Seddigh et al. (2016) examined the impact of office types on employees' preference for teleworking. The authors conducted a systematic review of 49 studies that associated open office plans with reduced job satisfaction. A significant portion of employees considered office sharing as a cause of increased interruptions and reduced privacy. These findings are related to employees' personality traits and their attitudes towards remote working. Smith et al. (2018) noted that extroverted employees often excelled in regular interactions with their colleagues.

Consequently, social employees who work in open office settings were likely to have a negative attitude towards telecommuting. In contrast, introverted employees preferred individual office cells that were associated with reduced interactions and

interruptions. Thus, such employees were likely to have positive attitudes towards remote working.

Other than the employees' personality traits discussed by Smith et al. (2018), Morrison et al. (2019) hypothesized that there was a significant correlation between workers' perception of their self-efficacy and their attitude towards telecommuting. The authors utilized the theory of planned behavior (TPB) to examine the correlation between attitude, perceived behavioral control, and subjective norms. Unlike most components of organizational cultures, subjective norms had a less significant influence on employees' attitude towards remote working. Concerning telecommuting, employees were concerned about the effect of remote working on their individual work-life balance, autonomy, and job satisfaction (Menezes & Kelliher, 2017). Consequently, the organizational culture had a limited impact on workers' group resistance to a change from conventional to remote working. In view of perceived behavioral control, employees' attitudes were influenced by their perception of unlimited access to reliable technology infrastructure. Employees who were confident in their ability to afford a home workstation were likely to have a favorable attitude towards remote working. Therefore, in addressing technology acceptance, managers who intend to implement remote working should consider providing access to the required equipment (Morrison et al., 2019).

The social exchange theory has been proposed as an explanation for employees' behaviors and attitudes related to telecommuting. Felstead and Henseke (2017) observed that employees who were in favor of remote working were likely to alter their attitude and behavior in anticipation of receiving their perceived benefits of telecommuting. Thus,

based on the social exchange theory, employees would be willing to work longer shifts and make sacrifices to get noticed and ascertain their suitability for telecommuting. Additionally, Tate et al. (2019) noted that the social exchange might occur at an emotional dimension. This refers to employees' need to prove that they are trustworthy and reliable.

These findings were related to those of Smith et al. (2018), who evaluated the influence of personality traits on employees' attitudes towards telecommuting. As discussed above, agreeable employees are considered reliable and trustworthy that ascertains their suitability for remote working. Consequently, employees who favor telecommuting are likely to have a change in attitude that was accompanied by a shift in their behavioral traits. Based on the social exchange theory, such employees are likely to indicate improved responsibility (Felstead & Henseke, 2017; Tate et al., 2019).

The Influence of Leadership on Telecommuting

Managers' perceived usefulness, ease of use, and attitude towards telecommuting have a significant influence on their management strategies. Beno (2018) noted that managers had a responsibility to evaluate and determine employees who were suitable for telecommuting. Further, managers and supervisors were expected to provide support and monitor the performance progress of their remote workers. The author observed that telecommuting leadership entailed effective communication and feedback inquiry that were attributed to improved trust and productivity. Madlock (2018) also highlighted the role of managers in relation to telecommuting. The author noted that remote workers'

productivity, job satisfaction, and commitment was a factor of their supervisors' leadership styles.

Relative to Beno (2018), Madlock (2018) concluded that managers should adopt more task-oriented than relational leadership styles. In the project, the recruited participants were interviewed to determine their perceived benefits and usefulness of telecommuting as a timesaving tool. Consequently, managers who indicate a positive attitude towards remote working would be expected to implement supportive leadership styles that ensure the successful transition of their employees to telecommuting (Beno, 2018; Madlock, 2018). In contrast, managers who indicate an undesirable perception against telecommuting may implement unsupportive leadership strategies.

In addition to ensuring effective communication with remote workers, managers have a responsibility to oversee the introduction and implementation of telecommuting. Silva-C (2019) noted that supervisors provided a bridge between workers and the organization. The authors noted that organizations intending to implement telecommuting should ensure that managers had significant communication, supervision, and social skills. An increase in managers' self-efficacy related to telecommuting was associated with a more significant technology acceptance rate. Concerning supervision skills, Tewari et al. (2019) noted that telecommuting posed a complex management challenge that significantly influenced employees' productivity and retention rates. The authors noted that supervisors were expected to fulfill essential leadership roles that comprised of coaching, directing, and delegating. Tewari et al. (2019) concluded that the complexity

and dynamism of remote working warranted managers to adopt situational leadership to achieve optimal flexibility in telecommuting supervision.

Relationship Between Telecommuting and Timesaving

Increased advancement in the level of computer technology has created a situation where employees can benefit from flexible work arrangements, such as telecommuting, that involves working from home (Webster, 2018). Telecommuting can be considered as a demand management tool, from a transportation perspective, that can help ease traffic congestion, mainly during peak hours. Asgari et al. (2016) conducted a study to examine the effects of telecommuting on the use of time of non-mandatory activities. The aim of carrying out the investigation was to help in increasing the understanding of the effects of telecommuting on daily activity-travel patterns. In the study, five non-mandatory activities were considered that included maintenance, escort, shopping, discretionary, and in-home shopping. The study hypothesis was that telecommuting relaxes the spatial, and temporal restraints related to the regular workplace activities, and telecommuters may distribute some of the time to other non-mandatory activities. The researchers used the structural equations model (SEM) framework to determine the relationships among different activity durations and their effects on travel behavior. SEMs are multi equation regression structures. The researchers used data collected from the 2010 to 2011 Regional Household Travel Survey conducted in the New York metropolitan area. The study findings showed that, compared to non-telecommuters, all types of telecommuting arrangements led to an increase in non-mandatory activity durations (Asgari et al., 2016). The findings showed that full-day telecommuters had increased durations of discretionary

activities. The study results also showed that part-day telecommuters have higher durations of out-of-home shopping and maintenance errands. Additionally, Asgari et al. (2016) revealed that telecommuting was associated with increased total daily trip rates for telecommuters and their family members. The findings of the study suggest that telecommuting promotes timesaving to allow workers to engage in non-mandatory activities.

Telecommuting was an appropriate travel-demand management strategy (Kim, 2017). Jaff and Hamsa (2018) conducted a similar study to Kim (2017) to estimate the implications of telecommuting on the commute-travel of female employees in Kuala Lumpur, Malaysia. The objective of the study was to investigate both the actual and potential travel effects of telecommuting by female workers. The study was exploratory because its main focus was to explore the proliferation of a phenomenon involving telecommuting among female workers on travel demand. In the study, Jaff and Hamsa (2018) investigated travel implications that included the decrease in commute trips, particularly on reducing the number of single-occupancy vehicles (SOVs) arriving at the city of Kuala Lumpur in peak hours. Other implications that the researchers estimated included time savings due to eliminating the daily and passenger- and vehicle-kilometers forgone and commute. The study involved the use of a quantitative research design because it was suitable for identifying general trends. Only full-day telecommuting was considered in the study because it was the most prevalent type of telecommuting indicated by respondents. The study findings showed a significant reduction in passenger-and-vehicle-kilometers traveled and possible time savings of over 7000 employee-

hours/day in an optimum adoption situation. The study results also indicated that telecommuting by female workers could potentially lead to a daily reduction of about 7.8% of all SOVs arriving at Kuala Lumpur in 2019. However, Jaff and Hamsa (2018) discovered that there was a gap between that possible reduction and the actual reduction of 0.96%.

Considering the effects of digital technology

According to Narayanan et al. (2017), advancing digital technologies have changed the nature of the workplace in the 21st century. In another study, O'Keefe et al. (2016) conducted a study to examine the current trends of the part-day and full-day telecommuting in the Greater Dublin Area (GDA). The researchers also attempted to investigate the most influential constraints and drivers related to telecommuting. The study involved the use of datasets, Place of Work, School, or College-Census of Anonymized Records (POWSCAR), derived from the year 2011 census of Ireland. The information contained in the POWSCAR dataset related to the status of almost 2.8 million individuals with regards to their employment, education, and how they traveled to their school or place of work or education. O'Keefe et al. (2016) found out that about 44% of the population of the GDA was involved in telecommuting at least once per month. O'Keefe et al. (2016) conducted a survey to deal with some of the limitations of the Census. The authors also used a survey to obtain extra information relating to telecommuters not available in the Census. Persons classified as mobile workers or agricultural employees were excluded from the study. The study findings showed 56% of people involved in the survey save time through telecommuting (O'Keefe et al., 2016).

Data from the survey indicated that 29% of the respondent would use the time saved for leisure; 27% said they could use the extra time to work. Also, 27% of the respondents indicated that they would use time save as a result of telecommuting for household tasks. Respondents were asked how telecommuting affected the number of hours worked per week. The findings showed that 57% of the respondents worked more hours per week due to telecommuting. The study results also showed that 34% of the respondents worked the same amount of time. Additionally, the study findings showed that telecommuting led to reduction miles traveled and in the number of trips by those that work from home (O'Keefe et al., 2016). The reduction in miles traveled and in the number of trips suggests that telecommuting leads to timesaving.

According to Ismail et al. (2018), telecommuting work arrangement was an important Transportation Demand Management (TDM) measures to facilitate the reduction on the amount of travel by allowing employees to work from home and save their driving time to work. Ismail et al. (2018) conducted a study with the aim of estimating the impacts of the specific factors on the individual's choice of telecommuting. Findings by Dardas et al. (2020) established that telecommuting impacts on the traffic network in transportation. The study involved a descriptive analysis on trip and work characteristics of 300 personnel in International Islamic University Malaysia (IIUM). A study involved the use of a structured questionnaire that was created based on telecommuting literature review. The questionnaire contained four main sections that trip characteristics, socioeconomic characteristics, perceptions of telecommuting, and work characteristics. The finding of the study showed that 19.2% and 29% of the

administrative and academic and staff respectively preferred to telecommute because working from home helps to save time that could have been spent on travel to and from the workplace (Ismail et al., 2018).

Paleti and Vukovic (2017) conducted a study to investigate the impact of telecommuting on patterns of activity-time-use of households with dual-earners. The researchers investigated the connection between activity-time-use patterns and telecommuting choices. Hu and He (2016) indicated that home-based telecommuting has numerous transportation outcomes. A generalized extreme value-based joint count model was developed to facilitate the analysis of the monthly rate of choosing to telecommute employees in dual-earner households. Paleti and Vukovic (2017) also developed a panel of multiple discrete continuous extreme value models to explore decisions relating to activity-time-use while accounting for household-level collaboration effects. The study results indicate that the presence of a strong intrahousehold relationship affects both activity–time use and the telecommuting choices of employees. Study findings also showed that telecommuting choices have a significant impact on decisions relating to daily activity–time use for both non-mandatory and mandatory tasks. The study results suggest that telecommuting helped employees save time and allocate it to non-mandatory and mandatory activities.

Several studies indicate a connection between telecommuting and time saving (Asgari et al., 2016; Jaff & Hamsa, 2018; Paleti & Vukovic, 2017). According to Jaff and Hamsa (2018), there was the potential for a substantial reduction in passenger- and vehicle-kilometers traveled and possible timesavings of over 7000 employee-hours/day in

an optimum adoption situation. The findings of the study by Asgari et al. (2016) suggested that telecommuting promotes timesaving to allow workers to engage in non-mandatory activities. O'Keefe et al. (2016) showed that telecommuting was associated with the reduction in miles traveled and in the number of trips that, in turn, lead to timesaving. The findings of the study by Ismail et al. (2018) showed that 19.2% and 29% of the administrative and academic and staff respectively preferred to telecommute because working from home helps to save time.

Telecommuting and Work-Life Balance

A prevalent argument related to telecommuting was improved work-life balance. An essential aspect of improved work-life balance entails timesaving that allows employees to experience significant family relationships (Asgari et al., 2016). Felstead and Henseke (2017) observed that an improved work-life balance was associated with increased job satisfaction and a more significant employee retention rate. Consequently, telecommuting has been associated with significant benefits to both workers and supervisors. The authors proposed the utilization of the social exchange theory to examine the benefits of telecommuting to both employees and managers. Felstead and Henseke (2017) noted that significant portions of employees were willing to forego some comfort to achieve an improved quality of life. The study's findings by Felstead and Henseke (2017) are related to an investigation conducted by Almaaitah et al. (2017), who also utilized the social exchange theory to discuss the significance of a work-life balance to employees' job satisfaction. The authors noted that employees were willing to complete more significant working hours in exchange for telecommuting.

However, Felstead and Henseke (2017) noted that the transition from traditional to agile working might not lead to a proportional change in work-life balance. The authors highlighted that telecommuting blurred the border between work and family. Consequently, work-related pressures may extend beyond the allocated period and lead to increased family conflicts. Sarker et al. (2018) also observed that the complexity of remote working reduced the ease of separating the two dimensions. Both sets of authors utilized the Border Theory to examine the complexity of work-life balance among teleworkers. A prevalent barrier to achieving reduced conflicts was the identification of the border that differentiates the work and family dimensions. Sarker et al. (2018) noted that it was difficult to demarcate the start and endpoints of agile working.

The Border Theory also identified an employee's characteristics as significant determinants of their work-life balance. Remote workers' demographics, such as their gender, marital status, and social roles, may lead to significant crossovers between the work and family dimensions. Adisa et al. (2017) investigated the influence of mobile technological devices, segmented, and integrated borders on work-life balance. A segmented border comprises teleworkers who do not respond to their work emails and calls during family time. Additionally, teleworkers are expected not to respond to family needs during work time. The findings of the study indicated that whereas mobile technological devices increased flexibility, the inventions blurred the border between the work and life dimensions (Adisa et al., 2017). Based on the complexity of work-life balance, employees may have different attitudes towards telecommuting, hence disparities in their acceptance of remote working (de Vries et al., 2018). Additionally, the

lack of an improved work-life balance may deteriorate managers' perception of telecommuting as a timesaving tool.

Teleworkers' ability to transition to and from their work and family dimensions has a significant influence on their productivity and quality of life. Delanoeije et al. (2019) and Smit et al. (2016) also utilized the Border Theory to examine employees' ability to transition from their work to their family dimensions without causing significant conflicts. Smit et al. (2016) noted that whereas employees might physically refrain from their work, a significant portion of them struggled to complete the accompanying cognitive role transition. Delanoeije et al. (2019) observed that telecommuters experienced a significant portion of work-to-home and home-to-work interruptions that led to frequent conflicts. Employees tend to experience reduced work-to-home interruptions when working from their organizations' premises.

Smit et al. (2016) concluded that there was a need for employees to develop effective border management skills to facilitate their cognitive role transition and reduce their work-family conflicts. Rao (2017) identified cultural and social intelligence as enablers for effective work-life balance. Rao defined cultural intelligence as the ability to adjust to societal expectations of work-life balance. Teleworkers should adapt to societal expectations related to human interaction and family engagement. The increased time spent within a community was expected to translate to improved social interactions and contributions (Rao, 2017). With the expected performance-related productivity and increased social interaction, Smit et al. (2016) noted that teleworkers should examine their work and life dimensions as an integrated system as opposed to distinct segments.

Otherwise, employees were at risk of a deteriorated work-life balance in the event of conflicting expectations.

The studies conducted by Felstead and Henseke (2017), Sarker et al. (2018), and Smit et al. (2016) indicated a prevalent work-life imbalance even among remote workers. Consequently, McDowall and Kinman (2017) sought to examine the lack of improvement and deterioration of work-life balance among telecommuters. The results of the study indicated that more than 50% of the sampled organizations lacked comprehensive human resource policies related to their employees' work-life balance. The authors noted that organizations expected their workers to manage their social lives. However, as highlighted by Smit et al. (2016), a significant portion of teleworkers had inadequate cultural and social intelligence that led to increased work and family conflicts. Collins et al. (2016) evaluated the influence of workplace social support on employees' quality of life.

Collins et al. (2016) noted that informal interactions comprised a significant portion of employees' work-life balance. Remote workers have reduced physical interactions with their colleagues that may undermine the available social support (Greenbaum, 2019). Collins et al. (2016) noted that organizations should promote their employees' ability to utilize the available technology and communication platforms to promote their social interaction. Researchers McDowall and Kinman (2017) also recommended that organizations should formulate policies that promote improved work-life balance that has been associated with increased productivity. Additionally, the

authors noted that organizations should guide and train their employees on work-life balance to achieve increased productivity and retention levels.

Effects of Telecommuting on Travel Cost

There are several studies that investigated the effects of telecommuting on travel costs (Lila & Anjaneyulu, 2017; Shabanpour et al., 2018; Zia & Bilal, 2017). Zia and Bilal (2017) conducted a study to explore the usage, impact, and possible benefits of telecommuting and the deterrents in the creation of the phenomenon in Pakistan. The social and financial impact of telecommuting was determined by telecommuters. Zia and Bilal (2017) utilized a structured interview technique. Judgmental sampling method was used in collecting data from a specified sample of 54 telecommuters from Lahore. The study findings revealed that telecommuting was a valuable business tool that helps to offer a comfortable working atmosphere and facilitates the improvement of the financial benefits to the users. This model of working supports improved financial conditions (Zia & Bilal, 2017). The study results suggest that telecommuting was associated with the reduction in travel costs leading to improved financial performance.

Shin (2019) indicated that work from home involves shorter commuting distance and time compared to their counterparts. A similar study by Shabanpour et al. (2018) focused on the analysis of telecommuting behavior and its effects on the environment and travel demand. An integrated framework was developed to provide empirical evidence of the possible effects of telecommuting on travel behavior, air quality, and network congestion. In this study, the data was extracted from the Travel Tracker Survey conducted by the Chicago Metropolitan Agency for Planning (CMAP) to analyze the

telecommuting behavior. The data contained travel information of 10,500 households relating to their travel diary for one or two randomly selected days between January 2007 and February 2008 (Shabanpour et al., 2018). It also contains trip-related information such as time-of-day, mode, and trip duration. The researchers compared the current situation whereby about 12% of employees in the Chicago area have a convenient working time program with a case when 50% of workforces have flexible working time. The findings indicated that telecommuting could help to reduce vehicle hours traveled (VHT) and total daily vehicle miles traveled (VMT) up to 2.09% and 0.69%, respectively. The study findings suggest that by helping to reduce VHT and VMT, telecommuting leads to a significant reduction in travel costs among employees (Shabanpour et al., 2018).

Lila and Anjaneyulu (2017) also performed a study that analyzed the impact of Information Communication Technology (ICT) on travel and activity estimated and patterns the networkwide effect of telework in urban regions. The study relates to an investigation by Astroza et al. (2017) that focused on evaluating the effects of technology use on activity travel characteristics. The study was based on the data from workforces from the IT capital of India, Bangalore. Lila and Anjaneyulu (2017) performed the examination sequentially with structural equation modeling, factor analysis, and urban transport model. The models and analyses were run using transport modeling software. Four situations were investigated for the future and current year. The effects of telework on environmental parameters and the transport network characteristics were assessed. The study findings showed a reduction in vehicle hours traveled (VHT), and vehicle

kilometers traveled (VKT) of approximately 3.6% and 1.90 at present, with a further decrease to 6.10% and 3.2, respectively, in the next five years (Lila & Anjaneyulu, 2017). The reduction in VKT and VHT, as a result of telecommuting, suggests that working from home help in promoting travel cost savings.

In this part of the literature review, studies that focus on the connection between telecommuting and travel costs were reviewed. The study results of the research by Zia and Bilal (2017) suggest that telecommuting was associated with the reduction in travel costs leading to improved financial performance. The findings of the study by Shabanpour et al., (2018) suggest that by helping to reduce VHT and VMT, telecommuting leads to a significant reduction in travel costs among employees. According to Lila and Anjaneyulu (2017), the reduction in VKT and VHT, as a result of telecommuting, suggests that working from home help in promoting travel cost savings.

Telecommuting and Work Productivity

Several studies have been conducted to determine the connection between telecommuting and work productivity (Giovanis, 2018; Hoornweg et al., 2016; Khan et al., 2018). Onyemaechi et al. (2018) conducted a study to examine the effects of telecommuting on workers' performance, determine a positive connection with a better quality of work, and determine significant connection with fast service delivery. A survey research design was used in the study. Onyemaechi et al. (2018) used a structured questionnaire to collect information from workers of selected telecommunication companies that included Glo, MTN, and Airtel that are located along Wetheral road in Owerri, Imo State. Using the Taro Yamane formula, a sample size of 100 was selected

from a population of 133 employees. The researchers used Bowley's formula to determine the number of the questionnaire to be administered in each stratum. Spearman rank correlation coefficient and descriptive statistics were used to analyze data. The study findings showed that there was a weak and positive connection between telecommuting and better quality of work. The study results indicated that telecommuting has a significant relationship with fast service delivery. The conclusion of the study was that telecommuting has a positive impact on employee performance (Onyemaechi et al., 2018).

Khan et al. (2018) conducted similar research to investigate the connection between the impacts of telecommuting commitment and employee performance. The main aim of the research was to identify the leading impact of telecommuting commitment that influences employee performance. Researchers used a cross-sectional survey and a correlational research design to explore the connection between variables (Khan et al., 2018). The study involved 229 respondents who engaged in telecommuting. The respondents were selected from 11 gas and oil companies in Kuantan, Pahang. The study findings showed that all of the effects of telecommuting that involved work-family balance, job autonomy, level of occupational stress, and work productivity have a significant connection with the employee performance at $r = .734$, $p < 0.05$, $r = .923$, $p < 0.05$, $r = .408$, $p < 005$, and $r = .817$, $p < 0.05$ respectively. The findings of the study showed that job autonomy was the most dominant effect of telecommuting commitment that leads to improved worker performance with $r = .923$, $p < 0.05$. The researchers also revealed that positive knowledge and experiences possessed by the telecommuters in the

gas and oil industry helped to maintain a good physical and mental state and improve the level of motivation of employees. Additionally, the study findings indicated that the exercise of the proper balance between the professional and personal life could lead to high workers' performance among the telecommuters (Khan et al., 2018).

According to Onder (2016), there was a relationship between telecommuting and several work outcomes. In another study, Soenanto et al. (2016) conducted a study to analyze the impact of telecommuting system, the perspective of quality management, and self-efficacy on work productivity. The process of data collection involved the use of field surveys and questionnaires in different multinational firms that adopted telecommuting systems in Jakarta. In this study, the unit analysis involved remote workers in multinational companies in Jakarta, Indonesia. A total of 193 employees participated in the surveys, according to the report (Soenanto et al., 2016). Structural Equation Modeling (SEM) was used in data analysis. The study findings indicated that there was no significant influence between self-efficacy and work productivity. The study results also showed that the telecommuting system has a significant influence on the quality of management perspective that, in turn, affects work productivity (Soenanto et al., 2016).

According to Johnson (2016), there was job satisfaction among employees involved in telecommuting. Hoornweg et al. (2016) conducted a survey study that involved 111 telecommuters in a bank organization with the aim of investigating the connection between individual productivity and telework intensity. The researchers also examined whether the relationship was facilitated by worker's intrinsic motivation.

Hoornweg et al. (2016) developed and tested a set of hypotheses based on the professional isolation literature and the Job Demands-Resources Model. The study findings indicated a direct curvilinear connection between individual productivity and telework intensity described by a slight, non-significant positive relationship at the low telecommuting intensity. The study results also showed that a direct connection between individual productivity and telework intensity moderated by the number of office hours (Hoornweg et al., 2016). Hoornweg et al. (2016) concluded that significances for productivity are dependent on that the number of office hours and telework intensity. The study findings suggest that there was a connection between telework intensity and individual productivity.

Beauregard et al. (2019) indicated that there was a connection between telework and job performance. In another similar study, Brueggen et al. (2019) investigated how telecommuting influences the effort of employees' productive and reporting behavior. The study hypothesis showed that telecommuting was associated with a collection effect that leads to higher employee effort (Brueggen et al., 2019). The researchers performed two distinct web-based experiments with students in the bachelor class of accounting to determine prediction and isolate the different explanations (Brueggen et al., 2019). The experiments were performed within the same duration. Consistent with the researchers' predictions, the findings of the web-based experimentation showed that workers who telecommute had high motivations (Brueggen et al., 2019). The study findings also indicated that motivation leads to lower misreporting and improved productive effort for jobs that involve telecommuting.

Giovanis (2018) conducted a study to investigate the connection between flexible job arrangements and workplace performance. The study related to an investigation by Groen et al. (2018), which showed that teleworking hours connect positively to the emphasis on output controls among teleworking employees. The investigation involved home-based working, flexible timing, teleworking, and compressed hours. Giovanis (2018) first explored the determinants of the flexible employment types and then the ordinary least squares (OLS) approach before using an instrumental variable (IV) method to account for reasonable endogeneity. The instrumental variable (IV) method was used to estimate the fundamental impacts of flexible employment types on organizational performance. The study findings indicated that there was a positive and significant relationship between flexible job arrangements and performance in the workplace. The significant factors that are positively connected with the tendency of the adoption of flexible employment arrangements include age, education, wage, years of experience, and quality of relationships between employees and managers (Giovanis, 2018).

Raffaele and Connell (2016) indicated that telecommuting leads to increased work flexibility. Employee performance was affected by different factors at the workplace (Ramakrishnan & Arokiasamy, 2019). Among the factor that have been found to influence employees' performance was flexible working arrangements. Ramakrishnan and Arokiasamy (2019) conducted a study with the aim of identifying how flexible working arrangements can affect the workers' performance in organizations in Malaysia. The focus of the study was groups of workers of white-collar jobs who are between the age of 24 and 60 years. The study findings showed that there was a positive effect of

flexible working arrangements on the improvement in employees' performance (Ramakrishnan & Arokiasamy, 2019).

Several studies, according to the empirical literature, focused on the effects of telecommuting and work productivity (Brueggen et al., 2019; Khan et al., 2018; Onyemaechi et al., 2018). The study results of the research by Onyemaechi et al. (2018) indicated that there was a connection between telecommuting and fast service delivery and better quality of work. According to Khan et al. (2018), the exercise of the proper balance between the professional and personal life associated with telecommuting could lead to high workers' performance among the telecommuters. The study results of the investigation by Soenanto et al. (2016) showed that the telecommuting system has a significant influence on the quality of management perspective that, in turn, affects work productivity. According to Brueggen et al. (2019), telecommuting was associated with employees' motivation that leads to lower misreporting and improved productive effort for jobs that involve telecommuting.

Telecommuting and Employee Retention

Telecommuting was considered among the factors that can increase employees' retention because the work arrangement was associated with flexibility and satisfaction among the workers (Tate et al., 2019). Windsor (2018) conducted a quantitative, causal-comparative study to determine any significant variances in job satisfaction and turnover intents of non-academic members of staff who telecommute. The study also targeted employees who work on campus at a non-profit institution located in the eastern part of the United States (US). Windsor used the social exchange theory as a theoretical

foundation. An electronic survey that included the six-item Turnover Intention Scale, the Job Satisfaction survey, and a demographic questionnaire were used to collect 221 non-academic staff members. Each of the research questions was analyzed using a one-way MANOVA. The multivariate impact of the workplace location, either through telecommuting or working on campus, on the combined variables, turnover intentions, and job satisfaction was significant, Wilks' Lamba =.830, $F(2, 218) = 22.355$, $p < .001$. Windsor (2018) also observed significant between-subject effect for job satisfaction was $F(1, 219) = 26.88$, $p < .001$. Study findings indicated that compared to the on-campus group that showed $M = 141.11$, $SD = 27.15$, telecommuters indicated higher satisfaction with their jobs of $M = 161.68$, $SD = 31.31$. The researcher also observed a significant between-subject impact for turnover intentions, $F(1, 219) = 44.86$, $p < .001$. The group of employees working on campus reported higher turnover intents, $M = 17.73$, $SD = 5.41$ compared to employees involved in telecommuting $M = 12.26$, $SD = 6.67$. The results relating to significance of telecommuting concerning turnover intentions and job satisfaction among non-academic, higher education members of staff indicated that telecommuting has a positive impact on workers' job satisfaction and a negative influence on employee turnover intentions.

According to Golden and Eddleston (2020), telecommuting can promote job satisfaction and work-family balance. For workers seeking to progress in their careers, they should exercise caution because telecommuting was often considered as signaling a lack of commitment to a person's profession (Wang et al., 2020). The researchers identified the gap in research because of a few studies that have investigated the impacts

of telecommuting on career success (Wang et al., 2020). The researchers first compared the career accomplishment of non-telecommuters and telecommuters by integrating research on the flexibility stigma and signaling theory. Wang et al. (2020) used a sample of 405 workers who matched with commercial data on salary growth and promotion. The researcher then examined the connection between the scope of telecommuting and career accomplishment, in addition to the moderating effect of contextual factors.

The result of the study by Wang et al. (2020) indicated that non-telecommuters and telecommuters did not differ in the number of promotions. However, telecommuters experienced reduced salary growth. The study findings also showed that the scope of telecommuting was negatively connected to salary growth and promotions. The results showed that it was not just telecommuting that influences career success, but rather the scope of telecommuting. Additionally, the study findings indicated that extensive telecommuters received a higher number of promotions when they operated in a situation where working remotely was highly normative. According to the study findings, extensive telecommuters with higher face-to-face contact with their supervisor and has improved supplemental work received increased salary growth. By indicating improved career growth trends, the study findings suggest that telecommuting can lead to increased job satisfaction that, in turn, can lead to reduced turnover intentions (Golden & Eddleston, 2020).

Pandey et al. (2016) maintained that technology was a powerful tool that contributes to the development of businesses. According to Pandey et al. (2016), there was little effort to investigate its contribution of information systems towards other

practical areas of management. Pandey et al. (2016) integrated information systems with human resource management. The researchers then proposed a model that describes the role of the human resource information system (HRIS). The model also explains the functions of HRIS that include gamification and telecommuting in accomplishing specific human resource outcomes. The identified variables are well articulated in literature, but the connections are greatly fragmented. The study findings by Pandey et al. (2016) indicated that telecommuting improves perceived autonomy that lessens interruptions, and enables employees to work more independently.

According to Pandey et al. (2016), when workers have freedom, they tend to feel in control and become more pleased to complete specific tasks. Similarly, there are positive outcomes associated with telecommuting, such as increased loyalty and reduced absenteeism when workers are given job freedom (Pandey et al., 2016). By indicating that telecommuting helps to increase loyalty and reduce absenteeism among members of staff, the study findings suggest that remote work help promote employee retention (Henke et al., 2016).

Schall (2019) conducted a similar study with the aim of examining the connection between remote work and levels of job satisfaction of employees in the workplace. The study involved a total of 185 employees. The researcher utilized an online survey to collect data from employees. The study findings showed that telecommuting had a positive connection with job satisfaction among employees. Work-family conflict, perceived autonomy, and telecommuting intensity each facilitated the connection between telecommuting and job satisfaction. The researcher found an inverted u-shaped

curvilinear connection between the telecommuting intensity and job satisfaction. The study results showed that there was a positive, linear relationship between telecommuting intensity and job satisfaction. Additionally, the study findings showed that increasing telecommuting in the workplace was an effective approach to improve employees' levels of job satisfaction. Increased job satisfaction among employees involved in telecommuting I associated with less work-family conflict, higher perceived autonomy. The study findings by Schall (2019) suggest that by increasing levels of job satisfaction, telecommuting can help in promoting employee retention

Findings from several studies showed a correlation between telecommuting and employee retention (Golden & Eddleston, 2020; Pandey et al., 2016; Schall, 2019). According to Golden and Eddleston (2020), telecommuting fosters improved career growth, suggesting that remote work can lead to increased job satisfaction that, in turn, can lead to reduced turnover intentions. The findings of the study by Pandey et al. (2016) indicate that telecommuting enhances loyalty and reduced absenteeism among members of staff (Pandey et al., 2016). Schall (2019) revealed that increasing levels of job satisfaction associated with telecommuting could help promote employee retention.

Organization's Perspective of Challenges of Telecommuting

Despite the multiple benefits of teleworking, this working model poses various challenges to an organization's management and leaders. Most of the challenges experienced by managers who supervise telecommuters involve measuring productivity, trust-building, and the difficulty of controlling who are not physically present at the office (Paulin et al., 2017). Most managers fail or find it difficult to effectively control

teleworkers because they cannot monitor how they work and provide constructive evaluation and feedback. A recent study by Chávez (2020) explored the primary security considerations made by organizations in relation to information and data when employees are telecommuting from home. The author highlighted the significance of telecommuting in the current work environment and how it benefits organizations. For example, Chávez (2020) explains the importance of teleworking in times of crisis, such as the current coronavirus pandemic. However, the authors highlighted that teleworking was highly prone to security breaches and cyber-attacks that can negatively affect productivity.

Scarfone et al. (2020) also evaluated the security challenges facing organizations that employ teleworking when their employees work from remote locations. The authors indicated that telecommuters utilize various tools that are vulnerable to cyber-attacks, for example, emails, smartphones, laptop and desktop computers, websites, and tablets. Organizations that use teleworking employ various protection measures to safeguard data and prevent information theft and security breaches. Scarfone et al. (2020) identified three sources of security challenges associated with telecommuting. The first major security concern was the lack of physical security controls because teleworkers use their devices in multiple locations outside their company's control, including home offices, restaurants, and other remote places (Green, 2019). The high mobility of these devices increases the likelihood of them being stolen and the information being tampered with and compromised.

Another main security concern associated with teleworking was the unsecured networks that the employees use for remote access (Ndichu et al., 2019). Almost all

remote access by employees was through the internet, where firms lack control over the security of other networks utilized by customers (Ndichu et al., 2019). Examples of communication systems that consumers and employees use during teleworking include cellular and broadband networks, and cable internet (Souppaya & Scarfone, 2016). These systems of communication are prone to cyber-attacks and eavesdropping by third parties using invasive software that may compromise clients' and firms' information and data. Another source of security concerns for organizations during teleworking was exposure to cyber-attacks from external access to internal-only files and assets such as sensitive servers. According to Scarfone et al. (2020), every time a company's internal resources are accessed from remote devices was an opportunity for hackers to gain unauthorized entry; thus, compromising data security.

Management also struggles in keeping telecommuting employees connected with those who remain in offices. Managers of teleworkers need to motivate teleworkers and inspire them to deliver high-quality work (Scarfone et al., 2020). In addition, managers need to disseminate authentic information to teleworking teams and ensure adequate security to minimize the likelihood of cyber-attacks (Souppaya & Scarfone, 2016). However, the distance factor was usually a challenge for managers, especially when employees have trust issues or are not familiar with other team members. Managers also have to address the lack of trust and disciplinary issues from a distance which may result in reduced efficiency (Scarfone et al., 2020). While face-to-face strategies may work, other alternatives can be employed to improve connections between teams, including Skype, video conferencing, and Facebook. Constant reiteration of the organization's

vision, mission, and goals can help in minimizing the impact of operational distance on teleworkers' commitment and quality of work (Scarfone et al., 2020).

Managers should address telecommuting requests carefully as they can influence employees' motivation and commitment to the organization. According to Glass and Noonan (2016), employees who are not approved to telework can be demoralized, limiting their productivity and commitment. Employees who are ineligible to telework may also leave the organizations to rival companies that would provide them with the opportunity (Scarfone et al., 2020). The isolation of employees can also result in dissatisfaction due to minimal or lack of face-to-face interaction with colleagues and managers.

A major challenge in telecommuting involves the difficulty in coordinating and organizing work-related tasks for employees and teams. According to Scarfone et al. (2020), the telecommuter's availability was a common challenge as some of them may take advantage of the opportunity and flexibility to open their businesses or engage in other tasks unrelated to work. As a result, the organization may lose clients because of the unavailability of teleworkers to respond to their needs promptly (Allen et al., 2015). In addition, organizations have the challenge of distributing tasks between office workers and telecommuters (Scarfone et al., 2020). For example, a common issue involves hand-offs, which can be complicated because of the lack of face-to-face communication between employees completing their shifts and those starting (Picu & Dinu, 2016). Ineffective handover can negatively influence coordination and lead to loss of data and information.

Despite technological advancement, communicating with teleworkers was challenging for managers, especially when conveying non-verbal messages. Thus, there was a need for organizations to develop effective contingency plans to ensure tasks are completed when telecommuters are unavailable or cannot be reached (Darics, 2020). Another challenge experienced by managers was the negative impact of teleworking on social networks (Collins et al., 2016). For example, employees who remain in the office can feel isolated and demoralized; thus, disrupting teamwork and creating resentment, which can reduce their commitment and productivity.

Telecommuting also makes it difficult for managers to create team synergy and address the challenge of overcoming interactive and informal meetings. Employees' productivity was usually gauged by the synergy in a work environment (Karia & Asaari, 2016). One challenge associated with telecommuters was that communications are mostly formal, thus, reducing the employees' connection with the office environment where many informal interactions help in building effective bonds with colleagues (Paulin et al., 2017). Most managers argue that formal meetings with employees are sometimes insufficient; thus, informal training was essential to pass important messages and information.

Another challenge faced by managers regarding telecommuting was the creation and transmission of a unique organizational culture. The primary challenge involves transmitting the organizational culture to employees who work remotely for extended periods (Boell et al., 2016). Research indicates that telecommuters may be less loyal to an organization compared to office-based employees (Scarfone et al., 2020). In addition,

telecommuters fail to develop interpersonal skills, which are essential in promoting cooperation and communication in the workplace.

Most managers, to strengthen their control over teleworkers, develop an organizational culture that was based on trust and focused on performance evaluation. In the work setting, trusting employees involves having confidence in their commitment and competence to contribute towards the achievement of organizational goals (Paulin et al., 2017). Managers also have challenges in trusting teleworkers to make key decisions and working independently without distractions from children and family members, or friends (Scarfone et al., 2020). Thus, companies need to evaluate their employees first before allowing them to telecommute.

Methods and Methodology in the Literature

The concept of technology acceptance was proposed by Davis et al. (1989) to investigate the correlation between people's perception and usage of systems. Davis et al. (1989) noted that there had been a shortage of empirical measurements of users' acceptance of computers. Before 1989, most measurement scales were not validated, which reduced the reliability of the reported findings. Davis et al. (1989) hypothesized that perceived usefulness and ease of use were fundamental determinants of people's computer acceptance. The results of the study indicated a statistically significant correlation between perceived usefulness, ease of use, and the current or future utilization of an application (Davis et al., 1989). The measurement scales that were developed by Davis et al. (1989) continue to be widely utilized in the evaluation of users' acceptance of the technology.

Researchers interested in remote working continue to reference Davis' TAM to investigate telecommuting. Dima et al. (2019) conducted an exploratory case study to evaluate both the social and individual implications of telecommuting in relation to traditional working on the Romanian labor market. The authors utilized a national survey to collect qualitative data from 1180 participants. Dima et al. (2019) concluded that remuneration and opportunities for career development were essential factors of job satisfaction among both traditional and remote workers. Additionally, the authors observed that telecommuting had a positive influence on employees' time management, stress levels, work-life balance, and health status.

Ansong and Boateng (2018) also utilized an exploratory case study to evaluate the organizational adoption of telecommuting. The focus of the study was Ericsson Ghana. The authors relied on interviews to collect qualitative data for analysis. An analysis of the collected data indicated that telecommuting was associated with increased employee productivity, reduced absenteeism, turnover rates, and operating expenses. Further, the organization's telecommuters noted that they had more significant job satisfaction compared to when they worked in a traditional office system. Concerning adoption, Ansong and Boateng (2018) noted that management support was significant in the successful adoption of telecommuting. Related to the study conducted by Ansong and Boateng (2018), Meroño-Cerdán (2017) implemented an exploratory case study to investigate telecommuting adoption in Spanish family firms. The study utilized TAM to evaluate the firms' preference for remote working. The author utilized both surveys and phone interviews to collect data for qualitative analysis. The results of the study indicated

that the Spanish firms relied on the perceived benefits of remote working to adopt telecommuting.

Soenanto et al. (2016) conducted an exploratory case study of multinational companies in Jakarta, Indonesia, to evaluate the influence of telecommuting on organizations' competitiveness and productivity. The authors utilized questionnaires to collect data for qualitative analysis. The results of the study indicated that management perspective had a significant influence on telecommuters' productivity. Further, the authors noted that telecommuters' productivity had an impact on organizations' competitiveness. The above-discussed studies ascertain the suitability of the selected methods and methodology and their alignment to the scope of this study.

Summary and Conclusions

The background problem identified in this project was related to the management perspective of telecommuting that has been attributed to its reduced adoption in Gwinnett County, Georgia. This chapter sought to evaluate existing literature related to the phenomenon of telecommuting and its associated benefits and limitations. The evaluated literature indicated that managers were concerned about the impact of telecommuting on their employees' engagement that they associated with productivity. Additionally, managers were concerned about their employees' productivity in the absence of human supervision. In contrast, a significant portion of the evaluated literature indicated that employees preferred telecommuting to the traditional office setting. Employees attributed telecommuting with increased timesaving that improved their productivity. Based on the evaluated literature, telecommuting was also attributed to improved work-life balance

that had a positive correlation with productivity and job satisfaction. Whereas the evaluated literature highlighted employees' perception of telecommuting on timesaving, there was inadequate research on the management perspective of the same. The inadequate literature highlights an existing knowledge gap that this project intends to address. The qualitative exploratory case study facilitated the evaluation of managers' responses to establish their perception of the influence of telecommuting on timesaving.

Chapter 3 contains the research rationale for the project. In addition, I address the research design, the role of the project investigator, methodology, participant selection, instrumentation, data analysis plan, and issues of trustworthiness in Chapter 3.

Chapter 3: Research Method

The purpose of this qualitative exploratory case study was to explore and understand the management perspective in adopting telecommuting as a timesaving tool for IT professionals in Gwinnett County, Georgia. This section provides a detailed discussion of the procedures that was employed to complete this exploratory case study. The chapter contains the research design used and the rationale for selecting the case study approach. The researcher's role in this study was also explained in this section. The methodological approach chosen for this case study is discussed, including the logic behind participants' selection, procedures for recruitment, participation, data collection, and data analysis techniques. The section also presents aspects of the case study's trustworthiness, including credibility, transferability, dependability, and confirmability. Ethical Procedures relating to human participants that were followed throughout the case study were also discussed in this section.

Research Design and Rationale

The exploratory case study was guided by one primary research question: What is the management perspective in adopting telecommuting as a timesaving tool for technology professionals in Gwinnett County, Georgia? The study focused on addressing two subquestions:

Subquestion 1: What are the concerns that IT management professionals have regarding adopting telecommuting for employees?

Subquestion 2: What are the benefits of adopting telecommuting as perceived by IT management professionals?

The central phenomenon in this study was telecommuting and its use as a time-saving strategy from management's perspective. Telecommuting refers to a working environment where employees can work remotely or from home away from the conventional office setting (Ansong & Boateng, 2018). In this research, I used an exploratory case study design to explore and understand the management perspective of adopting telecommuting as a time management tool for technology professionals. The rationale for using an exploratory case study design was to understand management's perspectives about the benefits of telecommuting as a timesaving tool. The benefits of using a qualitative case study design are the facilitation of a holistic and meaningful exploration of the target phenomenon (Creswell & Poth, 2017). In addition, the exploratory case study facilitated openness as participants were allowed to expound on their responses. However, the qualitative case study was limited by the lack of external validity and low reliability due to the high risk of bias (Creswell & Poth, 2017). In addition, case studies are time-intensive and have a high risk of judgment or memory-related errors (Creswell & Poth, 2017).

In this research, I used a qualitative approach to explore the IT management professionals' perspectives regarding the adoption of telecommuting as a time-saving strategy. The rationale for choosing a qualitative approach was to facilitate the exploration of participants' perceptions, attitudes, and opinions regarding telecommuting. In this study, the quantitative approach was not chosen, as its use could not effectively explore participants' attitudes, perceptions, and opinions. According to Creswell and Poth (2017), quantitative approaches are suitable for analyzing numerical data and determining

relationships between variables. However, the project did not include any numerical data; thus, the quantitative approach was not suitable. I also considered using the mixed methods approach but decided against it because of complexity and time-intensiveness (Creswell & Poth, 2017). In addition, mixed-methods design involves more resources compared to quantitative and qualitative approaches. Addressing discrepancies resulting from the interpretation of qualitative and quantitative findings may also cause issues for an investigator.

The case study design was selected over the phenomenological, grounded theory, and ethnographic approaches because the study focused on the participants' description of telecommuting as opposed to their perceptions or experiences (Saunders et al., 2018). The phenomenological design was not suitable for this study because it focuses on lived experiences. Grounded theory was overlooked because it concentrates on experiences and many data sources (Creswell & Poth, 2017). Additionally, ethnography was not suitable because it involves an investigator's involvement with the participants for a long period (Saunders et al., 2018).

Role of the Researcher

The role of scholarly investigators includes design selection; data collection, evaluation, and management; compliance with institutional review board (IRB) guidelines; and dissemination of research (Creswell & Poth, 2017). This study addressed all the research-related problems from the beginning to the end. My role included observing the study to avoid influencing the eventual outcome. I constructed the interview protocol, conducted the interviews, audio-recorded the proceedings, analyzed

the data using NVivo 12, interpreted the findings, and provided conclusions and recommendations. Before data collection, I first contacted the IRB requesting authorization to conduct the study. After approval, formal invitations were sent to managers of companies working for IT companies in Gwinnett County, Georgia, through LinkedIn Subgroup message service. The message contained the purpose of the study and investigator's email and phone number. I then contacted respondents via email to explain the purpose and objectives of the interview and invited them to participate. Throughout the interview, I took precautions to avoid influencing the participants' responses and eventual conclusions and intervened to clarify questions and ask the participants to expound on their responses.

I personally conducted the interviews with recruited participants from companies within Gwinnett County, Georgia, using Zoom. Potential participants from the companies within the county via the LinkedIn Subgroup contacts were recruited. I audio-recorded the proceedings during the interviews and transcribed the verbatim responses. After collection, NVivo 12 software was used to analyze the data and conduct thematic analysis. I did not have a direct relationship with the participants. However, being a scholar in the same professional field, I believed that the participants' responses increased my knowledge and experience significantly.

The investigator managed researcher bias by following the semi-structured interview protocol strictly. In addition, the investigator-maintained objectivity throughout the interviews and analysis process. The researcher kept a reflexive journal throughout the study to document all the research processes. Member-checking was also employed to

ensure the interpreted data was solely based on the participants' responses. After transcription, the investigator sent each participant their transcripts and analysis to verify whether the interpretations are consistent with their responses. The investigator also requested an expert in the field to review the interview protocol to identify any biases. Additionally, the analyzed data were sent to the participants to confirm the findings' accuracy.

Relevant ethical issues in the study involved the protection of human participants, consent, and permissions from the companies. During the study, the investigator minimized any inconsistencies and ensured all research processes involving human participants were consistent with The Belmont Report. The investigator did not provide any incentives for the participants in the study to enhance objectivity. However, the links to the study were sent to all the participants after completion.

Methodology

Participant Selection Logic

The target population for this exploratory case study was 20 IT management professionals working for companies operating in Gwinnett County, Georgia. This population was suitable because most IT professionals can telework using the internet as a form of connectivity. The convenience sampling technique was used to select managers working for IT firms in Gwinnett County, Georgia. The convenience sampling technique was selected because it was cost effective and time sensitive (Speak et al., 2018). The primary advantage of convenience sampling was selecting participants who were most

relevant for the study based on their availability during the scheduled period (Elfil & Negida, 2017).

However, convenience sampling has various limitations that negatively influence the findings of the case study. For example, convenience sampling was prone to selection bias because participants are chosen solely based on investigators' judgment (Sarstedt et al., 2018). Also, convenience samples lack representativeness, thus undermining generalizing findings to entire populations (Speak et al., 2018). The inclusion criteria included the selection of participants who; (i) were aged at least 18 years, (ii) understood English, (iii) had at least one-year experience in management in the technology field, (iv) worked for a technology company, and (v) agreed to sign the consent form.

The sample included 16 IT professionals from firms within Gwinnett County. The selected sample size of 16 participants was appropriate because qualitative approaches such as the exploratory case study design utilize about 15-20 homogeneous participants for interviews and surveys (Vasileiou et al., 2018). After receiving authorization from the IRB, the investigator contacted the participants through LinkedIn subgroup messaging and or email for consent to interview them. The firms were then asked to provide the investigator with the management staff's email accounts, which were used to invite them to participate in the study (see Appendix A). Participants who agreed to participate were provided with exact dates and locations for the interviews. The investigator's email was also provided in the informed consent forms.

The selected sample size was sufficient, but the investigator made alterations depending on saturation during data collection and analysis. Saturation was an important

standard in the qualitative research and represents the point where additional analysis does not yield information that was significantly different from existing findings (Vasileiou et al., 2018). Thus, I was careful when selecting sample sizes for qualitative studies to avoid data redundancy. Elfil and Negida (2017) indicated that some of the instruments used during the interviews could help determine the point of saturation. Saturation was beneficial in the research as it minimized time and resource wastage and prevented redundancy of information (Saunders et al., 2018). To achieve data saturation, the investigator utilized a semistructured interview protocol as the primary data collection instrument.

Landrock (2017) indicated that it was important to create rapport with potential participants during the recruitment process. Confidence and effective communication and interpersonal skills also improve the chances of potential participants agreeing to take part in studies (Landrock, 2017). Thus, the investigator emailed the IT professionals and invited them to participate in an online interview through Zoom. Zoom was suitable for this study because the IT professionals were not at work due to the coronavirus epidemic. The participants had the right to determine the location for interviews and cancel appointments at their discretion without consequences. The investigator selected participants with and without telecommuting experience to enhance the quality of responses and eliminate the likelihood of bias.

Instrumentation

The primary data collection instruments in this study was the semistructured interview protocol and audiotapes. The semistructured protocol guided the investigator

throughout the interview process. The rationale for developing the interview-protocol was because there was no existing study that comprehensively addressed the specific research questions for this case study. The interview protocol contained 10 open-ended questions that were designed to capture the participants' perceptions regarding the use of telecommuting as a timesaving strategy (see Appendix B). The advantage of using open-ended research questions was to provide the participants with the option of providing a wide range of responses (Mancuso et al., 2018). In addition, open-ended questions ensured that participants provided detailed responses and clarified any unclear statements (Weller et al., 2018; Wolff et al., 2018). However, the demographic section was structured to ensure uniformity in evaluating the participants' characteristics, including age, gender, experience levels, and positions. The interview protocol included an introduction section where the investigator invited the IT professionals and explained how the entire process would proceed. The investigator also included closing remarks in the protocol.

The interview protocol was developed by the investigator using evidence from previous research on telecommuting. Content validity involves the extent to which data collection instruments appropriately address the research questions or measures their intended measures (Mohajan, 2017). The interview protocol's face validity was established by ensuring that all the research questions were appropriately represented in the interview items.

Field test

The investigator requested two experts to review the research questions, purpose, and protocols. The experts were knowledgeable in telecommuting and qualitative research methodology. The first reviewer indicated that the research questions were consistent with the purpose of the project, especially during the current coronavirus pandemic. The second reviewer highlighted the importance of using semi-structured protocols as they facilitate the collection of detailed responses. The reviewers suggested modification of the interview protocol to cover essential aspects of telecommuting.

In addition, the investigator ensured that the interview protocol elicited adequate information from the participants to address the phenomenon of interest (Mohajan, 2017). The investigator requested experts to evaluate the protocol's face validity, which entailed how the instrument addressed the research question and sub-questions. The investigator established the instrument's validity by requesting experts in the field to evaluate its suitability for data collection.

Despite the availability of many interview protocols for telecommuting-related studies, the target phenomenon in the case study focused on IT professionals and companies in Gwinnett County. Thus, using an existing interview protocol would create gaps in data collection and issues during interpretation. In addition, the investigator wanted to enjoy the flexibility of interview designs by creating a protocol that addressed the research questions and gaps in research exhaustively.

The semi-structured interview protocol was beneficial in the study because it guided the investigator throughout the project, reducing the likelihood of bias (McGrath

et al., 2019). In addition, the instrument helped the investigator in determining the point of saturation to avoid data redundancy. Using the semi-structured interview protocol, the investigator collected the participants' perceptions regarding telecommuting as a time-saving tool and the challenges managers experienced when working with employees working remotely. The protocol guided the investigator throughout the interviews until saturation was reached, implying that further data collection would not be significantly different from the collected information.

Procedures for Recruitment, Participation, and Data Collection

The data were collected through Zoom interviews with IT management professionals working in selected companies within Gwinnett County area of Georgia. The investigator recruited the participants through LinkedIn Subgroup messaging service (see Appendix A). The emails contained the investigator's contact information for potential participants to use if they wished to participate or clarify specific details.

The investigator invited IT managers by having them join the LinkedIn Subgroup created for the study and extended interview invitations through email. The investigator explained the purpose and objectives of the study and the reasons for collecting data from the participants. In addition, the investigator explained the potential benefits and hazards of participating in the study. The investigator also informed the IT professionals that participation was voluntary, and they could quit at any point during the interview without repercussions. Though $5 (five dollars) rewards were offered for participation, the IT professionals will receive a link to the study manuscript after completion.

Data were collected from the participants through online interviews using Zoom. The investigator contacted the participants through email and requested them to select the most appropriate day and time for the interview. Interviews were estimated to last for approximately 60 minutes to provide the participants with adequate time to respond to all the items exhaustively. The semi-structured interview protocol was used to guide data collection in the case study (See Appendix B). Interviews are among the most preferred data collection instruments in qualitative research (McGrath et al., 2019). Thus, interviews were suitable for addressing the research questions because they were used to elicited comprehensive responses from the participants about the application of telecommuting as a timesaving strategy.

The investigator made field notes during the study period to document important information. The Zoom app recorded the interviews after inviting the participants via email and receiving their approval and consent. The investigator expanded the list of participants and contacted those who had confirmed participation to schedule the interviews until saturation was achieved. After completing the interviews, the participants were allowed to ask questions or provide their overall opinion about telecommuting. The investigator performed transcription verification where the transcripts were sent to the participants to review the responses and confirm any misinterpretation. In addition, member-checking that involved sending the analyzed data to the participants was conducted.

The accuracy and validity of data collection was strengthened using an automatic Zoom video-recorder. Unlike the option of manually writing down the participants'

responses, the audio-recorder significantly minimized the time spent in data collection and ensured answers were accurately captured (Rosenthal, 2016). The audiotapes improved the efficiency of data collection while also allowing the investigator to focus on asking questions only. In addition, audio-recording ensured the collection of all details from the participants' responses during interviews (Rutakumwa et al., 2019).

The one-on-one approach allowed the investigator to welcome the participant and create a conducive environment for the interviews. In addition, the investigator was able to request the participants for clarification and confirmation of their responses. However, Irvine (2018) indicated that one-on-one interviews are time-consuming and cost-ineffective compared to those conducted online. The investigator notwithstanding selected to use one on one interviews in the study because it facilitated the collection of in-depth information on the use of telecommuting as a timesaving strategy, which outweighed the limitations. The interviews were automatically transcribed by the Zoom app into Microsoft Word documents. The transcripts were then analyzed and presented back to the participants for verification. Transcription verification was important because it promoted credibility as the participants checked whether the data were accurate (Naidu & Prose, 2018). The participants were required to provide feedback on the interview transcripts within one week. Those who did not respond were contacted and reminded to provide feedback through email. The transcripts were deemed accurate for respondents who fail to participate in the member-checks. All transcripts were validated and returned as approved by the participants.

Data Analysis Plan

This study's primary source of data was interviews with managers of IT professionals working in companies within Gwinnett County, Georgia. The data was aimed at addressing the use of telecommuting as a time-saving tool from the management's perspective. In addition, the study was focused on understanding management's perspectives on the issues associated with telecommuting.

Cypress (2019) indicated that the application of software in the qualitative analysis could improve validity by promoting trustworthiness during the structuring process. The computer-assisted analysis was also more efficient and time sensitive compared to manual data entry and thematic evaluation. Data analysis was conducted through NVivo version 12 software. The NVivo version 12 software was suitable for this study because data could be managed easily, simplifies the identification of themes, and saves time during classification (Maguire & Delahunt, 2017; Phillips & Lu, 2018). Another advantage of NVivo 12 was that it could handle large amounts of qualitative data in different formats such as PDFs, images, Microsoft Word, webpages, videos, spreadsheets, and social media information (Dollah et al., 2017). Researchers could also use NVivo 12 to arrange qualitative data in cases and themes and it also accepts different languages, thus, increasing flexibility (Phillips & Lu, 2018). Another essential tool in NVivo 12 was visualization, which can improve data interpretation and facilitate the exchange of data between team members. However, NVivo 12 also has various limitations that were considered before using the software for analysis purposes. For example, Dollah et al. (2017) indicated that NVivo 12 was time-consuming and requires

trained researchers to produce the best outcomes. In addition, NVivo 12 was expensive and required a significant amount of time to understand.

The collected data was sorted and coded appropriately before data analysis using NVivo 12 software. The software allowed the investigator to explore the collected data repeatedly and identify emerging themes until saturation was achieved. After completing and transcribing the interviews verbatim into word documents, the investigator exported the data to Nvivo 12 software for further structuring. During this process, the investigator continued reading and reflecting on the participants' responses to aid in the restructuring process. The Nvivo software helped identify the common words that were categorized into themes. The investigator continued grouping these codes to form broader categories of themes relating to the research questions. The investigator then compared and contrasted the codes constantly until saturation was attained. The resulting themes were then used to address the research questions and understand management's perspectives regarding the application of telecommuting to save time.

After coding the data, the investigator applied thematic analysis to arrange the participants' responses regarding the implementation of telecommuting as a time-saving tool (Elliott, 2018). The approach involved the identification of repetitive themes and marking using different codes. These codes were then evaluated, categorized, and interpreted to establish textural and structural descriptions of the participants' responses regarding the adoption of telecommuting as a time-saving strategy (Nowell et al., 2017).

Data analysis in qualitative research usually starts from the point of collection. The collected transcripts were used to address two sub-questions relating to

telecommuting's benefits and concerns from the management perspective. These findings were sent to the participants for their confirmation. In addition, the investigator used thick descriptions and also supported the research findings using multiple responses.

The next phase of analysis involved a description, classification, and interpretation of the theme categories. The identified themes were grouped to address the primary research question as well as the sub-questions. General themes were first presented to address the main research question, which involved the management perspective of adopting telecommuting as a time-saving tool for technology professionals in Gwinnett County. More specific themes were then presented to address IT management professionals experience when adopting telecommuting for employees. The resultant themes were used to address the research questions.

Issues of Trustworthiness

Trustworthiness was an important aspect of qualitative research as it involved the ability of study findings to be seen as credible, dependable, confirmable, and transferable (Nowell, et al., 2017). Korstjens and Moser (2018) indicated that trustworthiness improves the strength and value of research. Credibility assures that findings from a given study are close to the truth, while dependability addresses consistency (Connelly, 2016). In addition, transferability covers the generalizability of study findings in specific contexts (Forero et al., 2018). Confirmability minimizes the likelihood of researcher bias by ensuring that the outcomes are solely based on the participants' feedback (Maher et al., 2018).

Credibility

Credibility was established through member checking, where participants were allowed to provide feedback on the data collected during the interviews. Member checking was essential because it facilitated the confirmation of responses by the participants themselves, thus, minimizing the likelihood of misinterpretations by the investigator (Creswell & Poth, 2017). In addition, member checking reduced the possibility of researcher bias, where ambiguous responses were not confirmed. After verbatim transcription, the investigator sent copies of the transcripts and analysis to the participants to verify the consistency of the interpretations and their initial responses.

Transferability

Transferability was dependent on the generalizability of findings to entire populations and how they are applicable in different contexts (Creswell & Poth, 2017). In this study, transferability was improved by focusing on an in-depth or comprehensive description of the target phenomenon. The research's primary goal was to describe the role of telecommuting as a time-saving strategy from the management's perspective. Therefore, transferability required the investigator to provide detailed descriptions of the target phenomenon (Forero et al., 2018). In-depth descriptions of the phenomenon facilitated the external evaluation of the generalizability of the findings to all management staff in companies within Georgia. The researcher recommended that the reader may deduce their generalization.

Dependability

In qualitative research, it was important to constantly report changing contexts and their influence on results (Creswell & Poth, 2017). Researchers are required to document all the processes involved in collaborating and confirming findings (Forero et al., 2018). In this study, the investigator employed in-depth descriptions of telecommuting as a target phenomenon to facilitate the evaluation of the generalizability of findings to other companies. The investigator also enhanced dependability through audit trials. Additionally, all the interviews were conducted in the same way, and a step-by-step account of the process was conducted, supporting the study's replication.

Confirmability

In this study, the investigator kept a reflexive journal during data collection. Reflexivity and audit trails have been identified as potential strategies for addressing the confirmability of findings (Creswell & Poth, 2017). The investigator kept a reflective journal of the entire research process. Audit trails were used to ensure that the findings are based on the participants' responses by describing in detail the data collection and analysis process. Confirmability can also be viewed as the extent of neutrality demonstrated when reporting findings following researchers' and participants' interests (Abdalla et al., 2018). Thus, the investigator employed transcription verification and member-checking to allow participants to re-evaluate their responses and interpretations.

Ethical Procedures

Pietilä et al. (2020) indicated that it was important to address ethical considerations involving human participants' protection in qualitative research. The

investigator contacted the Walden IRB through email to seek authorization for this study (see Appendix C). After approval, the investigator started recruiting participants through email. The investigator explained the purpose and objectives of the study to potential respondents, highlighting the potential benefits and hazards of participation. The participants were assured of confidentiality of their private information. The investigator informed the respondents that participation was voluntary and that they could quit at any stage or ignore sensitive questions during the interviews. After agreeing to participate, the respondents signed consent forms to sign that they were participating in the study voluntarily (see Appendix D). The consent forms were sent to the participants through email. The consent form contained the purpose and objectives of the study, and the benefits and potential hazards of participation. In addition, the consent form included information on how the participants' rights were protected throughout the study.

The participants' confidentiality was maintained by using unique codes in place of their names. The codes were the only identifiers on the interview transcripts. The participants' contact addresses, cell phone numbers, emails, and potentially identifying information was eliminated from the final study. The participants could withdraw from the interviews at any stage or avoid responding to sensitive questions without repercussions. The participants were assured that their data was only meant for research purposes and will be destroyed after three years as per IRB guidelines. The transcripts were stored in a secure cabinet only accessible to the investigator. The video recordings for the interviews from Zoom were stored in a password-protected computer. The investigator maintained an original and a backup copy of the data should they be needed

for references. The data and recordings will be deleted permanently from the computer after three years as per IRB requirements. The audiotapes would also be discarded from the computer after five years from the study completion date.

Summary

The purpose of this qualitative exploratory case study was to explore and understand the management perspective in adopting telecommuting as a time-saving tool for IT professionals in Gwinnett County, Georgia. In this chapter, a comprehensive discussion of the methodological procedures that was employed in the study was included. An exploratory case study design was used in this study to evaluate managements' perspective on the adoption of telecommuting as a strategy for timesaving. Convenience sampling was used to select 20 IT management professionals to complete the interviews. The investigator used a semi-structured protocol to administer the interviews after approval from Walden IRB and the target companies. After signing consent forms, the respondents participated in the interviews. The audio-recorded interviews were transcribed and evaluated using NVivo 12 software through thematic analysis. In Chapter 4, I present a detailed discussion of the data analysis results.

Chapter 4: Results

The overall growth in technological innovation has underpinned the adoption of telecommuting. The adoption of teleworking was associated with advantages such as decreased operational costs, reduced environmental pollution, diminished traffic delays, and improved employees' work-life balance (de Vries et al., 2018). The United States Bureau of Labor Statistics (2019) estimated that before the COVID-19 pandemic, approximately 8% of all employees in the United States worked from home for at least 1 day a week. Close to 2.5% of the United States workforce worked full-time remotely between 2017 and 2018. Conversely, the COVID-19 social distancing safety protocol initiative has increased the prevalence of individuals working from home. Furthermore, according to the Federal Reserve Bank of Atlanta (2020), 10% of the full-time workforce will continue to work from home 5 days a week after the COVID-19 pandemic is over. In addition, it was estimated that about 37% of jobs in the country could be performed remotely (Dingel & Neiman, 2020).

The need to conduct this exploratory case study was supported by the limited number of qualitative studies assessing management's perception of telecommuting as a time-saving tool among IT management professionals. The majority of the studies conducted focused on the impact of telecommuting on employees and organizations in general (Chung & Van der Horst, 2018). Additionally, there is conflicting evidence on the advantages and limitations associated with teleworking. Thus, the purpose of this qualitative exploratory case study was to explore the management perspective in adopting telecommuting as a time-saving tool. The central question sought to be answered was,

what is the management perspective in adopting telecommuting as a time-saving tool for technology professionals in Gwinnett County, Georgia? The two subquestions that guided the study are were: (a) What are the concerns that IT management professionals have regarding adopting telecommuting for employees? (b) What are the benefits of adopting telecommuting as perceived by IT management professionals? The subsections discussed in this chapter are the research setting, demographics, data collection, data analysis, evidence of trustworthiness, study results, and summary.

Research Setting

This study was conducted using the LinkedIn Subgroup setting, a social media networking platform. Data were collected from IT management professionals working for firms based in Gwinnett County, Georgia. The participants were recruited through LinkedIn subgroup membership. Data from the 16 sampled participants were collected using a 17-item semistructured interview protocol (see Appendix B).

Demographics

In this qualitative exploratory case study, data were collected from 16 participants who were predominantly male (n = 13, 81.25%). Three (18.75%) participants out of the 16 were female. Half of the participants (n = 8, 50%) were between the age of 30 to 50 years, while 50% were older than 50 years (n = 8). The majority of the participants had a master's degree (n = 10, 62.50%). Three participants (18.75%) had doctorate degrees. Two respondents (12.5%) had bachelor's degrees, while one had some college (6.25%) as their highest academic qualifications. Many of the participants (n = 8, 50%) have been

managers for 11 to 20 years. Four (25%) had 1 to 10 years experience, while the others had 21-30 years (n = 4, 25%).

Table 1

*Information Technology Managers' Demographic Characteristics (*N = *16)*

Characteristics	Frequency	Percentage
Gender		
Male	13	81.2%
Female	3	18.8%
Age		
18 – 30 years	0	0.0%
30 – 50 years	8	50.0%
Over 50 years	8	50.0%
Education Level		
Some college	1	6.3%
Undergraduate Level	2	12.5%
Masters Level	10	62.5%
Doctorate Level	3	18.7%
Years of Experience		
1 – 10	4	25.0%
11 – 20	8	50.0%
21- 30	4	25.0%

Data Collection

In this qualitative exploratory case study, data were collected from 16 IT management professionals in Gwinnett County, Georgia. Twenty participants fulfilled the inclusion criteria, but the saturation point was achieved after data were collected from 16 participants. Data were collected using a 17-item interview protocol (see Appendix B). The interview questions allowed collecting the participants' perception and experience of telecommuting as a time-saving tool. Sixteen interviews were conducted via Zoom because of the COVID-19 social distancing directive. The shortest and longest interviews

lasted for 13 and 28 minutes, respectively. On average, the interviews lasted for 20.5 minutes (see Table 2).

Table 2

Length of Each Interview

Participants	Interview Duration in Minutes
PA	24
PB	19
PC	19
PD	15
PE	27
PF	21
PG	15
PH	23
PI	15
PJ	17
PK	27
PL	20
PM	13
PN	28
PO	26
PP	14
Average	20.5

Collecting data via Zoom allowed for the interviews to be recorded automatically. As an innovative video conferencing platform, Zoom was an easy-to-use, secure, and cost-effective platform (Archibald et al., 2019). The platform's data management feature helped me to systematically organize the 16 transcripts, avoiding any duplication or confusion. Zoom's feature that allows users to record and store sessions without relying on third-party software helped me maintain the respondents' confidentiality (Archibald et al., 2019). Additional features such as real-time meetings encryption, user-specific

authentication, and the capability to back up the recordings supported Zoom's suitability as a research tool (Zoom Video Communications, Inc, 2021).

The recorded audios were transcribed into 16 different Microsoft Word documents using NVivo version 12 software. The data collection process conducted was concordant with the planned activities discussed in chapter three. Specifically, data were collected via Zoom using the developed semistructured interview protocol (see the Appendix). The audios were then transcribed and sent to each participant to confirm whether the data accurately represented their responses. Although there were various qualitative data collection methods such as observations, interviews were more relevant in this qualitative exploratory case study. The only variance identified was that I had estimated that the interview would last for approximately 45 to 60 minutes. Conversely, the longest interview took 28 minutes. Although the interviews lasted for a shorter period than expected, the participants responded comprehensively to the relevant interview questions.

Various challenges were experienced during the data collection process. The first challenge was a technical issue. During the interview with PG, my personal computer forcefully rebooted in the middle of the session. We proceeded with the interview once the personal computer rebooted. The second challenge was associated with time. For instance, the interview with PK started 5 minutes late because of a conflict in the schedule.

Another instance was that the primary investigator had to reschedule the interview with PB twice on the same day because of conflicting schedules. A third challenge was

disruptions. Specifically, PP had a work-related disruption, causing a few minutes of pause on the data-collection process. Though challenges were experienced during the data collection process, the issues did not significantly impact the activity because the principal investigator anticipated difficulties. The interviews conducted via Zoom using a 17-item interview protocol helped collect adequate data to answer the research questions.

Data Analysis

Thematic data analysis was conducted in a seven-step process (Creswell & Creswell, 2017). First, I organized the 16 transcripts, ensuring all the documents were formatted similarly. Second, the 16 transcripts were read to gain a general sense of the information, allowing the principal investigator to reflect on the respondents' meaning. Reading the transcripts helped identify the participants' general ideas and review the information's depth. Third, the primary investigator recorded the general thoughts on an idea's sketchbook. Fourth, the 16 interview transcripts were imported into NVivo, a computer-aided qualitative data analysis software (CAQDAS). The process involved clicking on the *external data* tab on the menu bar. Subsequently, the *documents* ribbon was selected, and a window that allowed the principal investigator to import the transcript from a file on the personal computer appeared. The imported transcripts were placed in the *Sources* folder. Fifth, the data were coded using NVivo. The coding process involved organizing the data by highlighting chunks of similar texts together using *in vivo* terms. The codes identified included interactions, technology failure, distractions, unavailability, work-life balance, traffic, productivity, security, real-estate, office cost, flexibility, professionalism, time, meetings, talent, and planning (see Table 3).

Table 3

Codes and Frequency

Codes	Frequency
Interactions	14
Technology failure	5
Distractions	15
Unavailability	8
Work-life balance	31
Traffic	26
Productivity	36
Security	5
Real estate	9
Office cost	32
Flexibility	12
Professionalism	14
Time	20
Meetings	27
Talent	8
Planning	8

Sixth, the codes were combined to develop seven themes included in NVivo's *nodes* folder (see Table 4). The process of creating the nodes included (a) clicking on the *create* tab located on the menu bar, (b) selecting the *node* ribbon, (c) recoding the first theme, and (d) repeating the process for themes two to seven. One theme, effective time management, was identified for the central question. It was identified that the management perspective was adopting telecommuting as an effective, time-saving tool. Three themes, accountability, lack of physical human interactions, and work-life balance were identified as the IT professionals concerns with adopting telecommuting. The three themes associated with the second sub-question are increased productivity, cost-saving, and diverse hiring options. The IT management professionals perceive the adoption of telecommuting as beneficial.

Table 4

Codes and Respective Themes

Codes	Themes
Traffic, productivity, and professionalism.	Increased productivity
Real-estate and office cost.	Cost-saving
Technology failure, distractions, unavailability, security, and professionalism.	Accountability
Interactions, meetings, and planning	Lack of physical human interactions
Traffic, flexibility, professionalism, and time.	Effective time management
Work-life balance, traffic, and productivity.	Work-life balance
Talent.	Diverse hiring options

Seventh, the participants' verbatim responses were categorized into the respective themes. The process involved highlighting a chunk of text on the appropriate source, right-clicking, and coding the data to the relevant theme. The process was repeated for each source. In published studies, researchers have supported the effectiveness of using CAQDAS such as NVivo to organize and process qualitative data (Maher et al., 2018; Robins & Eisen, 2017; Wilk et al., 2019). Robins and Eisen (2017) posited that the use of CAQDAS has increased, allowing qualitative researchers to analyze more data effectively.

In their study, Maher et al. (2018) indicated that using NVivo increases a study's rigor by fostering data management and supporting thematic analysis and write-up development. The software supports a researcher-driven coding process increasing an understanding of the issue of focus (Wilk et al., 2019). In this project, using NVivo helped the principal investigator effectively manage the 16 transcripts in one central file,

identify the prevalent themes from the codes, expedite the qualitative data analysis process, and visually display the data in the form of figures (Maher et al., 2018; Robins & Eisen, 2017; Wilk et al., 2019). Additionally, the software allowed the principal investigator to systematically analyze the participants' responses, increasing the qualitative data analysis process (Feng & Behar-Horenstein, 2019).

Evidence of Trustworthiness

Different from quantitative researchers who use internal validity, reliability, objectivity, and external validity to establish rigor, this qualitative exploratory case study trustworthiness was established. The methodology's and findings' robustness were established using credibility, transferability, dependability, and confirmability (Forero et al., 2018; Korstjens & Moser, 2018). The trustworthiness checks are essential because they enabled the principal investigator to rigorously establish the truthfulness and veracity of the findings (Stringer, 2014).

Credibility

In this project, adhering to the strategies that foster credibility helped establish that the results derived from the participants' perspective are accurate, believable, and credible (Forero et al., 2018; Korstjens & Moser, 2018). The strategies adhered to include an expert review, transcription verification, and member checking. An expert review of interviews used during data collection supported the collected responses' credibility. Adhering to member verification and checking helped ensure that the findings represent plausible information derived from the IT management professionals' original data (Forero et al., 2018; Korstjens & Moser, 2018).

Transferability

The findings in this qualitative exploratory case study, a comprehensive description of the data collection and analysis processes were included to support transferability. Another strategy used to promote transferability was that the primary investigator purposefully sampled the participants. Collecting data to saturation also helped increase the study outcomes transferability (Forero et al., 2018; Korstjens & Moser, 2018).

Dependability

The principal investigator ensured that the findings are reputable using the strategies. First, a comprehensive description of the qualitative methodology applied was provided. Second, a systematic explanation of the data analysis process was provided supporting replication. Third, all the interviews were conducted similarly. The processes included requesting the participants for their verbal confirmation, collecting demographic information, and asking the respondents teleworking-related questions (Forero et al., 2018; Korstjens & Moser, 2018).

Confirmability

Other researchers can confirm the findings in this qualitative exploratory case study. The first strategy applied to ensure confirmability included providing the data collection instruments (Forero et al., 2018; Korstjens & Moser, 2018). Second, the participants' verbatim responses were included in the study results section, ensuring that the data interpretation was not based on the principal investigators' imagination. Third, the findings were supported by findings retrieved from current studies. Fourth,

establishing an audit trail underpinned the development of a comprehensive track record of the data collection activities and process. Fifth, a reflective journal was maintained during data collection and analysis processes (Forero et al., 2018; Korstjens & Moser, 2018).

Study Results

All the participants indicated that telecommuting had been adopted at their organizations. Some participants indicated that telecommuting had been partially adopted at their organization before the COVID-19 pandemic. Conversely, the pandemic resulted in full teleworking adoption in most organizations where the participants work. The thematic analysis of the 16-sources of data helped retrieve seven themes, increased productivity, cost-saving, accountability, lack of physical human interactions, effective time management, work-life balance, and diverse hiring options (See Table 5).

Table 5

Research Questions, Themes, and Participants who Endorsed

Research Questions	Themes	Number of Participants who Endorsed the Themes
Central Question: What is the management perspective in adopting telecommuting as a time-saving tool for technology professionals in Gwinnett County, Georgia?	Effective time management	9
Sub-question 1: What are the concerns that IT management professionals have regarding adopting telecommuting for employees?	Accountability	11
	Lack of physical human interactions	10
	Work-life balance	9
Sub-question 2: What are the benefits of adopting telecommuting as perceived by IT management professionals?	Increased productivity	16
	Cost-saving	12
	Diverse hiring options	7

Central Question

The central question sought to be answered in this study was: What is the management perspective in adopting telecommuting as a time-saving tool for technology professionals in Gwinnett County, Georgia? All 16 IT management professionals perceived telecommuting as an effective, time-saving tool.

Theme 1: Effective Time Management

Nine respondents perceived telecommuting as an effective, time-saving tool because it enables employees to avoid the daily challenges associated with commuting and adopt a flexible work schedule. PA explained that the traffic in Atlanta is a challenge, causing employees to spend a significant amount of time commuting to and from work. Conversely, the adoption of telecommuting has eliminated the work-related stress and

amount of time wasted in traffic. PA explained that “traffic is hectic in Atlanta. The time spent in traffic and stress associated with getting to work affects the workers' demeanor throughout the day.” The manager added that “with teleworking, we have discovered that because employees saved that time they used to spend in traffic, they are being more productive and managing their time properly.” PI also explained the manner telecommuting has helped him regain the hours he used to spend in traffic. He posited that “I used to commute and spend two to three hours in traffic daily. We have regained the time resulting in more productive workers because they are no longer tired and stressed out because of traffic.” PM was of a similar opinion because he said, “telecommuting helps decrease the time spent commuting to the office.”

Similarly, PG said, “teleworking eliminates the commuter time, providing employees with an additional time in the day that they traditionally did not have when commuting.” Another respondent, PC, indicated that the increase in productivity could evidence the efficacy of telecommuting as a time-saving tool. She said, “employees get work done faster, and I feel that they are more productive.” The manager discussed the flexibility associated with teleworking, enabling employees to manage their time effectively. PC added that “if the employees happen to have personal commitments, they can handle them and work on a different schedule to achieve the set goals.” PD argued that telecommuting is an effective, time-saving tool because it fosters efficacy. He said, “telecommuting enhances employees’ promptness and commitment.” Similar to PD, PN said, “teleworking is effective because it supports timely collaboration because all employees are online.”

PE discussed the freedom telecommuting provides employees, enabling them to manage their time fostering job satisfaction effectively. He posits that "telecommuting provides employees the freedom to get away from office routine and manage their time, an advantage that results in employee job satisfaction." In addition, teleworking has helped employees eliminate external factors such as road accidents that used to influence the time spent on the road, supporting the completion of tasks within the predetermined timeframe. PK explained that "if I leave home thinking that I will be able to make it to work in 15 minutes, but I spend an extra 30 minutes on the road because of external factors that mess up my entire calendar for the day."

Subquestion 1

The first sub-question sought to be answered, what are the concerns that IT management professionals have regarding adopting telecommuting for employees? The sub-question helped collect data on the employee-related issues associated with teleworking instead of working from the organization's office. Although factors such as technical problems and security were discussed by some respondents, work-life balance, lack of physical human interactions, and accountability were identified as the most prevalent concerns among IT management professionals.

Theme 2: Accountability

Eleven participants were concerned that it would be challenging to account for the workers when employees telecommute because they are not within sight. Conversely, the respondents indicated that they manage professionals who are committed to their work. The issue of accountability is more prevalent among low-level employees. Specifically,

PH indicated that "I do not see a problem with telecommuting, but I will imagine it might be a challenge if someone was managing low-level employees who need consistent follow-up." PI explained accountability from the perspective that employees differ. He said, "there might be people who need more guidance and a more structured environment." PI added that "the inability to monitor employees strictly is a challenge, making it essential to have workers who can be trusted to honor the company's ethics and not abuse the privileges."

PA indicated that "traditionally managers monitor employees at their desk and watch their computers to ensure that they are not on Facebook." He added that "when we transitioned to remote working, monitoring is difficult because I cannot see them or know what they are doing." PB discussed her concerns about the employees' availability, multitasking, and work ethic. She said, "employees' availability is a concern. Sometimes employees are not available during the required hours because they are multitasking and not managing time as they would if they were in the office." PJ supported the need to document the employees' performance because "some employees are usually not available and not doing what they are supposed." Conversely, PA indicated the need "to trust that employees will keep up the same level of work ethic when at home." PE argued that "physical presence is always an issue, but if you have a policy that people abide by, things work out effectively."

Similarly, PD indicated that there are scenarios where teleworkers are not available during critical decision-making. He said, "we experience issues with employees' availability for critical decisions that need to be made at the moment. Also,

the commitment of the employees to the goals and the schedules that are set out can be a challenge." Additionally, PD indicated that "because employees are not directly observed, there is a concern about what they say and their activities, if they do not abide by the company's ethics or code of conduct."

PG posits that in teleworking, it is challenging to ensure that employees are working. He indicated that "evaluation within telecommuting is challenging because it is hard to assess the full team's effort because you are not in the same room." PK explained that "there can be some level of abuse where folks may not necessarily be where they claim." PN indicated that accountability is a problem because there is no way for the management to determine whether the employees' excuse is true. He said, "when you try to communicate to people or the staff, and they are not online, they might give you all kinds of reasons you cannot prove, and you just have to believe what they are telling you."

Theme 3: Lack of Physical Human Interactions

It was identified that IT management professionals are concerned about the lack of physical human interactions associated with teleworking. Ten participants indicated that physical human interactions are essential in the workplace. PC indicated that physical interaction is essential because it supports collaboration. She explained that "being in the same room provides opportunities to have spur of the moment ideas or collaborate. In teleworking, everything is scheduled. I am sure the team misses the opportunity to go up to the whiteboard and discuss ideas." She added that "we cannot discount the value of being in the same room and the spontaneity that tends to happen."

PG indicated that the lack of physical human interactions makes it challenging to "create and maintain a culture within a team environment." PH explained that the lack of physical human interactions in teleworking has resulted in a transactional work environment. He indicated that "my relationship with most of my peers and those I manage, seem to have become more transactional. Social interactions are not happening. We are missing the social interaction of humans, which I think is very important in every organization.

PI explained his preference for physical interaction because it helps avoid misinterpretation of messages and supports timely follow-up. PP also indicated that when communicating via phone, it is difficult to read body language. PI said that "I prefer to interact with people physically. When you are on a phone call, sending a text, or an email, sometimes the message can be misinterpreted." Similarly, PJ argued that "not being able to see your people and assess their wellbeing, and the other things that you would on a normal day-to-day basis if we were not teleworking is a challenge." PL also indicated that if employees do not use video during telecommuting, it becomes challenging to know how everyone is doing.

Unlike PI and PL, PM's concern of lack of human interaction was focused more on the customers and employees. He indicated that "when you are interacting with customers and colleagues, there is a challenge of being able to have that personal touch, but we try to compensate by using video." PO indicated that although video conferencing can help mitigate the issue of a lack of interaction. He said that "I think we are almost there. However, I still think there is a little that you cannot replace with

physical contact." PK explained that although teleworking has been effective, physical human interactions are missing, limiting innovation. He said that "the only thing you miss in a telecommuting arrangement is human interaction. It does not provide an avenue for you to be able to read people's body language."

Theme 4: Work-life Balance

Nine participants were concerned that telecommuting was adversely affecting the employees' work-life balance. It was identified that the lack of specifications of when the working period commences and ends could cause a disequilibrium, resulting in negative outcomes such as burnout. PA indicated that "there is no line of demarcation between work and life. People wake up, and they go straight to work." The participant added that the distractions experienced at home contribute to the work-life imbalance. He said, "there is a lot of distraction during the day making it difficult for employees to separate work from other aspects of their lives." In addition, the distractions affect the employees' ability to work within the traditionally designated period, causing them to work late in the night. PA explained that "it is common to see employees online at 9 and 10 pm because they are trying to catch up as they could not write during the day." Similarly, PG explained that telecommuting "is blurring the lines between when work starts and ends." She provided an example by saying that

> the most common work period begins at eight or nine o'clock and ends at five or six pm, but now with telecommuting, the expectation is that you are available beyond the five to six pm range. It is common to get requests at eight or nine pm because you have the technology to complete the work.

Another participant, PD, responded that his concern with teleworking is that employees tend to work beyond the scheduled time. He said, “employees sometimes stretch work beyond the work hours, which affects their personal life, and impacts the work-life balance.” PF indicated that his concern is that the employees are unknowingly working more. PF said, “a negative of teleworking is that people are unknowingly spending more time working than they normally would if they were sitting in an office because they are comfortable at home.” PH discussed that telecommuting has resulted in scheduling meetings beyond the working periods, causing burnout. He explained that “people are scheduling meetings before the normal time when work is supposed to start. We are having seven am or six pm meetings because they assume you are home. The scheduling of odd hours meeting is negatively impacting time management.” He added that “I am hearing many people complaining about burnout because they seem to be working more hours.”

Similar to other participants, PL indicated that working from home limits a person from differentiating work and personal time. He said that “sometimes if you are not careful, you can let your business day creep into your personal day. If a person does not pay attention, the workday can take over personal time.” PM indicated that using deliverables to determine whether employees are performing their jobs is causing people to work more. He said that “people work many hours with telecommuting because employees are committed to achieving the deliverables within defined timelines. Sometimes, you might work more than the common eight hours.” PO indicated that

teleworking had caused instances where employees are called late because there is no physical boundary. Also, PP explained that

> when telecommuting, employees work more because there is no separation between work and life. Most people leave their office at five, and you are done, but when you are at home, you can pick up your laptop after five and work until about seven.

Subquestion 2

The second sub-question that guided this project is, what are the benefits of adopting telecommuting as perceived by IT management professionals? The identified benefits included cost saving, increased productivity, and diverse hiring options. In addition, it was identified that the benefits of teleworking outweigh the concerns because telecommuting is creating a win-win situation, benefiting the employees and organizations.

Theme 5: Increased Productivity

The increased productivity benefit was identified in all the 16 participants' responses. PA attributed the increase in productivity to telecommuting and the employees' professionalism. He indicated that "we have witnessed an increase in productivity because we have mature employees who know what to do." PC indicated that telecommuting helped us "stay on track and be productive." PA, PE, PF, PI, PJ, PK, PL, PM, PN, PO, and PP attributed the decrease in the time spent in traffic as one of the factors that have caused an increase in productivity. PA explained that "telecommuting has helped me be more productive because I no longer spend time in traffic." Similar to

PA, PE indicated that "telecommuting decreases the time spent in traffic. Employees are using that time to do their work."

PF also said that "when employees telecommute, they end up spending more time working than when in an office, which is a positive for the organization." In addition to allowing more communication with their customers, PG indicated that telecommuting "positively affects productivity because employees now have additional time in the day that they used to spend when commuting." PN quantified the increase in production. He said that "productivity has gone up by over 60% to 70%, the past few years, because of telecommuting, because people make sure their work is done." In addition to the decrease in the time spent in traffic, the increase in productivity was associated with reduced workplace-related distractions such as watercooler gossips and smoke breaks. PD explained that "I will say that telecommuting decreases the time spend commuting. Also, the traditional office work distractions are eliminated increasing productivity."

Theme 6: Cost Saving

Twelve participants attributed teleworking to cost-saving. Both organizations and the employees were saving on cost. It was identified that the organization was saving on cost because they are not incurring some operational expenses. The first operational expense reduced is that companies are not incurring rental or real estate-related costs. PA indicated that "we are saving on real estate because we no longer need to maintain a high-rise building or pay so much rent. Organizations can downsize their office building." PD posited that "the shedding of real estate space also helps in increasing the bottom line." PE explained that "the company benefits in terms of the operational cost reduction, by

lesser use of the real estate." PF stated that "companies no longer need real estate, resulting in cost saving." PI said that "we do not have to maintain big offices that result in expenses. The company is experiencing some cost savings." PL explained that "the company is looking at scaling down physical office space." PN indicated that "telecommuting has enabled us to reduce our overall office budgets because a lot of people do not need to be at the physical location anymore."

Second is the utility cost associated with maintaining a workplace. PA indicated that "there have been tremendous cost savings, even though we have invested a lot of money into technology. We do not have to maintain the workspace eliminating expenses such as providing coffee for employees." PC outlined that "we have been saving on costs that we otherwise incur when people were coming in every day." PE stated that "the company benefits from, energy savings because there is a limited number of people in the office. Also, organizations no longer have to pay for the cleaning crew and parking garages." PI explained that "the company is no longer experiencing the expenses associated with traveling to conferences and meetings because they are being held virtually."

The third operational expense reduced is associated with the production of documents. PD said, "costs of production of documents have reduced." Similarly, PH indicated that "we used to spend a lot of money buying printing paper. Now that people are teleworking, the company is not spending a lot of money on printing."

The employees save on fuel because they do not commute daily. PD indicated that "there is a reduction in carbon footprint because employees do not drive much as required

in a traditional workspace." PP indicated that telecommuting had enabled her to save on gas. Similarly, PM said that "we can cut down on costs such as travel, a significant expense in our industry." Similarly, PN stated that "telecommuting has solved our problem of travel, reducing cost." PO explained that "I have seen a reduction in the amount of fuel I have to use. Instead of fueling my car once or twice a week, I do that every two or three weeks now."

Theme 7: Diverse Hiring Options

Seven IT management professionals indicated that teleworking had enabled them to hire employees beyond their geographic location. PA indicated that telecommuting had enabled him to hire employees around the continent. He said, "I can have team members in India or Africa, whereas my office is in Atlanta. We can attract the best of talent in the world." PF, PH, PI, PJ, and PL argued that they could hire employees from different states through teleworking. PF indicated that "it has expanded the hiring pool. There are some competent folks I work with that do not live in Atlanta. Now I can hire from Houston, New Jersey, Southern Florida, and the rest of the United States." PI explained that "now, we can recruit people from all over the country. I think telecommuting opens us to more talent and more opportunities."

PJ explained that "I think telecommuting will help us attract and retain talent." PK indicated that telecommuting fosters intercontinental collaboration. He said that "now that we have tools that we can use to collaborate or edit the same document designed allows me to work with people in someone in Australia, India, China, and England." PL

explained that "telecommuting opens up the pool of people for which you can interview or hire for a particular position. It helps to attract more talented people to fill the roles."

Summary

The purpose of this qualitative exploratory case study was to explore the management perspective in adopting telecommuting as a time-saving tool. Data were collected from 16 IT management professionals using a 17-item semi-structured interview protocol to fulfill the purpose. The IT management professionals were given pseudonyms PA to PP work at organizations based in Gwinnett County, Georgia. The interviews that lasted for 328 minutes were conducted via Zoom and transcribed onto 16 Microsoft Word documents. Zoom was used as a research tool because it is a secure and cost-effective platform. The data collection process performed was concordant with the procedure discussed in chapter three. Conversely, technical problems and conflicting issues were experienced during data collection.

The collected data were analyzed using a seven-step process that included formatting the transcripts, reading the collected data, coding the data, formulating themes, importing the documents into NVivo, and assigning relevant texts to the respective themes. NVivo was used because it helped the principal investigator to manage all 16 transcripts from one central file. The findings and methodology trustworthiness were enhanced through credibility, dependability, transferability, and confirmability.

The research questions sought to be answered are (a) what is the management perspective in adopting telecommuting as a time-saving tool for technology professionals

in Gwinnett County, Georgia? (b) What are the concerns that IT management professionals have regarding adopting telecommuting for employees? (c) What are the benefits of adopting telecommuting as perceived by IT management professionals? A thematic analysis of the data resulted in identifying seven themes: Increased productivity, cost-saving, accountability, lack of physical human interactions, effective time management, work-life balance, and diverse hiring options. The next chapter contains the results' discussion, conclusions, and recommendations.

Chapter 5: Discussion, Conclusions, and Recommendations

The need for remote work during the COVID-19 pandemic supported the prevalent adoption of telecommuting. Telecommuting is not a novel concept but working from home has been an essential practice because of the COVID-19 crisis (Organization for Economic Co-operation and Development [OECD], 2020). In 2016, approximately 43% of employees in the United States worked from home (Hensvik et al., 2020). Brynjolfsson et al. (2020) collected data from 25,000 respondents surveyed in April 2020. An analysis of the representative sample helped the researchers identify that 34% of the 25,000 surveyed employees in the United States had switched to teleworking during the pandemic.

This qualitative exploratory case study was conducted because there was limited literature on IT management professionals' perception of using telecommuting as a time-saving tool (Pirdavani et al., 2014). Assessing current literature helped identify that a limited number of studies had been conducted assessing the impact of teleworking on employees and organizations (see Chung & Van der Horst, 2018). Thus, the purpose of this qualitative exploratory case study was to explore the management perspective in adopting telecommuting as a time-saving tool. This chapter contains (a) the findings' interpretation, (b) limitation of the study, (c) recommendations, (d) implications, and (e) conclusions.

Interpretation of Findings

Seven themes were retrieved from the collected transcripts. The themes included (a) increased productivity, (b) cost-saving, (c) accountability, (d) lack of physical human

interactions, (e) effective time management, (f) work-life balance, and (g) diverse hiring options. This section contains an interpretation of the findings for each research question.

Central Research Question

The central question sought to be answered was, what is the management perspective in adopting telecommuting as a time-saving tool for technology professionals in Gwinnett County, Georgia? An analysis of the participants' responses helped retrieve one theme, effective time management. Telecommuting is an effective, time-saving tool.

Effective Time Management

A thematic analysis of the participants' responses helped identify that the IT management professionals perceive teleworking as an effective time management tool. The finding was concordant with existing literature. Specifically, Asgari et al. (2016), Jaff and Hamsa (2018), and O'Keefe et al. (2016) supported telecommuting as a time-saving tool because it helps employees avoid traffic during peak hours. The findings in this qualitative case study confirm the results in existing literature because participants identified that telecommuting fosters flexibility, allows employees to work remotely, and eliminates the time spent when commuting. In addition, the findings in this study extend knowledge by indicating that the decrease in telecommuting helps eliminate the time wasted in traffic and commuter-related stress, improving the employees' job satisfaction.

Subquestion 1

The first subquestion sought to be answered was, what are the concerns that IT management professionals have regarding adopting telecommuting for employees? The subquestion helped identify the issues that IT managers perceive to be challenging due to

adopting telecommuting. Different from Farrell (2017) and Stiles (2020), who reported that managers are concerned that teleworking results in decreased productivity, the identified issues in this qualitative exploratory study were accountability, lack of physical human interactions, and work-life balance.

Accountability

Lembrechts et al. (2016) identified that managers are concerned about the loss of supervisory control when telecommuting is adopted, associated with an increased peril of undesirable outcomes. Similarly, in this qualitative exploratory case study, it was identified that IT management professionals were concerned about the employees' accountability when teleworking. This study's findings extends knowledge because I identified that the managers are concerned about accountability, especially when managing lower-level employees. Conversely, if the employees are professionals, there was minimal concern because the workers were perceived as mature enough to fulfill the required deliverables.

Beno (2018) supported the need for managers to evaluate the employees who are suitable for telecommuting before it is adopted. Beno's (2018) argument is supported by the findings in this study because the participants explained that some employees might struggle with telecommuting because they are not well organized, have significant distractions at home, or are likely to abuse the company's privileges. Paulin et al. (2017) indicated that managers experience challenges controlling teleworkers. Managers are concerned about ensuring that the employees perform their responsibilities and are available during critical decision-making moments.

Lack of Physical Human Interactions

In this study, it was identified that IT management professionals are concerned about the lack of physical human interactions. The respondents argued that the lack of human interactions has created transactional relationships and difficulties in establishing an organization's culture. The concerns confirm the argument of researchers in existing literature who indicated that telecommuting hinders interpersonal skills development and impairs the organizational culture's enhancement (Boell et al., 2016; Scarfone et al., 2020). Additionally, it was identified that the lack of adequate collaboration hinders the development of spur-of-the-moment ideas, impends innovation, and results in communication misinterpretation. Morrison-Smith and Ruiz (2020) partially support the findings because, in their literature review of 255 studies, they identified that collaboration and the employee innovation are dependent on the organization's work culture.

Work-life Balance

It was identified IT management professionals are concerned that the adoption of telecommuting has negatively affected work-life balance. Asgari et al. (2016) argument differed from this study's findings because the researchers indicated that telecommuting is associated with improved work-life balance. The managers indicated that the lack of a clear distinction between when the work period begins and ends has resulted in situations where employees perform their duties beyond the traditional timelines. For example, managers argued that meetings are being scheduled beyond the normal working hours. Additionally, teleworking can cause a lack of differentiation between work and personal

time, resulting in burnout. Adisa et al. (2017), Felstead and Henseke (2017), and Sarker et al. (2018) supported this qualitative exploratory case study findings by indicating that telecommuting blurs the border between work and life dimensions.

Subquestion 2

The second subquestion was, what are the benefits of adopting telecommuting as perceived by IT management professionals? The identified benefits include increased productivity, cost-saving, and diverse hiring options. In addition, the benefits are associated with telecommuting efficacy in the short and long term.

Increased Productivity

The findings that teleworking increases productivity disconfirms results from some of the existing literature. Specifically, Farrell (2017) and Stiles (2020) identified that some CEOs perceive that the adoption of teleworking hinders collaboration resulting in decreased productivity. Differently, the findings that telecommuting increases productivity confirms results in existing research (Giovanis, 2018; Hoornweg et al., 2016; Khan et al., 2018). In this qualitative case study, all the respondents indicated that telecommuting results in increased productivity. In addition, Brueggen et al. (2019), Onyemaechi et al. (2018), Soenanto et al. (2016) indicated that telecommuting has a positive impact on the employees' performance. The IT management professionals supported that telecommuting positively affects productivity because employees do not spend time commuting, and there are minimal distractions at home compared to the traditional workplace.

Cost Saving

Although organizations have invested in telecommuting technology and software, most of the respondents indicated that cost-saving is a benefit of teleworking. The participants indicated that the organization and employees experience cost-saving. Telecommuting results in cost savings for the organization because it decreases the expenditure incurred when renting office space and eliminates operating costs associated with cleaning the premises, buying the employees' coffee, and printing. Telecommuting also results in cost savings for the employees because they spend less money buying gas. The finding is concordant with the existing literature because researchers have supported that telecommuting is associated with decreased travel costs (Lila & Anjaneyulu, 2017; Shabanpour et al., 2018; Zia & Bilal, 2017). The decreased traveling helps reduce traffic congestion and air pollution.

Diverse Hiring Options

Karia and Asaari (2016) supported that managers perceive that telecommuting provides them with an opportunity to recruit skilled workers globally. In this qualitative exploratory study, it was identified that the IT professional management perceive diverse hiring options as benefits of adopting teleworking policies. Adopting telecommuting enables managers to search for competent employees at the global level because the workers do not need to relocate. The findings extend existing knowledge by increasing the number of current qualitative studies supporting diverse hiring options as a benefit for adopting teleworking.

Limitations of the Study

This qualitative exploratory case study was associated with methodological limitations that affect trustworthiness. The first limitation was that triangulation was not conducted, limiting credibility. In this qualitative exploratory case study, data were collected using interviews only (Forero et al., 2018; Korstjens & Moser, 2018). A second limitation was associated with the case study design selected. Though applying the design helped assess the IT professional managements' perspective of telecommuting as a time-saving tool, the cause-effect connection was not established (Queiros et al., 2017). Thus, the challenge of establishing a cause-effect correlation is limited in developing generalizable conclusions. The third limitation was related to the small sample size of 16 participants involved in the study. Although participants were recruited up to the point of saturation, the sample size was small, limiting the claim that valid conclusions were achieved (Queiros et al., 2017). Conversely, recruiting a sample size beyond the saturation point would have hindered the in-depth and inductive analysis of the collected data.

A fourth limitation was associated with the 17-item interview protocol used during data collection. The open-ended interview protocol was used to collect the participants' perspectives in adopting telecommuting as a time-saving tool (Queiros et al., 2017). The limitation was that the narrative data provided by the respondents cannot be independently verified. The IT management professionals' responses could be affected by selective memory, attribution, telescoping, and exaggeration. There was a possibility that the respondents could have forgotten some experiences or represented their

perspective as more significant (Queiros et al., 2017). The limitation was decreased by supporting the findings with published and credible literature. Despite the limitations, this qualitative exploratory case study's findings were accurate and credible.

Recommendations

Five recommendations grounded in the strengths and limitations of the current study and existing literature were identified. The first recommendation was for researchers to conduct quantitative studies. In the current qualitative case study, it was identified that telecommuting was an effective, time-saving tool that results in increased productivity, fosters cost-saving, and provides managers with diverse hiring options. Conversely, the findings were based on narrative data, which was considered more subjective than quantitative data. Researchers could conduct quantitative studies to assess the causal impact of an independent variable on a dependent outcome (Queiros et al., 2017). For instance, future researchers can conduct quantitative studies assessing the impact of telecommuting on specific productivity indicators such as revenue, customer satisfaction, and profit margins. It was anticipated that conducting quantitative studies could facilitate the collection of numerical data that could be analyzed using statistical tests, underpinning the development of generalizable conclusions (Creswell & Creswell, 2017).

The second recommendation was for future researchers to conduct mixed-methods studies, allowing for quantitative and qualitative data collection. A strength of conducting studies guided by a mixed-method methodology is that it helps mitigate the limitations of using either a qualitative or quantitative approach (Creswell & Creswell,

2017). When studies are conducted using a mixed-methods methodology, it allows for the in-depth assessment of a problem and collection of quantitative data that can be used to determine the causal impact of an independent variable of the outcomes of focus. The gap in the literature supports the need to conduct studies guided by a mixed-method methodology. There was a gap in research because only one study out of the articles included in the literature review has been conducted using a mixed-methods methodology (Lembrechts et al., 2016). Thus, future researchers can interview IT management professionals and collect quantifiable data on a measurable outcome such as sales or customer satisfaction, allowing for the comprehensive assessment of the impact of telecommuting.

The third recommendation is for future researchers to conduct a similar study but collect data from different sources using multiple methods, promoting triangulation. Data triangulation is essential because it allows for collecting data from different perspectives (Korstjens & Moser, 2018). Data triangulation can involve collecting data at different times in a year, from multiple sites, and involving participants from varying levels. For example, researchers can recruit IT management professionals, rank, and file IT workers, achieving data triangulation (Korstjens & Moser, 2018). Consequently, future researchers can achieve method triangulation by conducting interviews and focus groups. The process of achieving method triangulation involves conducting two sets of interviews, one for the managers and another for the employees. Also, a focus group involving both the IT professional management and teleworkers can be conducted, achieving triangulation (Forero et al., 2018; Korstjens & Moser, 2018). In the future, researchers

can fulfill the investigator's triangulation by involving two or more individuals in the qualitative data coding, analysis, and interpretation processes. Fulfilling method, data, and investigator triangulation can help mitigate the lack of triangulation limitation in the current qualitative exploratory case study promoting the findings' credibility (Forero et al., 2018; Korstjens & Moser, 2018).

A fourth recommendation is for future researchers to conduct systematic reviews assessing the impact of telecommuting on work-life balance. An analysis of existing literature helped identify a lack of consensus on the impact of telecommuting on work-life balance. Asgari et al. (2016) argue that the adoption of telecommuting fosters work-life balance. Conversely, Adisa et al. (2017) and Felstead and Henseke (2017) explained that telecommuting has a negative impact on work-life balance because it limits the distinction between the two components. A systematic review of studies conducted using a qualitative, quantitative, and mixed-methods methodology can help clarify whether telecommuting positively or negatively impacts work-life balance.

The fifth recommendation is for future researchers to recruit participants from other counties and states in the country. Only IT management professionals from Gwinnett County, Georgia, were recruited in the current study. The findings in this study extend knowledge by indicating that the increase in telecommuting helps eliminate the time wasted in traffic and commuter-related stress, improving the employees' job satisfaction. However, certain factors such as traffic cannot be generalized to states such as Montana, South Dakota, Vermont, Wyoming, and Alaska that have less risk of

congestion during rush hour, limiting the time people spend commuting to work and back (McCann, 2021).

The sixth recommendation is for additional studies to assess telecommuting as a time-saving tool during the COVID-19 pandemic. All of the articles included in the literature review were published before the COVID-19 pandemic, limiting an understanding of how teleworking has influenced time-saving, cost, productivity, and employee interactions. In the current projects, most IT professional management started telecommuting after the COVID-19 social distancing initiatives were implemented. Thus, many of the respondents have had less than two-year experience in teleworking, limiting the long-term generalization of the concerns, benefits, and perspective that telecommuting fosters time-saving.

Implications

The collected data helped answer the research questions to a significant extent. The current study has implications on social change, methodology, theoretical framework, and empirical evidence. This section also contains a description of the practice recommendations.

Implications for Social Change

In the current qualitative exploratory case study, it was identified that telecommuting is an effective, time-saving tool that is associated with benefits, specifically, cost-saving, increased productivity and access to diverse hiring options. Conversely, IT management professionals are concerned about work-life balance and lack of physical human interactions. The concern that the adoption of telecommuting can

adversely affect the employees' work-life balance has implications on individuals and their families. The disequilibrium between work and life can result in job dissatisfaction and burnout that hurt employees (Felstead & Henseke, 2017). Thus, the increased awareness of the issue can facilitate the need to develop clear policies outlining when the work period should begin and end, allowing the development of a suitable balance.

The findings have implications for organizations because the benefits of teleworking, specifically cost-saving and increased productivity, support the need for continued telecommuting. Additionally, organizations need to mitigate the identified work-life balance issues, lack of physical human contact, and accountability concerns, ensuring that the benefits are accrued. The increased cost saving resulting from reduced printing costs and gas expenditure can foster environmental conservation because the demand for paper and emission will decrease. The increase in productivity because telecommuting eliminates commuting can result in social change in pollution and greenhouse gas emitted when employees travel from home to work daily (Kim, 2017). A negative implication of social change is that telecommuting might result in the collapse of businesses around office premises that depend on the employees. If telecommuting is adopted, the local businesses might lose their customers.

Methodological, Theoretical, and Empirical Implications

In the current study, applying a qualitative methodology helped explore the management perspective in adopting telecommuting as a time-saving tool. The findings in this project have methodological implications because they support the effectiveness of a qualitative methodology in fostering an in-depth understanding of a concept.

Additionally, the findings support that collecting data using a 17-item semi-structured interview protocol is a reasonable practice. The interview protocol helped collect adequate data for answering the questions.

The current qualitative exploratory case study was guided by TAM (Surendran, 2012). The findings in this project have implications for TAM because they support the theoretical framework's applicability in explaining the adoption of telecommuting. It was identified that COVID-19 is an external factor that has supported the acceptance of telecommuting. All managers perceive telecommuting as a useful and effective time-saving tool that is simple to use. Although the IT management professionals have concerns about telecommuting, the approach is associated with benefits that support its use (Surendran, 2012). Thus, this study's findings have implications on TAM because they advance the application of the framework's premise in explaining the adoption of teleworking.

The need to conduct this qualitative study was the limited understanding of the management perspective in using telecommuting as a time-saving tool (Pirdavani et al., 2014). This qualitative exploratory case study was based on the background that a limited number of studies have been conducted assessing the impact of telecommuting on employees and organizations. Many of the existing studies focus on employees who telework (Chung & Van der Horst, 2018). Thus, this qualitative study's empirical implication is that they increase current literature on the IT management professionals' perspective in adopting telecommuting as a time-saving tool. In the existing literature, there are conflicting findings on the potential benefits and limitations of the adoption of

teleworking (Adisa et al., 2017; Asgari et al., 2016; & Felstead & Henseke, 2017). The current qualitative exploratory case study's findings add to the existing literature on the IT management professionals' perceived concerns and benefits of teleworking.

Recommendations for Practice

Five practice recommendations were identified from this study's findings. The first practice recommendation is the need for policies to foster a work-life balance. In this study, it was identified that although most interviewed IT management professionals work at organizations with teleworking policies, there is a gap in the guidelines. The policies do not provide guidelines on when a workday should begin or end, causing a disequilibrium because employees work more. Though working more benefits the organization, it is associated with adverse outcomes such as burnout. The introduction of policies can help the organization and employees benefit from the effective use of teleworking, promoting increased production and enhanced employee wellness (OECD, 2020).

The second practice recommendation is to develop effective strategies for promoting employee accountability to avoid scenarios where teleworkers' personal life affects their ability to work during the stipulated period, causing the employees to work late in the night. Effective accountability practices can facilitate worker satisfaction, improve employee efficacy, and increase productivity (OECD, 2020).

The third recommendation for practice is the adoption of teleworking because telecommuting is associated with cost-saving for the employees and organization (Lila & Anjaneyulu, 2017; Shabanpour et al., 2018; Zia & Bilal, 2017). The cost reductions,

specifically the capital expenditure on equipment and office space, can improve a firm's performance. Teleworking is a practice that should continue to be adopted because it results in decreased operational expenses, such as printing, cleaning, and coffee costs. Teleworking also results in cost-saving because employees spend less gas traveling. Information technology organizations should continue to adopt telecommuting because it is an effective, time-saving tool that increases worker satisfaction by eliminating the stress and time wasted in traffic. The decreased commute helps reduce traffic congestion, particulate matter, and carbon emissions. Additionally, information technology should continue to be incentivized to adopt teleworking because it allows organizations to employ workers from the global pool of competent employees.

The fourth recommendation is eliminating the lack of physical human interaction concern that the IT management professionals possess about teleworking. The reduction in the number of in-person interactions can adversely affect work efficacy because it is associated with decreased communication, impaired knowledge exchange, and minimal managerial oversite. The recommendation supports the need for organization-specific telecommuting practices to be adopted because teleworking is dependent on the employees' professionalism and ability to adhere to the firm's work ethics.

Conclusions

Conducting a qualitative exploratory case study helped identify that teleworking is an effective, time-saving tool. Although IT management professionals are concerned about the impact of telecommuting on work-life balance, lack of physical human interactions, and accountability, teleworking benefits supersede these issues. In addition,

telecommuting is associated with cost-saving and increased productivity and provides employers with diverse hiring options.

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Appendix: Interview Protocol

Hello, my name is Gabriel N. George, from Walden University. I wish to welcome and thank you for accepting to participate in this interview, which is part of my doctoral program. Participation in this interview is voluntary, and you will not be penalized if you decide to quit at any point. Your information will only be used for this study and will not be shared with any third parties. I wish to inform you that the interview will be recorded, and you must provide verbal consent before we start [Start interview if participant agrees]. Do you understand the purpose of this study/ Do you consent to participate in this study?

Demographic Characteristics

1. What is your age?

   18 – 30 years. ☐

   30 – 50 years. ☐

   Over 50 years. ☐

2. What is your education level?
3. What is your experience level in management?

Telecommuting

Is teleworking available in your company?

If yes ask the following

4. What is the current agreement on teleworking in your company? For how long has it been available?
5. What major challenges do you experience when managing teleworkers? Explain.

6. Has telecommuting brought any benefits to your organization? If Yes, Explain.
7. What are the advantages and disadvantages of teleworking on time-management?
8. What is your opinion about managing employees remotely?

   If it is not available, ask these
9. Why has your company not used telecommuting?
10. How does telecommuting influence adjustment of meeting schedules, evaluation, and tracking?
11. What investments has management made in any underlying technologies to enable improved telecommuting experience for the employees?
12. How teleworking positively or negatively affects productivity?
13. Are there appropriate policies and procedures around the parameter for teleworking?
14. What benefits do you imagine telecommuting might provide?
15. What liabilities do you imagine telecommuting might provide?
16. What would need to happen for your company to use telecommuting?
17. Have your telecommuting views changed given the COVID-19 pandemic?

    Thank the participant and close out the interview.