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Strategies to Reduce Technostress on Corporations' Employees

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Walden University
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Abstract

Strategies to Reduce Technostress on Corporations' Employees

by

Kenneth M. Coble

MS, Strayer University, 2006

BS, Shaw University, 1991

Doctoral Study Submitted in Partial Fulfillment

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Doctor of Business Administration

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Abstract

Technostress is a phenomenon that hurts the performance of corporations and employees. Technology managers must identify strategies to reduce technostress, as technostress causes employee burnout and absenteeism, reducing employee performance and the corporation's productivity and ability to remain financially stable. Grounded in transformational leadership theory, the purpose of this qualitative multiple case study was to explore leadership strategies technology managers use to minimize technostress. The participants were nine business leaders in the United States who implemented strategies to minimize technostress. Data were analyzed using Yin's five components of case study data analysis. Five main themes were identified: (a) tech-break; focus on employees taking time away from the computer for a break and giving employees time to recharge to minimize employee burnout, (b) training and employee development, (c) focus on working as a team and team members, (d) managers are mindful of employees' stress levels and (e) utilizing transformational leadership attributes. One primary recommendation is that business leaders and managers continuously train employees on new technology and provide ongoing employee development. The implications for positive social change include the potential for financially stable organizations to help people in their local communities by increasing the number of jobs and programs, which catalyzes beneficial social change.

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Dedication

I dedicate this achievement to my parents my mother, Agnes Hopper, and my father, late Kenneth W. Coble who taught me the value of education. I also dedicate this achievement to my family and friends who supported me throughout the pursuit of my doctorate degree.

Acknowledgments

I would like to thank my chair Dr. Ify Diala-Nettles for her support, encouraging words and guidance. I would like to also thank my committee member Dr. Anne Brown, for her encouraging words and motivation to continue to meet the doctoral study program challenges. I would also like to thank my research reviewer Dr. Judith Blando for her guidance and assistance throughout this process.

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Section 1: Foundation of the Study

Technostress is stress caused by using information communication systems (Brod, 1984). Technostress hurts corporations (Boyer-Davis, 2018). I used a qualitative multiple case study to explore the leadership strategies that technology managers use to minimize technostress. I explored the phenomenon using transformational leadership theory as a lens to identify strategies that technology managers may use to increase a corporation's productivity by reducing employees stress, employee turnover, and employee absenteeism, which are some results of technostress.

This exploration may help corporations maintain financial stability. The social change implications of a corporation remaining financially stable are that the corporation may contribute to programs in their local communities that provide support to young and older people living in those communities. The youth and elderly living in local communities may benefit from corporate social responsibility programs established by corporations' to help people who need assistance.

Background of the Problem

Technostress negatively affects people and organizations (Boyer-Davis, 2018). Brod (1984) defined technostress as the inability of individuals to cope with the pressure of using technology; people struggle with accepting technology and using it too much. Technostress is technology anxiety, a modern disease affecting individuals who struggle to use information and communications technology systems (Brod, 1984). Tams et al. (2020) suggested that individuals' use of technology after work—cell phones, computers, and checking email and texts—negatively affects those individuals because they continue

to work after the workday, which causes work–life-conflict. Work–life conflict can negatively influence an individual's home life and work life, which can reduce the productivity of the organization they work for (Tams et al., 2020).

Employees experience technostress using information and communication technology at work (Zhao et al., 2020). Managers can reduce technostress by applying stress theories, controlling employees' use of technology outside work hours, and providing flexible work shifts to meet work and family obligations (Tams et al., 2020).

Problem Statement

Technostress is a phenomenon that hurts the performance of corporations and employees (Boyer-Davis, 2018, p. 48). Tarafdar et al. (2020, p. 82) defined technostress as the stress individuals experienced using computers and telecommunications. Employees who use information communication and technology and are affected by technostress experience reduced performance and productivity (Sumiyana & Sriwidharmanely, 2020, p. 1090). Boyer-Davis (2018, p. 57) evaluated 129 information technology managers and discovered a statistically significant effect explaining transactional and lassie faire leaders identified 58% of the variance of the relationship between technostress, leadership styles, and leadership characteristics. Boyer-Davis explained that transactional and lassie faire leaders identified increased use of high variations of technostress in employees. In contrast, transformational leaders did not detect increased or decreased technostress variations in employees (Boyer-Davis, 2018). The general business problem was that some leaders lack the means to minimize technostress on productivity. The specific business problem was that some technology

managers lack the leadership strategies needed to minimize technostress on corporate productivity.

Purpose Statement

The purpose of the qualitative multiple case study was to explore leadership strategies that technology managers use minimize technostress on corporate productivity. The targeted population consisted of business leaders in the United States who have implemented successful strategies to minimize technostress on the productivity of their corporations. The implications for positive social change include the potential to improve the management strategies technology managers use to reduce technostress on employees. Technostress is associated negatively with productivity, life satisfaction, and work performance and is associated positively with psychological and behavioral disorders (La Torre et al., 2019). If technology managers implement leadership strategies to reduce technostress for employees, employee productivity may increase. Financially stable organizations and individuals have donated to crowdfunding programs to help individuals and small businesses survive the effects of COVID-19 (Xiao & Yue, 2021). Another social change implication, therefore, was that financially stable organizations may help people and small businesses by donating to charitable programs that help their local economies and society more generally.

Nature of the Study

The three types of research methodologies are qualitative, quantitative, and mixed methods (Babbie, 2017). I used a qualitative methodology because it permitted the use of open-ended questions, which allowed researchers to discover what was occurring and

what has occurred; open-ended questions allow participants to relate and explain their own experiences (Babbie, 2017). Quantitative methodology, in contrast, involves the use of closed-ended questions. Surveys incorporate closed-ended questions, and the possible answers to the questions are in the survey (Babbie, 2017). Quantitative methodology was inappropriate for the study because it would not permit participants to relate or explain their experiences. Taguchi (2018) described mixed methodology, in which researchers used both qualitative and quantitative methods. I did not test a hypothesis about variables' characteristics or relationships, which is part of a quantitative study or the quantitative element of a mixed methods study. I therefore used qualitative methodology.

Four research designs were considered for the qualitative study: (a) phenomenological, (b) focus group, (c) ethnographic, and (d) case study. A phenomenological design involves exploring the perceived and lived experiences of participants (Cuthbertson et al., 2020; Rozental, 2019); therefore, I did not select a phenomenology design because my emphasis was not on participants' perceived experiences of the phenomenon. A focus group study involves formation of small groups of individuals to discuss specific aspects of the study (Yin, 2018). A focus group design was inappropriate for the study because my attention was not on one aspect of the phenomenon for group discussion. I wish to focus on replicating and contrasting multiple cases. An ethnographic design involves studying and exploring a culture (Rozental, 2019). Ethnography was inappropriate for the study because my focus was not on researching a group's culture. Yin (2018) described a multiple case study as a study encompassing two or more cases and relying on similar interview questions to identify

similarities and differences among the cases. Yin (2018) suggested that a multiple case design was more robust than a single case design. A single case design did not yield enough data to analyze, and such a study may therefore not be robust (Yin, 2018). I used a multiple case study design to explore real-life contemporary experiences related to the study's purpose.

Research Question

A single research question guided the study: What leadership strategies do technology managers use to reduce technostress on corporate productivity?

Interview Questions

I asked every participant the following eight questions:

1. What leadership strategies are you using to minimize technostress on your company's productivity?

2. How did you implement leadership strategies for reducing technostress on your company's productivity?

3. What was the response from company employees to implementation of the leadership strategies?

4. What fundamental barriers did you encounter when implementing leadership strategies for reducing technostress on your company's productivity?

5. What actions did you take to minimize the fundamental barriers to implementing the strategies for reducing technostress on your company's productivity?

6. How do you measure the element on productivity of the leadership strategies for reducing technostress?

7. What was the most effective leadership strategy you used minimize technostress on your company's productivity?

8. What additional information would you like to share about leadership strategies to minimize technostress on your company's productivity?

Conceptual Framework

Transformational leadership theory provides a lens through which to conduct the study. Burns (1978) defined transformational leadership as understanding followers, helping followers meet their goals, and helping followers become future leaders. Transformational leadership helps followers reach beyond their goals and focus on developing as future leaders (Bass & Riggio, 2006). Managers using transformational leadership employ motivation to empower and enable followers to do their best work and to mentor and develop followers into future leaders (M. Brown et al., 2019). Transformational leadership's four significant attributes are idealized influence, inspirational motivation, intellectual stimulation, and individual consideration (M. Brown et al., 2019). Yaslioglu and SelenayErden (2018) said that leaders provide idealized influence by being role models for followers, inspirational motivation by encouraging followers' enthusiastic involvement, intellectual stimulation by encouraging followers to participate and share ideas, and individual consideration by working one-on-one with followers to develop followers' potential.

The leadership attributes of transformational leadership theory contribute to followers working beyond what was required to meet individual and organizational goals (M. Brown et al., 2019). I selected transformational leadership theory as the study's conceptual framework because it provides an appropriate lens with which to identify and understand the leadership strategies technology managers use to minimize technostress on the productivity of their companies.

Operational Definitions

This section defines technical terms used throughout this proposal.

Heroic bias: a person's inability to accept that an individual can fail, which is a negative aspect of transformational leadership (Fourie & Höhne, 2019). Followers can perceive transformational leaders as perfect, without flaws, unethical views, or weaknesses; such perceptions reflect heroic bias (Fourie & Höhne, 2019).

Idealized influence: J. Yin et al. (2019) said that idealized influence is the first of four attributes of a transformational leader and described a transformational leader as a role model who is respected and trusted by followers. Harb and Sidani (2019) described transformational leaders as charismatic, trusted, respected, and admired by their followers.

Individualized consideration: According to Harb and Sidani (2019), a transformational leader pays attention to followers in their team, gets to know team members individually, acknowledges followers' concerns, and effectively communicates with followers through an exchange of ideas. A transformational leader engages

followers to improve and develop the followers as individuals within their organization (J. Yin et al., 2019).

Inspirational motivation: an attribute of transformational leadership that involves sharing a vision and providing a design or plans to make the vision real (Harb & Sidani, 2019). A transformational leader creates an idea, develops a plan, and motivates followers to work toward realizing the vision (J. Yin et al., 2019).

Intellectual stimulation: J. Yin et al. (2019) said that transformational leaders challenge followers to question existing policy and procedures and develop innovative ways to address organizational problems. Harb and Sidani (2019) proposed that transformational leaders push followers to take risks, ask questions, and submit ideas to address prior and current organizational procedures.

Presenteeism: Deng et al. (2019) described presenteeism as a cause of loss of employee productivity due to employee illness and personal problems. Deng et al. and S. Choi et al. (2018) said that individuals exhibit presenteeism when they go to work while sick; presenteeism causes significant health issues for employees and consequent productivity loss. Presenteeism has attracted increasing attention and research because it has become an important source of employee productivity loss (Deng et al., 2019).

Technostress: Technostress was the phenomenon I explored. Technostress is a phenomenon that affects individuals working with technology (Okolo et al., 2018). Individuals that primarily work with computers may experience technology stress. An individual's lack of knowledge and ability to cope with their anxiety when working with technology is technostress (Okolo et al., 2018). A person who does not know how to deal

with stress will suffer from the adverse influence of technology stress. Stress is a factor that constantly affects individuals; regular technology use adds to individuals' anxiety and creates technostress, which affects productivity (Adam et al., 2017).

Turnover intention: the degree to which employees are planning to quit their jobs (Alatawi, 2017). Richard et al. (2020) suggested that employees are not emotionally connected to their work, and their objective is to cease working for their employers in the future. An employer can reduce employee turnover if they understand why employees want to leave their organization.

Assumptions, Limitations, and Delimitations

I had assumptions about the research study. There was an assumption technology managers will be familiar with the term technostress. Leaders use a specific leadership strategy to manage their followers. Leaders will know the meaning of transactional leadership, transformational leadership, and lassie faire leadership styles.

Assumptions

VanDevanter et al. (2021) described assumptions as informal, untested concepts and theories. VanDevanter et al. said assumptions are propositions believed to be accurate and factual without substantiation. Assumptions derive from statistical tests and data analysis in research (Armstrong & Kepler, 2018). An assumption of the study was that participants will answer the interview questions honestly. I assume leaders will know and understand the leadership strategies they use to minimize technostress on the productivity of their companies. I assume participants will know and understand their companies' goals and missions.

Limitations

Theofanidis and Fountouki (2018) defined limitations as factors of a researcher's study out of the researcher's control. Access to data was a possible limitation of a case study. Time constraints also provide a limitation to the study. Managers' use of transformational leadership theory minimize technostress on corporate productivity may also be a limitation. I may find during data collection that leaders have limited documentation with which to corroborate their claims. The COVID-19 pandemic may limit or eliminate face-to-face interviews. The pandemic also means that leaders and followers have been working from home and not going into the office. Companies have furloughed employees, and leaders and managers may therefore not have time to meet to answer my questions. Technology leaders may not have specific leadership strategies to manage followers.

Delimitations

There are delimitations in my research. For instance, delimitations expose and challenge a researcher's assumptions and boundaries (Theofanidis & Fountouki, 2018). For example, an investigator may use telephone interviews to secure data from participants if the participants cannot sit down to a face-to-face interview. Future researchers may not experience similar boundaries in their research.

As researcher, I relied on a qualitative methodology. The study will not include an exploration of the relationship between the variables of technostress and loss of production from technostress. I investigated the phenomenon using transformational leadership theory only, and I did not include transactional leadership theory in my

investigation. The study included only technology managers from the United States. I did not explore other types of managers or regions of the United States. Every technology manager interviewed had at least 2 years of management experience.

Significance of the Study

Exploring some managers' leadership strategies may provide additional information to help corporation managers improve business processes and continue meeting financial obligations. Corporations may find the study valuable by identifying strategies to assist their management team in increasing productivity and increasing corporations' performance.

Contribution to Business Practice

The study's results may contribute to a reduction in employee stress caused by use of computers and new technology. Ardiansyah et al. (2019) found that stress reduces productivity and performance and increases work dissatisfaction. The study's findings could contribute to organizations' business practices and provide strategies that reduce employee stress, increase organizational productivity, and contribute to the ability of organizations to maintain financial stability.

Implications for Social Change

Financially stable organizations are in a position to help people who live in their local communities by increasing the number of jobs and programs, which catalyzes beneficial social change. The study's potential for positive social change derives from the possibility that helping U.S. businesses maintain stability may help sustain youth

development programs and support programs for older people that provide amenities to people in the communities around those businesses.

A Review of the Professional and Academic Literature

I reviewed professional and academic literature on technostress and its element on individuals and organizations. Technostress causes anxiety in individuals and has cost corporations billions of dollars in losses (Levin & Raffio, 2018). Salah-Eddine et al. (2018) found that the increased use of technology in organizations has increased employees' stress and negatively affected corporate productivity. Technostress affects individuals who fail to find healthy techniques to cope with stress from working with computers and new technology (Brod, 1984).

The initial literature search included the terms "technology stress," "technostress," "digital stress," "technostress creators," "qualitative research," "transformational leadership theory," "transactional and transformational leadership theory," and "full-range leadership theory." The review grew to include peer-reviewed articles on transformational leadership. I searched the following databases for peer-reviewed journal publications: EBSCO Discovery Service, Ulrich's Periodicals Directory, ScienceDirect, and Google Scholar. The majority of the resources reviewed were peer-reviewed journal articles published in 2017–2021.

I took a critical look at 56 peer-reviewed articles, journals, and seminal books on technostress, qualitative research methods, and transformational theory published between 2009 and 2021. Of those, 91.1% were published between 2017 and 2021, within

5 years of my expected graduation date. Table 1 summarizes the origins of the sources

reviewed.

Table 1

Literature Sources

Resource type	Year of publication						Total
	≤2016	2017	2018	2019	2020	2021	
Books	3	0	0	0	0	0	3
Peer-reviewed articles	2	12	15	14	7	3	53
Web pages	0	0	0	0	0	0	0
Total	5	12	15	14	7	3	56
%	8.9	21.4	26.8	25	12.5	5.4	100.0

The remainder of this section focuses on the conceptual framework, the foundation of technostress, and transformational leadership theory as a lens with which to view leadership strategies that managers use to address the consequences of technostress for corporate productivity. The literature review includes discussion of transformational leadership theory; full-range leadership theory; technostress; transformational leadership theory's influence on productivity; the importance of transformational leadership theory to organizations; the negative influence of heroic bias on transformational leaders; the influence of technostress and leadership style on employee turnover; presenteeism, burnout, absenteeism, and turnover; and transformational leadership and proactive personality. Throughout the review, I critically analyze and synthesize the sources reviewed.

The objective of the literature review was identification of a gap in existing literature regarding the leadership strategies technology managers use to address the influence of technostress on the productivity of their companies. Boyer-Davis (2018) determined that technostress is a problem for productivity of workers and organizations. Atanasoff and Venable (2017) and Tams et al. (2020) provided additional information on the negative influence of technostress and how it is as a problem for organizations. Technostress is a negative factor that affects corporations. The review begins with a discussion of transformational leadership theory, which used as a lens with which to explore leadership strategies used to manage technostress.

Transformational Leadership Theory

Transformational leadership theory addresses multiple business problems affecting organizations. This section discusses transformational leadership theory and compares it with other leadership theories (Vasilescu, 2019). Transformational leadership theory's four attributes provide a way to explore the effects of the theory on organizations (Balwant et al., 2019). Bass (1985) used transformational leadership theory to identify problem-solving ideas for organizations.

Harris and Mayo (2018), Khalili (2017), and Vasilescu (2019) have investigated transformational leadership theory and its influence on followers, employees, and organizations. Vasilescu probed leadership theories, leadership styles, and leadership types and their influences on management. Harris and Mayo reviewed leadership models and approaches, using a case study as an example to analyze healthcare leadership styles. Vasilescu referred to existing research on leadership theories and styles. Khalili identified

creativity and innovation in leadership as ways a corporation can continue operating. The researcher built a leadership model to address creativity and innovation in organizations (Khalili, 2017). Khalili explored transformational leadership theory's influence on organizations and employees to identify how transformational leadership strategies could improve the performance of leaders and organizations.

There are many ways that leaders can improve their followers' and organizations' performance. Burns (1978) first developed transformational leadership theory. Leaders applying the theory work with followers by engaging followers, motivating followers, ensuring leaders and followers share the same goals and values, and ensuring that the shared goals and values are consistent with followers' actual goals (Burns, 1978). Leaders use transformational leadership theory to motivate followers to generate new ideas for their organizations (Sperber & Linder, 2018). Sperber and Linder (2018) found that leaders used transformational leadership theory to motivate followers, and the followers felt more at ease sharing their ideas and being creative compared to being afraid to speak up and be silent. When leaders of an organization share ideas and work with followers, the performance of the leaders, the followers, and the organization improves.

Leaders and followers can work together in transformational leadership. According to transformational leadership theory, a transformational leader exchanges cost-effective benefits for physiological and monetary gains for followers (Bass, 1985). Balwant et al. (2019) found that followers of transformational leaders develop a shared vision with the leaders and work with the leaders to obtain ideas. The followers' vision

becomes the same as that of their leader; followers may thus be motivated to accomplish the leader's goals, because the followers have the same goals.

A transformational leader displays four attributes when accomplishing goals: idealized influence, inspirational motivation, individualized stimulation, and intellectual stimulation (Balwant et al., 2019). Bass (1985) was the first to identify these attributes. Bass described idealized influence as a leader's ability to create close emotional relationships with followers and motivate followers through devotion. Bass explained that inspirational motivation inspires followers to work on their self-interest through idealized influence, which benefits both leaders and followers. Individualized stimulation involves leaders considering followers' needs, which increases the bond between leaders and followers and increases corporate productivity (Bass, 1985). Bass described intellectual stimulation as awareness by followers of problems and problem solving in the organization beyond those related to short-term goals. Under transformational leadership, followers work beyond what they are paid to do. As a result, followers within an organization become emotionally and psychologically invested in realizing their vision with leaders and the organization and making the organization successful and financially stable

To make a company successful and financially stable using transformational leadership theory, leaders must be charismatic. Islami and Mulolli (2020) found that leaders use both idealized influence and transformational leadership theory to inspire and motivate their followers. Islami and Mulolli found through their review of existing literature that leaders use transformational leadership theory to develop their

organizations. Transformational leaders are charismatic, and this trait appeals to

individuals (Hansbrough & Schyns, 2018). Hansbrough and Schyns (2018) suggested that

a transformational leader finds it easier to inspire their followers if the followers have a

positive perspective of the leader. A transformational leader may gain followers' trust

and devotion with idealized influence to increase innovation and organizational

productivity.

A leader can increase individual innovation and organizational productivity by

applying transformational leadership theory's individualized consideration attribute (Seitz

and Owens (2021). Individualized consideration is the individual attention leaders give to

followers, and this attention makes followers feel valued (Seitz & Owens, 2021). Seitz

and Owens (2021) discovered that individualized consideration has a positive effect on

more followers than idealized influence. Sperber and Linder (2018) said that

individualized consideration involves a leader making a follower feel valued by

identifying the follower's needs and using two-way communication. Leaders can inspire

and motivate followers using individualized consideration, and leaders may apply

individualized consideration to make followers feel like valuable organizational

components.

Leaders may apply the idealized influence attribute of transformational leadership

theory to motivate followers (Kabore et al., 2021). According to transformational

leadership theory, leaders demonstrating idealized influence are role models and are open

and honest with their followers (Shaw et al., 2018). Harb and Sidani (2019) supported

Shaw et al.'s (2018) view when they described leaders exhibiting idealized influence as

role models with ethics. More than one attribute of transformational leadership theory is needed to positively affect followers; it is transformational leadership as a whole that inspires followers (Kabore et al., 2021). Idealized influence, inspirational motivation, individualized consideration, and intellectual stimulation together can help leaders motivate followers to increase organizational productivity; leaders cannot use just idealized influence as an effective motivational tool.

The idealized influence and inspirational motivation attributes of transformational leadership theory positively affect followers and organizations (Sheehan et al., 2020). Leaders use idealized influence and inspirational motivation to inspire followers to be innovative (Sheehan et al., 2020). Sheehan et al. (2020) discovered that leaders applying idealized influence and inspirational motivation promoted knowledge sharing among employees, which led to innovation. A leader uses inspirational motivation to share their vision with followers and motivate followers to work toward that shared vision (Bojović & Jovanović, 2020). Bojović and Jovanović (2020) discovered leaders could attract focus to their visions by implementing inspirational motivation. Leaders can use idealized influence and inspirational motivation to motivate followers, increase knowledge sharing, increase innovation, and, as a result, improve organizational competitiveness.

Leaders increase innovation by using the transformational leadership theory attribute of intellectual stimulation (Y. Choi & Aparicio, 2019). Leaders can use intellectual stimulation to challenge their followers to explore their imaginations and values (Y. Choi & Aparicio, 2019). Y. Choi and Aparicio (2019) recommended that leaders apply intellectual stimulation to motivate software developers to increase

innovation. Kim and Vandenberghe (2018) discovered that team size and independence help determine when leaders use intellectual stimulation to influence followers. Leaders have greater influence on smaller teams using intellectual stimulation (Kim & Vandenberghe, 2018). Leaders can use intellectual stimulation to influence and motivate followers to think beyond standard procedures and innovate.

Leaders use transformational leadership theory to motivate followers and complete group projects (Kabore et al., 2021). Kabore et al. (2021) discovered that project managers' use of transformational leadership contributed to success of a project. Kabore et al. found that transformational leadership and team size did not affect the success of a project; Kabore et al. results were insignificant. Zaman et al. (2019) described transformational leadership as a motivational tool a leader can use to positively influence followers to meet organizational goals and contribute to project success. Zaman et al.'s findings supported the claim that transformational leadership is a significant factor in project success. Leaders therefore should use transformational leadership to motivate followers.

Full-Range Leadership Theory

I investigated full-range leadership theory as a possible alternative to transformational leadership theory for understanding leadership strategies to minimize technostress in organizations. Full-range leadership theory includes transactional, transformational, and passive avoidant leadership styles (Guhr et al., 2019). Passakonjaras and Hartijasti (2019) wanted to know whether Indonesia's managers used full-range leadership theory and whether different managers used different management

styles. Passakonjaras and Hartijasti investigated leadership style differences and similarities among Indonesian managers from different cultures; those managers used both transformational and transactional leadership. Passakonjaras and Hartijasti confirmed that full-range leadership theory was universally applicable to the managers investigated. The purpose of full-range leadership theory is to determine which of its component leadership styles are used by various managers and whether they have positive organizational outcomes.

Leaders and organizations across several industries could benefit from applying multiple theories to management of their followers rather than relying on transformational leadership theory alone (Crews et al., 2019). Crews et al. (2019) investigated the transformational and transactional leadership styles and their effects on communication styles in African industries. Y. Choi and Aparicio (2019) inquired into how full-range leadership theory influences transformational leaders using an aesthetic factor. Guhr et al. (2019) discussed the effects of full-range leadership theory's styles on employee information security behavior. Guhr et al.'s findings contradicted earlier findings in that transactional leadership did not positively affect behavior. Researchers have investigated full-range leadership theory to identify its influence on employees and organizations in various communication fields. The results of these studies may help leaders and organizations struggling to identify leadership strategies for their organizations.

Technostress

Brod (1984) coined the term "technostress" and discussed its application. Technostress is stress created from the use of technology (Brod, 1984). Brod defined technostress as the inability of individuals to cope with the stress of using technology and information communication systems. Brod treated technostress as a result of technology anxiety, a modern disease that affects individuals who struggle to use information and communications technology systems. Technostress is a phenomenon that affects individuals who have difficulty using computers and new technologies. Leaders have been requiring followers to learn and use new technologies with increasing frequency, which has created stress.

Technostress affects followers' home and work lives (Levin & Raffio, 2018). Besides using new technologies and computers, Levin and Raffio (2018) proposed that other factors create stress for followers. Hassan et al. (2019) suggested that technostress does not negatively affect employees; instead, technology has a positive influence, and it is time constraints involved with working with technology that negatively influence employees. Computers and technology advance faster than human beings can keep up with. This mismatch may make it difficult for individuals to keep up with their work. Stress derives not from technology itself but inability of humans to keep up with work. Levin and Raffio (2018) related technostress to individuals, families, and corporations. Individuals and families have stopped connecting because technostress has taken away their attention (Levin & Raffio, 2018). Technostress influences individuals at home and

work, not always negatively. Most influences are not harmful; stress caused by using computers and new technology may be limited to organizations.

Stress caused by using computers and new technology affects individuals of different ages differently (Reinecke et al., 2017). Researchers have used variables such as age and gender to investigate technostress (Atanasoff & Venable, 2017; Boyer-Davis, 2018). Reinecke et al. (2017) argued that technological communication systems, social media, and multitasking with multiple devices affects individuals in different age groups differently. These researchers found that individuals aged 20–29 years had less technostress than older individuals because they had started using technology and social media when young (Reinecke et al., 2017). Individuals with more or earlier exposure to technology experienced less stress.

Personality traits of followers and leaders influence development of technostress (Khedhaouria & Cucchi, 2019). Khedhaouria and Cucchi (2019) suggested that the personality traits of agreeableness, extroversion, and neuroticism increased and decreased technostress. Salah-Eddine et al. (2018) found that a computerized system manager used to help employees cope with technostress negatively affected organizations' productivity and employees. Khedhaouria and Cucchi identified additional factors that can increase or decrease the influence of technostress on individuals. Organizational leaders may benefit from knowing which factors increase technostress and how to identify solutions to reduce technostress on individuals and organizations.

Boyer-Davis (2018), Krishnan (2017), Molino et al. (2020), and Şahin and Çoklar (2009) described limitations in their explorations of technostress. Boyer-Davis was

limited by exclusive reliance on quantitative methods. Krishnan collected research data and resources simultaneously from the same place. Molino et al. found self-reported data to be a limitation because it was difficult to control bias. Şahin and Çoklar secured data from only one social media website. Boyer-Davis, Krishnan, Molino et al., and Şahin and Çoklar identified limitations outside their control. Şahin and Çoklar also identified limitations that they could have controlled.

Leadership and Follower Assumptions on Technostress

People may hold unfounded assumptions about technostress, such as the following:

- When people use information communication and technology more frequently, the probability of them being affected by technostress increases (Molino et al., 2020).

- Individuals are working from home and using more technology than before (Molino et al., 2020).

- As computers and technology get faster, humans are expected to work as fast as the technology (Molino et al., 2020).

- As new technologies are created, individuals are expected to quickly and efficiently use those technologies to meet organizational goals (Molino et al., 2020).

- Leaders expect followers to deliver requested information immediately or almost immediately (Molino et al., 2020).

- Followers' inability to keep up with information communication and technology increases their stress and reduces their productivity (Molino et al., 2020).

- Leaders do not know how to reach organizational goals and manage stressed-out followers who cannot keep up with job demands (Molino et al., 2020).

There are many reasons why leaders do not know how to reach organizational goals and manage stressed-out followers who use computers more frequently. This may contribute to assumptions about technostress. Molino et al. (2020) proposed that COVID-19 increased the number of individuals working from home and their technology use. A technostress creator introduced new and unfamiliar technology, which was stressful for its users (Goetz & Boehm, 2020). Molino et al. assumed that a technology increases stress among its users because it leads to the expectation that users can work faster and do more than before, which creates a stressful environment and leads to technostress. Working from home reduced the availability of hands-on technical support, which increased workers' stress from technology use (Molino et al., 2020). Anxiety increased among users as the requirements and expectations of using advanced technology increased (Rose et al., 1998). Şahin and Çoklar (2009) described an assumed association connecting individuals' frequency of social networking use and technological knowledge to their technostress levels. Monlino et al., Rose et al. (1998), and Sahin and Coklar proposed several factors as determinants of technostress among information communication and technology users.

Effects of Transformational Leadership on Productivity

Transformational leadership strategies help leaders reduce employee turnover (Ribeiro et al., 2018) and (Shahsavan & Safari, 2017). Ribeiro et al. (2018) investigated the relationships between transformational leadership and affective commitment, between transformational leadership and individual performance, and between individual performance and affective commitment to determine whether transformational leadership affects employee turnover and affective commitment (Shahsavan & Safari, 2017). Ribeiro et al. and Shahsavan and Safari (2017) studied transformational leadership and its effect on the productivity of leaders, followers, and organizations. Technostress and transformational leadership are linked to employee turnover, because technostress causes employee turnover, and transformational leadership strategies can reduce employee turnover (Ribeiro et al., 2018) and (Shahsavan & Safari, 2017).

Managers and leaders can use specific leadership styles to address employee performance (Van Jaarsveld et al., 2019). Van Jaarsveld et al. (2019) investigated the relationship between leadership style—transactional, transformational, or passive avoidant—and employee performance using quantitative methods. They found that a productive leadership style improves employee productivity, and implementing a robust leadership style may positively affect leader productivity (Van Jaarsveld et al., 2019). Organizational leaders have been changing how they manage followers as information and communications technology has become more prevalent in organizations (Sainger, 2018). The need for new leadership styles to guide employees and manage their work has

arisen as organizations have increased their reliance on computers and new technology. Management styles must evolve to keep up with changing work environments.

Ng and Rivera (2018) addressed the effectiveness of transformational leadership culturally and globally. Tepper et al. (2018) inquired into the relationships between transformational leadership and each of followers' behavior, commitment, attitudes in the Philippines. The researchers wanted to determine whether global factors alter the effect of transformational leadership. Ng and Rivera explored the individualized consideration attribute of transformational leadership through its conceptual definition and perceptions of it in the Philippines. Tepper et al. recommended that leaders include fellowship in their leadership styles to help organizations in the Philippines succeed.

Researchers can apply transformational leadership theory to followers' behaviors and leadership styles to explore the effects of those factors on individuals and organizations (Tepper et al., 2018) and (Ng & Rivera, 2018). Tepper et al. (2018) and Ng and Rivera (2018) used several resources to explore transformational leadership. They asked all participants to answer the same questionnaire on the relationship between transformational leadership, individual performance, and affective commitment relations.

Sainger (2018) and Tepper et al. (2018) explored how leaders can successfully implement transformational leadership in their organizations to improve organizational performance. Tepper et al. conducted a daily examination of followers' behaviors, leaders' styles, and in-person observations. Sainger explored how organizations could include digital transformation in their strategic plans.

Sainger (2018) and Tepper et al. (2018) addressed leadership in organizations. Sainger reviewed leadership and digital transformation in corporations based on earlier research and investigated how leadership and digital transformation affect organizational productivity. Leaders who implemented digital transformations increased their organization's marketing and profits (Sainger, 2018). Tepper et al. explored how application of transformational leadership affected followers' stress. Tepper et al. concluded that leaders should take care when assessing the suitability of transformational leadership, because this leadership style may not benefit all followers.

Transformational leadership affects employee performance (Ribeiro et al., 2018). Ribeiro et al. (2018) inquired into the relationships among transformational leadership, individual performance, and affective commitment and discovered the significance of these relationships. Shahsavan and Safari (2017) investigated the effect of transformational leadership on employee behavior. Ribeiro et al. collected data from a corporation's employees in Guilan Province in Iran. Shahsavan and Safari collected data about the positive outcomes of transformational leadership on employee behavior, employee turnover, and employee organizational commitment. Shahsavan and Safari used a small sample to explore how transformational leadership and employee affective commitment affected employee turnover. Transformational leadership positively influenced employee behavior and performance, decreased employee turnover, and decreased other factors that themselves decreased productivity (Shahsavan & Safari, 2017).

Transformational Leadership Theory Is Important to Organizations

Transformational leadership theory is valuable to organizations and can help them succeed (Van Jaarsveld et al., 2019). Van Jaarsveld et al. (2019) and Ng and Rivera (2018) investigated the effects of several styles of leadership on leaders and followers. Van Jaarsveld et al. investigated the effects of transactional, transformational, and passive avoidant leadership on leaders' and followers' performance and productivity. Ng and Rivera extended knowledge regarding transactional leadership and transformational leadership. Van Jaarsveld et al. determined that leaders who applied appropriate leadership styles were more effective than leaders who did not apply appropriate leadership strategies. Ng and Rivera found that executives preferred to use transformational leadership and the individualized consideration attribute of transformational leadership. Leaders found it beneficial to use leadership strategies in their organizations (Ng & Rivera, 2018).

Ribeiro et al. (2018) and Shahsavan and Safari (2017) used questionnaires to collect quantitative data to investigate and identify themes in their research study. Ribeiro et al. surveyed health care professionals in Turkey on transformational leadership, individual performance, and affective commitment to probe the relationships among these three variables. Riveiro found that transformational leadership positively affected employees' performance and individuals' organizational commitment. Shahsavan and Safari collected data using questionnaires and avoided having participants provide false information by ensuring that data collected were not for the use of the participants'

employers. Ribeiro et al. and Shahsavan and Safari used similar and opposing strategies to collect relevant information. Ribeiro et al. and Shahsavan and Safari used quantitative methods in their research; qualitative research based on interviews would extend knowledge regarding transformational leadership.

A qualitative study focusing on the digital transformation in organizations would help to fill the gap in knowledge regarding leadership strategies and technostress (Ng & Rivera, 2018). Sainger (2018) used data mining to secure information about the use of leadership and digital transformation in organizations to increase organizational productivity. Sainger found that implementing digital transformations helped organizations appeal to more customers through marketing. Tepper et al. (2018) conducted two studies of the effect of transformational leadership on followers' behavior and organizational attitudes. Tepper et al discovered that followers who received more transformational leadership when needed had more positive outcomes. Ng and Rivera (2018) used interviews and questionnaires to conduct a qualitative study of transformational leadership and fellowship in the Philippines with the goal of determining how transformational leadership and cultural influences affected individuals. Ng and Rivera described fellowship as a component of the culture in the Philippines, and fellowship added to the positive attributes of transformational leadership theory.

Ribeiro et al. (2018) and Shahsavan and Safari (2017) investigated employee turnover as an effect of technostress. Ribeiro et al. explored the relationship between transformational leadership and employee behavior, employee turnover, and job satisfaction. Shahsavan and Safari found that transformational leadership affects

employee turnover through affective commitment. The ability to influence employee turnover is valuable because Boyer-Davis (2018) identified employee turnover as one of the effects of technostress.

Exploring transformational leadership and employee turnover may identify strategies leaders can use to improve organizational productivity (Sainger, 2018). Tepper et al. (2018) investigated the effect of transformational leadership on followers using person–environment theory. In the person-environment theory of employee behavior, employees compare what their employer has provided to what they can provide (Tepper et al., 2018). Sainger (2018) improved knowledge of the skills leaders can use to affect an organization and increase productivity with their suggestion that leaders of organizations use technology to reach more customers. Transformational leadership positively affects the performance and productivity of organizations (Sainger, 2018).

Knowledge sharing is a component of transformational leadership (J. Yin et al., 2019). J. Yin et al. (2019) identified statistically significant relationships in a sample of Chinese employees among transformational leadership attributes: idealized influence, inspirational motivation, intellectual stimulation, individualized consideration, psychology safety, team efficacy, and knowledge sharing. Government leaders may have motivated employees to be more innovative through the transformational leadership attribute of knowledge sharing (Khan & Khan, 2019). Knowledge sharing was valuable to managers of organizations because it helped managers design programs to prevent and address organizational problems (J. Yin et al., 2019). Leaders used knowledge sharing to motivate followers.

Some components of transformational leadership can harm an organization (Vasilescu, 2019). Fourie and Höhne (2019) explored the idea that transformational leaders are infallible, perfect, and without moral or ethical failings. Fourie and Höhne found that leaders do not have to be perfect to be good leaders. Harris and Mayo (2018) inquired into how traditional transformational leadership strategies characterized the relationship between leader and follower. Harris and Mayo suggested that leaders use a postheroic transformational leadership approach to engage followers and create positive relationships between leaders and followers. Vasilescu (2019) discussed theories and how they can assist managers to effectively lead groups. Vasilescu also investigated which leadership ideas and styles positively or negatively affect organizations. Vasilescu included coaching as a critical element of transformational leadership that has positive effects on organizations. Transformational leadership is not a perfect leadership style because it has both positive and negative implications for leaders, followers, and organizations.

Additional research on transformational leadership would help close a gap in existing literature (Tepper, et al., 2018). Future researchers could extend knowledge of transformational leadership by exploring different aspects of transformational leadership and their effects on the productivity of followers and organizations (Tepper et al., 2018). As digital technology changes, researchers should review leadership in the context of digital transformation to address new technologies (Sainger, 2018). Future research on transformational leadership is vital to keep organizations up to date with the needs of digital workplaces.

Transformational leadership allows leaders to be open with followers and create and maintain working relationships that positively affect performance and productivity (Van Jaarsveld et al., 2019). Using the wrong leadership style harms the productivity of an organization. Jena et al. (2018) discovered statistically significant relationships among transformational leadership, employee engagement, and employee trust. Chen et al. (2018) found a positive correlation between transformational leadership and task performance and statistically significant relationships among transformational leadership style, proactive personality, and employee task performance. Leaders who used transformational leadership found that the approach immensely increased the performance of followers, which could in turn improve the financial stability of leaders' organizations.

Transformational leadership improves employee performance (Jena et al., 2018). Jena et al. (2018) investigated the relationship between employee engagement and employee trust in organizations and the connection between that relationship and transformational leadership. They found that transformational leadership, employee engagement, and employee trust can decrease employee turnover in organizations (Jena et al., 2018). El Toufaili (2018) concluded that transformational leadership has a positive effect on organizations. Chen et al. (2018) discovered that transformational leadership positively influences employee performance, which declines after peaking. Employees lose the positive effects of transformational leadership when managers are absent (Chen et al., 2018). Transformational leadership is an effective strategy for leaders to use; it is not perfect, and leaders must be aware of its limitations.

Exploring the influence of the transformational leadership on technostress extends the literature regarding strategies to address problems within organizations. Future researchers can build upon the study with additional investigation of organizational leaders to identify employees who excel as transformational leaders (El Toufaili, 2018). Jena et al. (2018) recommended that future researchers explore the relationships among job demands, transformational leadership, and individuals and organizations. Transformational leadership positively affects the performance of organizations, and leaders may use transformational leadership to address the stress of followers derived from using computers and new technologies.

Heroic Bias Negatively Affects Transformational Leaders

The performance of followers and organizations is affected by heroic bias, and emotional bias and heroic bias also negatively affect transformational leaders. Fourie and Höhne (2019) found that heroic bias is a problem in transformational leadership theory. An emotionally biased leader could not make decisions for their organization because the leaders were too close to their followers (Ghinea & Cantaragiu, 2017). Leaders implementing transformational leadership theory in their organizations should be aware of heroic bias and emotional bias. Bias may be a side effect of using transformational leadership to address technostress (Fourie & Höhne, 2019).

Followers' assumptions about leaders' actions decreased followers' performance (Fourie & Höhne, 2019). Fourie and Höhne (2019) discovered that heroic biased followers assume transformational leaders do not make mistakes. Followers' assumptions in heroic bias are not associated with leaders' past performance as in the halo effect, in

which prior performance is associated with potential success (Liao, 2021). Fourie and Höhne and Ghinea and Cantaragiu (2017) found that emotionally biased leaders tend to micromanage followers, and followers become consumed with leaders' tasks, which negatively affects followers' performance. Followers fail to share their ideas about the job, express thoughts that differ from those of their leaders, or provide alternative actions or procedures (Fourie & Höhne, 2019). Followers are more familiar with their work than their leaders are. Followers' ideas may thus improve an organization's operation; heroic bias hurts organizations because it stops followers from sharing their thoughts (Fourie & Höhne, 2019; Ghinea & Cantaragiu, 2017).

Fourie and Höhne (2019) and J. Yin et al. (2019) found that transformational leadership has negative and positive attributes. Fourie and Höhne analyzed heroic bias in transformational leadership theory to explore the influence of transformational leaders on followers. J. Yin et al. scrutinized the relationships among transformational leadership theory, team learning theory, psychological safety, team efficacy, and knowledge sharing. Harris and Mayo (2018) conducted a case study comparing trait theories, behavioral theories, situational theories, and heroic and postheroic transformational leadership theories. J. Yin et al. and Harris and Mayo investigated identified positive and negative effects on leaders and followers to determine whether transformational leadership theory is the best option for leaders. J. Yin et al. and Harris and Mayo discovered that knowledge sharing helps leaders and followers work together and is a positive attribute of transformational leadership theory.

Khalili (2017) placed transformational leadership theory under extreme scrutiny. Khalili synthesized transformational leadership theory, innovation championing, change-oriented leadership, leader–member exchange, and genuine leadership to create an instrument for evaluating the behavior of employees when they are empowered and creative in innovative workplaces. In a such workplaces, leaders motivate followers to perform tasks willingly and efficiently, which ultimately helps organizational performance (Vasilescu, 2019). Vasilescu (2019) recommended leaders use transformational and transactional leadership to address followers' performance.

Fourie and Höhne (2019) and J. Yin et al. (2019) focused on the effectiveness of transformational leadership theory. Fourie and Höhne explored a theological view of transformational leadership theory and human failure. They used quantitative methods to test multiple hypotheses exploring the relationships among the four attributes of transformational leadership theory, psychological safety, and team learning factors (J. Yin et al., 2019). Heroic leaders guide followers using the leaders' expectations and ideas (Fourie & Höhne, 2019). Transformational leaders' failures do not take away from their ability lead well (Fourie & Höhne, 2019). Although transformational leadership theory has flaws, it does not stop good leaders from positively influencing followers.

Fourie and Höhne (2019) identified criticisms of transformational leadership theory. One criticism was that followers idolize transformational leaders and assume such leaders are perfect, always make moral and ethical decisions, and are infallible (Fourie & Höhne, 2019). Harris and Mayo (2018) reported on a case study in which a lead nurse shut down a subordinate nurse when the subordinate offered his opinion on a patient's

medical status. If the leader in the case study had used a postheroic transformational leadership approach—engaging with and considering the subordinate nurse's medical opinion—the leader would have created a positive relationship with the subordinate, allowing the subordinate to feel comfortable sharing his knowledge (Harris & Mayo, 2018).

Technostress and Leadership Style Affect Employee Turnover

Leaders' management styles affect follower turnover (Alatawi, 2017). Alatawi (2017) studied transformational leadership style, employee turnover intention, and their effect on organizations. Employee turnover hurts organizations by increasing the cost of training and reducing productivity as workers do more to fill the gaps left by employees who have left (Alatawi, 2017). Moon and Park (2019) studied whether transformational leadership and transactional leadership affect employee turnover and whether the span of control influences the relationship between leadership style and employee turnover in government organizations. Moon and Park defined the span of control as the measurement of the number of followers assigned to one manager. Moon and Park found that transformational leadership positively affects followers and reduces employee turnover when the span of control is reduced. Transformational leadership affects whether followers quit their jobs after threatening to quit, employee turnover intentions, employee job satisfaction, and employee behavior (Sun & Wang, 2017). Transformational leadership strategies help to address the harmful influence of employee turnover on organizations. Leaders can use transformational leadership to improve followers' experiences at work and dissuade followers from quitting their jobs. Leaders

and followers in an organization experience elevated stress levels when they must work more to compensate for the loss of workers who have separated from the organization (Alatawi, 2017).

Leaders can reduce employee turnover and increase productivity by using transformational leadership (Alatawi, 2017). Transformational leadership reduces employee turnover in organizations, and reducing an organization's employee turnover increases the organization's productivity (Alatawi, 2017). Application of transformational leadership theory and effective use of span of control to monitor how much work followers receive can help organizations reduce employee turnover and increase productivity.

Presenteeism, Burnout, Absenteeism, and Turnover

Leadership style and additional factors can affect employee burnout, employee turnover, and employee absenteeism (Dietz & Scheel, 2017). Dietz and Scheel (2017) probed scientific staff members and the relationships among presenteeism, leadership, followers' behavior, absenteeism, organizational productivity, and job stressors. George et al. (2017) explored the relationships among transformational leadership, transactional leadership, passive avoidant leadership, and presenteeism in knowledge-based industries. Wright et al. (2017) considered the relationship between public service motivation, employee absenteeism, employee job choice, and employee performance. Ineffective leaders reduce followers' work performance.

Ineffective leaders also hurt organizational performance (Dietz & Scheel, 2017). Dietz and Scheel (2017) found that ineffective leaders cause followers to experience

presenteeism. Presenteeism reduces an organization's productivity (Dietz & Scheel, 2017). Dietz and Scheel and George et al. (2017) defined presenteeism as the opposite of absenteeism; presenteeism occurs when leaders and followers come to work when they are unhealthy because they do not want to fall behind. Presenteeism causes employees to experience burnout and absenteeism (George et al., 2017). Influential leaders using an appropriate leadership style and managing span of control can reduce presenteeism, absenteeism, and employee turnover to increase productivity.

Leadership style affects followers and organizational performance (Wright et al., 2017). Wright et al. (2017) discovered no significant relationship between public service motivation and employee absenteeism. Under the transactional leadership style, motivational incentives are positively associated with reducing employee absenteeism (Wright et al., 2017). Transformational leadership and transactional leadership are statistically significantly related to presenteeism; passive avoidant leadership is not related to presenteeism (George et al., 2017). Dietz and Scheel (2017) discovered significant relationships between presenteeism and leader and job demands. Leaders practicing transactional and transformational leadership positively affect followers and improve organizational performance.

Transformational Leadership and Proactive Personality

The relationship between transformational leadership and proactive personality has been essential to researchers' investigations of transformational leadership (Li & Yuan, 2017). Individuals with proactive personalities are self-motivated people who actively influence the situations they are in (Chen et al., 2018). Researchers have

conducted studies to analyze the relationship between transformational leadership and proactive personality and the effect of this relationship on the performance of employees in the hospitality industry (Li & Yuan, 2017). Li and Yuan (2017) found that transformational leadership positively influenced those with proactive personalities in the hospitality industry, and they recommended that leaders should use participative or authoritarian leadership styles depending on the situation. Yang et al. (2020) explored the effect of the relationship between transformational leadership and proactive personality on the performance of customer service employees. Transformational leaders' negative view of followers with proactive personality traits weakens transformational leadership (Yang et al., 2020). Transformational leadership theory can guide followers with bold or aggressive personalities to improve performance.

Li and Yuan (2017) and Chen et al. (2018) investigated the relationship between transformational leadership and proactive personality and its effects on employee turnover. Li and Yuan weighed the positive and negative effects of the relationship between transformational leadership and proactive personality on employee turnover and career satisfaction among individuals in the hospitality industry. Transformational leaders' dark sides negatively influenced followers with proactive personalities through leader–leader exchange (Li & Yuan, 2017). Leaders should monitor their relationships with followers with proactive personality traits to ensure they do not suppress positive attributes of transformational leadership (Li & Yuan, 2017). Chen et al. (2018) analyzed the negative effects of transformational leadership style, proactive personality, and employee task performance. Li and Yuan and Chen et al. explored the effects of

transformational leadership on followers with bold personalities, particularly the effects on followers' performance.

The findings of Li and Yuan (2017) and Yang et al. (2020) regarding transformational leadership and proactive personality can help leaders of service sector organizations improve followers' performance. Li and Yuan obtained information from participants working in hotels in China using questionnaires, and the researchers applied statistical tests to hypotheses based on trait activity theory to analyze transformational leadership, leader–leader exchange, and career satisfaction. Li and Yuan found a positive correlation between transformational leadership and employee satisfaction and a negative relationship between transformational leadership theory and leader–leader exchange.

Yang et al. (2020) investigated the predictability of employee job performance based on leadership style. Employee performance and customer service affect hotel performance (Yang et al., 2020). Chen et al. (2018) assessed potential correlations among transformational leadership, employee task performance, and proactive personality. Chen et al. identified a positive correlation between transformational leadership and task performance. The relationship between the transformational leadership style, proactive personality, and employee task performance was statistically significant (Chen et al., 2018). If a customer does not like a hotel's customer service, they probably will not return to the hotel or recommend the hotel to others; the hotel will thus lose business and competitive advantage. Leadership style affects employee performance, employees with proactive personalities, customers' experiences, and business for the hotel (Li & Yuan, 2017).

Transition

Section 1 discussed technology managers' lack of leadership strategies to minimize technostress on the productivity of their corporations. The purpose of the case study was to explore, through the lens of transformational leadership theory, the leadership strategies technology managers use to minimize technostress on corporate productivity. The section included a critical review of existing literature related to technostress, transformational leadership, and the effects of technostress on corporate productivity.

Section 2 discusses my role as the researcher, participants, the research method and design, population and sampling (including the number of participants, data saturation, the criteria for selecting participants, and justification of the number of participants needed to ensure data saturation). The section also describes the informed consent process and measures needed to protect participants involved in the case study. The section also includes discussion of the use of member checking to ensure dependability and credibility.

Section 3 describes the findings and the answer to the research question. The section also covers applications to professional practice, implications for social change, recommendations for action, and recommendations for further research. Section 3 ends with reflections and conclusions.

Section 2: The Project

Section 2 explains (a) my role in the study as the researcher, (b) participants, (c) the research method and design, and (d) population and sampling (including the number of participants, data saturation, criteria for selecting participants, and justification of the number of participants needed to ensure data saturation).

Purpose Statement

The purpose of the qualitative multiple case study was to explore leadership strategies that technology managers use to minimize technostress on corporate productivity. The targeted population consisted of business leaders in the United States who have implemented successful strategies to minimize technostress on the productivity of their corporations. The implications for positive social change include the potential to improve the management strategies technology managers use to reduce technostress on employees. Technostress is associated negatively with productivity, life satisfaction, and work performance and is associated positively with psychological and behavioral disorders (La Torre et al., 2019). If technology managers implement leadership strategies to reduce technostress for employees, employee productivity may increase. Financially stable organizations and individuals have donated to crowdfunding programs to help individuals and small businesses survive the effects of COVID-19 (Xiao & Yue, 2021). Another social change implication, therefore, is that financially stable organizations may help people and small businesses by donating to charitable programs that help their local economies and society more generally.

Role of the Researcher

In qualitative research, the researcher has a specific role in data collection (Clark & Vealé, 2018). A qualitative researcher collects data from individuals, personal experiences, and feelings (Clark & Vealé, 2018). Qualitative researchers collect data to analyze in relation to the phenomena under investigation. A researcher conducting a qualitative study gathers information on recent experiences to address the phenomenon studied (Rapport & Braithwaite, 2018). The role of such a researcher during data collection is to collect data about participants' lived experiences for analysis with the aim of answering questions related to understanding the phenomenon under investigation. As the researcher conducting the study, I collected data from participants to explore the leadership strategies technology managers use to reduce technostress on the productivity of their corporations.

I have never before explored the leadership strategies technology managers use to reduce the harm of technostress on the productivity of their corporations—either as a researcher or as a participant. I have experienced stress from working with computers and new technologies. I first experienced such stress when technology use increased in my organization, starting in 1990. My organization went from employees working with folders stored in locked file cabinets to each employee having a computer with which to complete their work tasks. Every employee received a cell phone for business use. During this time, generally, more and more individuals began purchasing and using personal cell phones and home computers.

I conducted an ethical study of the leadership strategies technology managers use to reduce technostress on corporate productivity. Researchers must act ethically when conducting research and reporting its results (Lantos, 2020). Lantos (2020) explained that the purpose of *The Belmont Report* was to ensure researchers used ethical practices: No harm should come to research participants, and researchers must establish protocols to protect participants. Research involving subjects is reviewed to protect the rights of the human subjects (*The Belmont Report*, n.d.). The national commission for the protection of human subjects created the Belmont report, in which the commission lists the ethical principles for biomedical and behavioral research involving human subjects (*The Belmont Report*, n.d.). Rogers and Meek Lange (2013) described labeling participants without considering factors that may violate ethics and cause harm to a specific culture or group of people by making them appear vulnerable.

Researchers must also attempt to eliminate or reduce bias in their research (Fusch et al., 2018). A researcher can minimize personal bias by using triangulation (Fusch et al., 2018). Rozental (2019) suggested collecting data from both primary and secondary sources to reduce bias; another way to minimize bias is for a researcher to eliminate what they think they already know about their research topic. I used triangulation to reduce research bias in the study. I eliminated what I thought I already knew about the phenomenon to avoid viewing the data from my perspective.

An interview protocol (see Appendix B) guided data collection. Yeong et al. (2018) found that use of a qualitative interview protocol is an efficient way to obtain data from participants during interviews. Jacob and Furgerson (2012) described an interview

protocol as a set of guidelines that help researchers conduct interviews. An interview protocol ensures that a researcher stays focused, asks the same questions of every participant, and follows the same path in every interview.

Participants

Study participants met eligibility criteria (see Appendix C). Khalili (2017) explained that participants must understand a study's research questions to participate in the study. In this case, participants were familiar with technostress. Participants were technology managers who have successfully used leadership strategies to reduce technostress on the productivity of their corporations. Every participant has at least 2 years of experience as a technology manager, managing employees who use computers and new technologies. Participants were located in the United States. I used a participant eligibility questionnaire to ensure that participants met the eligibility requirements. The number of years participants have been technology managers is not a variable for the study. I did not assume that participants have used transformational leadership to manage employees just because they are managers.

I used a variety of strategies to recruit participants: I contacted potential participants via Facebook, LinkedIn, and other social media sites to recruit volunteers; I asked friends and family to share my invitation with others they believed met the participant inclusion qualifications. Used the Walden University participant pool, private participant pools, www.userinterviews.com, and internet searches to find volunteers.

The COVID-19 pandemic has affected the ability of some to participate in face-to-face interviews (Padala et al., 2020). Padala et al. (2020) found participants were

willing to be interviewed in person. Fleming et al. (2020) explained that data collection is still essential during the pandemic; researchers should continue to collect data using third parties, self-reporting, via digital means, and through telephone interviews. I did not conduct face-to-face interviews because of the pandemic. If necessary, I conducted live interviews using Zoom video conferencing. For participants who could not use Zoom, I conducted telephone interviews.

It is essential for a researcher to develop a good working relationship with their research participants (Shahsavan & Safari, 2017). Shahsavan and Safari (2017) emphasized that researchers should tell participants that research results will not be shared with the participants' organizations. Interviewees communicate more when they feel comfortable talking during interviews. An interviewer should therefore create a relaxed atmosphere for an interviewee during an interview (Newton, 2017). I called each participant before their interview to confirm the interview day and time, sent each participant the interview questions and waiver before their interview, and went over the disclaimer with every participant. Participants were not interrupted during interviews. When research participants are relaxed and know what to expect ahead of their interviews, they tend to feel more comfortable, speak more freely, and provide more data (Newton, 2017).

Research Method and Design

Qualitative research methodology and a multiple case study design were used to conduct the study. Nine participants were interviewed using open-ended questions until data saturation was reached, with the aim of identifying the leadership strategies

participants use to reduce technostress on the productivity of their corporations. Data was gathered from other sources to investigate the phenomenon.

Research Method

I used qualitative research methodology. Riese (2019) reported that researchers use qualitative methodology to understand lived experiences. Aspers and Corte (2019) described qualitative methods as those that further understanding of phenomena. Qualitative methods enable researchers to gather data from participants that they could not obtain using participant surveys and questionnaires. Interviews, member checking, and documentation are used to gather data from participants' lived experiences.

Qualitative research enables researchers to gather information by asking participants open-ended questions (Durmic, 2020). The answers to the open-ended questions provide information about the phenomena studied (Durmic, 2020). Durmic (2020) found that using open-ended questions in qualitative research allows researchers to obtain information from participants based on what participants think, without interference from the manipulation of others. Open-ended questions cannot be answered using quantitative questionnaires or surveys. For researchers to analyze the data collected, qualitative methods are necessary (Negev et al., 2009). Mixed methods research combines qualitative and quantitative methods. Mixed methods research was inappropriate for the study.

Research Design

I used a multiple case study design. Yin (2018) said that a researcher conducting a study with a multiple case study design collects data from more than one case based on

the predictability of expected outcomes. Yin (2018) described a theological approach to identification of possible differences and similarities among participants. To identify differences and similarities, Sampson et al. (2019) used a multiple case study design to explore a phenomenon using information gathered from several sources to discover how participants addressed the phenomenon in their environment. Kantar et al. (2020) explained that using a multiple case study design allows researchers to explore cases with similar characteristics. A single case study design does not allow researchers to investigate issues by comparing cases with similar characteristics. I conducted a multiple case study.

Single case study, phenomenological, focus group, and ethnographic research designs were inappropriate for the study. Yin (2018) said that a single case study involves exploration of one case. A single case study design does not allow exploration of contrasts or similarities among different instances; a single case study design was therefore inappropriate for the study. A phenomenological design requires participants to relate their lived experiences of a phenomenon to gain deeper understanding of the phenomenon (Vera Zeleeva, 2019). Use of a phenomenological design involves exploring participants' lived experiences of a phenomenon, not the strategies they use to address the phenomenon; it was, therefore, inappropriate for the study. A focus group design involves a moderator asking questions to explore participants' experiences related to a phenomenon (Vera Zeleeva, 2019). A focus group was inappropriate for the study because it consisted of a small group of participants discussing a phenomenon and their personal experiences of that phenomenon. Ethnography involves researchers obtaining

information from inside observation of participants' society and culture (Yanık, 2018).

The study did not relate to aspects of culture, and ethnography was therefore an

unsuitable design for the study. A multiple case study design allowed me to gather

essential information from more than one source to support the study findings and

support replication Yin (2018); a multiple case study design was the most appropriate

design for the study.

Population and Sampling

The study's scope includes technology managers from nine companies. The target

population consisted of business leaders in the United States who have successfully

implemented leadership strategies to minimize technostress on employees and

organizations. Every participant had at least 2 years of experience in management.

I selected participants using purposeful sampling. Researchers use purposeful

sampling to find participants' best suited to gaining understanding of a phenomenon

because of their knowledge of the phenomenon (Creswell & Creswell, 2018; Knechel,

2019). Participants were familiar with technostress. Participants have at least 2 years of

experience as a technology manager managing employees that use computers.

Participants are located in the United States. Gill (2020) described purposeful sampling

as selecting individuals highly experienced in the phenomenon under investigation.

Purposeful sampling requires researchers to understand the phenomenon under study

when selecting participants for case studies (Berndt, 2020). To be eligible for selection

for the study, an individual had to be a technology manager who has managed employees

who work with information and communications technology systems.

Salo et al. (2019) used purposeful sampling to explore the effects of technostress. Salo et al. (2019) collected data by interviewing participants who had experienced stress using social networking sites. Okolo et al. (2018) used purposeful sampling to collect data to explore the relationships among technostress, job design, and employee engagement for front-desk employees of Nigerian banks. Okolo et al. and Salo et al. collected more information from a purposeful sample because the people making up the sample have more knowledge and experience of the phenomenon under the study than other people. Purposeful sampling allowed me to obtain information from participants who have experience working with individuals affected by the technostress.

I have estimated the number of participants needed to reach data saturation. Gill (2020) said that the correct sample size for a case study cannot be determined a priori and may change during the interview process. Gill recommended that researchers collect sufficient information during interviews to complete their research. Qualitative research relies on small samples for exploration of phenomena and their deeper meanings; sampling continues in qualitative research until participants provide no new information (Farrugia, 2019). I used a small sample for the study, adjusted the research process as needed, and interviewed participants until they provided no new information.

Vasileiou et al. (2018) determined that researchers can ensure they reach data saturation by making an a priori estimate of the sample size needed. The researchers interviewed 10 participants and determined the point at which interviews began providing only information already obtained from previous interviews (Vasileiou et al., 2018). An a priori estimate of sample size depends on findings regarding appropriate sample size

reported in existing literature (Moerbeek, 2021). Turner-Bowker et al. (2018) said that determining an a priori estimate of sample size depends on balancing the cost of increasing the sample size against the benefit of additional data collected from more participants. A researcher can make an a priori estimate of the number of participants to interview to reach data saturation.

Guest et al. (2020) determined that data saturation occurs after six to seven interviews; interviews after the seventh provided only 5% more information than the first seven interviews. Tran et al. (2017) determined that data saturation for surveys made up of open-ended questions occurred with 50–100 participants. I interviewed participants and ensured data saturation by conducting approximately nine participant interviews using open-ended questions; I stopped interviewing when I saw repetition in the themes and codes that emerged from the data collected.

Francis et al. (2010) found that using purposeful sampling and interviewing 13 participants ensured data saturation. These researchers observed repetition of information during the final three of their 13 participant interviews and concluded that they had reached the point of data saturation. I estimated the sample size and recruited nine participants, continuing interviews until interviews stopped providing new information.

Appropriate selection criteria were applied when recruiting participants using purposeful sampling. Boyer-Davis (2018) conducted a quantitative study and selected participants who were technology leaders with management experience in U.S. companies aged 18 years and older. I interviewed technology managers aged 18 years

and older with expertise in successfully reducing technostress on employees and organizations. Participants were recruited from the United States.

Ethical Research

Dierickx et al. (2018) said informed consent forms notify potential participants of their rights should they choose to participate in a research study. An individual must be capable of giving consent to participate in a research study (Almoajil et al., 2020). No vulnerable individuals participated in the study. A researcher must obtain informed consent from a potential participant before that person becomes a participant; this process is standard procedure in research, and obtaining consent meets the ethical requirements of research (Dierickx et al., 2018). Metselaar (2019) described an informed consent form as a written statement that explains a research study, its benefits, and its risks to participants. A person's informed consent is invalid if they do not volunteer to participate or fail to understand the nature of the research (McCall et al., 2020). I used the informed consent form to provide each volunteer with a detailed explanation of the study and notify volunteers of the withdrawal procedures. Informed consent forms were obtained from all participants before data were collected.

Participants were able to withdraw from the study at any time without facing questions or reprisals. Xu et al. (2020) told participants what their study was about, informed participants of potential risks, and told participants they could withdraw from the study without any negative consequences. I accepted requests to withdraw submitted by participants to me via telephone, writing, email, or text message.

A monetary gift was provided to recruit participants. B. Brown et al. (2019) discovered that participants in mixed methods and quantitative research were more likely than participants in qualitative research to receive financial incentives. B. Brown et al. found that researchers paid college students for participation but not working adults. The institutional review board (IRB) has approved the use of payments for recruitment of participants. Gelinas et al. (2018) found that researchers used incentives to recruit participants when participation levels were low. There were concerns associated with paying participants: Incentives may have influenced the data provided by participants (Gelinas et al., 2018). Researchers' use of incentives to recruit individuals was a fair way to recruit more participants than are otherwise available. In the study, participants received a visa gift card of $30.00 as an incentive to participate.

Before each interview, I discussed the informed consent form with the participant and obtained the participant's informed consent before the interview. The participant received, by email, a copy of the informed consent form to sign (see Appendix D). I requested participants save a copy for themselves, and send me the form by email with the words "I consent."

The study design includes measures to ensure the ethical protection of participants. These measures include use the informed consent form. Maxwell (2019) wrote about IRBs and recommended researchers provide all participants with informed consent forms that notify participants of their rights and obligations; the purpose is to protect both participants and researchers from harm. Favaretto et al. (2020) discussed *The Belmont Report* and identified informed consent as one of the most common research

practices in ethical research. The authors identified transparency as a principle used to motivate and advise individuals who participate in research (Favaretto et al., 2020). I educated participants, informed participants, and protected participants' moral rights by using an informed consent form. Appendix E contains a copy of the informed consent form.

Appropriate measures were taken to protect the participants. Mishra et al. (2018) described procedures to protect the privacy and confidentiality of participants. To protect participants, a researcher should lock participants' data in a secure location to which only the researcher has access; the researcher should use appropriate safeguards on computers, such as passwords, to ensure that no one but the researcher can view participants' data (Mishra et al., 2018). I locked audio recordings, transcribed data, and any other documents or elements associated with the research in a cabinet, and I kept the key somewhere inaccessible to others. I locked my computer and any other devices holding participants' data to protect the data. My computer is accessible using a password only, and I ensure that nobody else knows the password. I obtained approval from the IRB before beginning the study to maximize the protection of participants. My IRB approval number was #10-05-21-0517687. An IRB ensures that humans are protected when participating in research (Lapid et al., 2019). The final report does not include the names of individuals or organizations involved in the study to protect their confidentiality. I protect participants' confidentiality by storing the data collected in a safe place for 5 years; after the 5 years have elapsed, the paper and electronic data will be shredded and destroyed.

Data Collection Instruments

As the researcher, I was the primary data collection instrument. The second data collection instrument was documentation, and the third data collection instrument was member checking. Roberts (2020) described researchers and the interview questions as two kinds of data collection instruments used in qualitative research; a researcher who collects data with the right qualitative interview questions increases the validity of their research. Participants were interviewed using open-ended, semistructured questions to obtain their opinions on the phenomenon of interest (Creswell & Creswell, 2018). Yin (2018) described the interview process as having two functions: (a) to follow the case study protocol by asking the same questions in the same sequence for each participant and (b) to conversationally ask questions to help participants relax and provide more information.

Semistructured Interview

A semistructured interview is an instrument used to collect qualitative data (Kirikci et al., 2020). Semistructured interviews were used to gather the participants' concerns and opinions and show that the study was unbiased (Kirikci et al., 2020). I minimized bias by asking the participants the same questions during each interview. A semistructured interview is a mixture of formal and informal processes used to encourage participants to open up and provide as much information as possible related to the phenomenon under investigation. I enhanced the data collection instrument's reliability and validity by reviewing the transcripts of the semistructured interviews. I used the semistructured interview questions (see Appendix A) and interview protocol (see

Appendix B) to collect data from participants. An experienced researcher is essential to a

case study because the researcher is responsible for interacting with participants during

interviews (Yin, 2018). Researchers must ensure they select the appropriate participants

if they wish to obtain good data (Kaliber, 2019). Yin (2018) recommended that

interviewers (a) ask good questions, (b) be good listeners, (c) stay adaptive, (d) have a

firm grasp of the issues studied, and (e) conduct research ethically if they wish to conduct

good interviews. Zavattaro (2020) discovered that interviews with participants should not

be scheduled one after the other and recommended slowing down if an interview

becomes overwhelming for the interviewer. I interviewed each participant in a quiet

setting. The participant was asked eight open-ended questions (see Appendix A).

Participants had the option of being interviewed face to face, over the telephone, or

online over Zoom.

Documentation

Documentation can be used to corroborate data collected from other sources and

prompt investigation of data from other sources that documentation does not corroborate

(Yin, 2018). Abdalla et al. (2018) described documents, interviews, and observations as

different sources of evidence collected by researchers; relying on more than one source

adds to the validity and reliability of a study's results. Methodological triangulation is

used to combine multiple sources of data, assess the need for additional information, and

help determine whether a phenomenon is worth investigating (Rooshenas et al., 2019). I

used publicly accessed documents to corroborate the other data collected. I reviewed

company mission statements, policy statements, and group meeting minutes, and the

documents confirmed technology managers' titles, team collaboration and emphasized a work-life balance. Publicly accessed documents include blogs, news clippings, books, local newspapers, magazines, and articles from mass media (Ravitch & Carl, 2016; Yin, 2018).

Member Checking

I used member checking to establish the reliability and validity of the data collected. Researchers implement member checking by sharing their results with interview participants and accepting participants' feedback (Yin, 2016). Smith and McGannon (2018) suggested that member checking, referred to as "participant validation," relies on participants to confirm the trustworthiness of data collected from their interviews. After completing the study, the participants were emailed all the findings and asked to analyze them and comment critically. Participants were asked to confirm that the findings affirm and reflect their views and experiences or if the findings do not and reply by email.

Data Collection Technique

I collected data using semistructured interviews, documentation, member checking, notes, and digital audio. Creswell and Creswell (2018) suggested that researchers use various methods to interview participants, including telephone interviews. I took handwritten notes during interviews and shared my notes with participants to ensure that I had captured their ideas. The handwritten notes helped establish the study's reliability and validity and supported the results. The handwritten notes and the recordings were saved with the results and available for review. Gruber et al. (2021) said

that social scientists often use interviews in qualitative research. Social science researchers have frequently used interviews to collect data directly from participants (Kaliber, 2019). Edwards and Holland (2020) described interviewing as the most common qualitative social science research method. Interviews were thus an appropriate source of data for the qualitative study.

Qualitative interviewing requires individuals to interact with others (Creswell & Creswell, 2018). Researchers conducting qualitative studies use multiple kinds of interviews and open-ended questions to collect data from participants (Creswell & Creswell, 2018). Gu (2020) said that a qualitative interview is an interaction between two people. Edwards and Holland (2020) characterized a qualitative interview as an informal interaction between two or more people, either face to face or remotely. A qualitative interview is an informal meeting used by a researcher to gain insight from a participant into a specific subject. In the study, I conducted qualitative interviews by following the interview protocol (see Appendix B), asking participants open-ended questions, and collecting data from participants with which to gain insight.

Interview Protocol

For consistency, I followed the same interview protocol (see Appendix B) for each participant. I did not conduct face-to-face interviews, a common method used in qualitative research (Gruber et al., 2021). Zoom and telephone interviews were available for participants who preferred not to, or could not, meet for face-to-face interviews. I compared an Android cell phone, a digital recorder, and a Livescribe pen for recording the interviews and taking notes. The sony ICD-PX 370 mono digital voice recorder with

a built-in USB voice recorder was the least expensive and most reliable way to record data during the interviews.

A quiet home office was used to conduct telephone and zoom interviews, and the home office was free from distractions. The purpose of the interview was explained to the participants. The informed consent form was reviewed with the participant. Consent to record the interview was requested, and confidentiality was addressed. Informed consent forms were accepted at my university email address. Twelve participants were contacted, and nine of them were interviewed. Participants interviewed select interview the day and time convenient for them.

Nine participants were interviewed from a home office using telephone and zoom interviews. Interviews were conducted in a quiet private office to ensure interviewees could be heard and feel safe to answer the interview questions openly and honestly. Four participants were interviewed using zoom conferencing; five were interviewed using telephone interviews. Telephone interviews and Zoom interviews were offered as options to meet the needs of participants.

Cousins et al. (2019) provided participants with informed consent forms before starting their interviews; a single researcher interviewed each participant either face to face or over the telephone, interviews were conducted conveniently for participants, and interviews were recorded and transcribed. A researcher should not record an interview if the participant does not want to be recorded or the researcher does not plan to transcribe the recording (Yin, 2018). Informed consent was secured by email from each technology

manager before each interview. Technology managers were asked for their permission to record the interview before the interview started.

The interview protocol (see Appendix B) and interview questions (see Appendix A) guided the interviews. There are advantages and disadvantages to collecting data using interviews. Creswell and Creswell (2018) listed securing historical information, collecting data without observation, and maintaining control over the line of questioning as advantages of collecting data using interviews. Yin (2018) suggested that interview questions should be on a specific topic. Yin (2018) also said that participants should have opportunities to provide additional insight into the research topic during their interviews. The difficulty of eliminating researcher bias is a disadvantage of collecting data using interviews (Creswell & Creswell, 2018). Yin (2018) said that even the articulation of the interview questions can exhibit bias. Non-face-to-face interviews can jeopardize the authenticity of participants during interviews because an interviewer may not see a participant's physical cues (Gruber et al., 2021). A researcher can reduce bias when collecting data using qualitative semistructured interviews by making sure that they articulate the questions clearly and attempt to avoid comments that appear biased.

Documentation

Publicly accessed documents were gathered to corroborate the interview data. The following publicly accessible documents were analyzed to corroborate the interview data collected:

- Blogs
- News clippings

- Books

- Local newspapers

- Magazines and

- Articles from mass media

Documentation increases the trustworthiness of data secured from participants (Yin, 2018). Yin (2018) described documentation as information used to keep records, whether in paper or electronic form. Documentation can provide additional evidence to support existing data, strengthening the research results (Abdalla et al., 2018). Rooshenas et al. (2019) said that analyzing documentation adds to the context of data obtained from interviews. Collecting documentation adds to the sources of evidence required for triangulation, which strengthens the validity and reliability of results.

Researchers use documentation to strengthen the validity and reliability of their work (Abdalla et al., 2018). Abdalla et al. (2018) said that researchers can obtain documents from participants to support details participants volunteered during interviews and corroborate those details. Documentation is stable and may go back several years; researchers can take their time reading through documentation several times during analysis (Yin, 2018). Rooshenas et al. (2019) reported that documentation provides a guide to the information gathered from interviewed participants. The documentation provided to researchers may be biased and may have been prepared with a specific objective other than the one it appears to address (Yin, 2018). Documentation is a good source of evidence with which to improve the validity and reliability of a case study;

researchers must ask participants follow-up questions if documentation does not support details provided during interviews.

Member Checking

Smith and McGannon (2018) reported that researchers carry out member checking by returning interview transcripts to those interviewed and requesting validation of the transcripts. A researcher can incorporate member checking throughout data collection by including it in the research design and informed consent form (Yin, 2016). A researcher may need to collect additional data during member checking if there is an extensive delay between data collection and completion of the study report (Yin, 2016). I conducted member checking during the interviews by sharing my handwritten notes with the participants to confirm that they are accurate interpretations of the information provided by the participants. After completing the study, the participants were emailed all the findings and asked to analyze them and comment critically. Participants were asked to confirm that the findings affirm and reflect their views and experiences or if the findings do not and asked to reply by email. Participants were given 5 days to review the transcript and respond by email. I contacted the participants before sending them the findings to remind them that I am sending the findings for their review for feedback and accuracy of their interpretation of the participant's information during the interview. I emailed the participant within seven days after the participant was scheduled to return the feedback if the feedback was not received on the scheduled date. Participants were asked to return the feedback to me by email. Emails were sent to five participants who failed to reply within seven days. Two of the five late participants emailed a reply. Six participants

provided feedback on the accuracy of the interpretation of the findings. The technology managers did not request any changes.

Data Organization Technique

I saved electronic data on an external hard drive. Participant code numbers were assigned to refer to participants in handwritten notes, recordings, and documents to make identifying participants impossible. I labeled the data by assigning the participant a number, which will be the indicator for that participant. I used numbers in a sequence starting with participant number one. For example, participant number one was assigned number 551, and number two was 552. The number 551 is the label number for participant number one. This number was used to label the audio recording, the documentation, the interview recording, and any personally identifiable information or data associated with participant number one. The participants' names and numbers are kept on a separate computer not connected to the internet, separate from the handwritten notes and recordings. Rubin and Rubin (2012) recommended using handwritten notes, recordings, or both to keep records of interviews. Handwritten notes, audio recordings, transcripts, documents, and participants' personally identifiable information are locked in a secure lockbox. Mishra et al. (2018) said that a concern for research participants is the need to keep participant information locked away and safely away from public view. The external hard drive and other materials will be stored securely in the lockbox for 5 years. After 5 years, paper and electronic files will be destroyed by a residential shredding company.

Handwritten notes and audio recordings were used to keep track of the interview data. Notes were reviewed for follow-up questions. NVivo Release 1.5.1 (940) was used to help organize and manage the interview recordings, notes, and transcripts (Røddesnes et al., 2019). Bergeron and Gaboury (2020) found NVivo to be a valuable tool for analyzing data, although it can take a long time to return results. NVivo Release 1.5.1 (940) was used to transcribe the interview recordings.

Data Management and Processing

Data collected were entered into NVivo Release 1.5.1 (940) for coding, cataloging, and identification of themes. Yin (2018) defined computer-assisted qualitative data analysis software as software based on a database capable of storing, organizing, and managing all sources of data for a given study. NVivo is such software and aids identification of complex themes in data (Castleberry & Nolen, 2018). Dalkin et al. (2021) used NVivo to analyze theory generation by organizing and managing multiple data sources through coding, nodes, and child nodes to identify patterns and themes common to various cases. I acquired NVivo Release 1.5.1 (940) to aid categorization of data and identification of themes. NVivo Release 1.5.1. (940) was used to store, organize, and manage the data for the study.

NVivo Release 1.5.1 (940) was used to organize the interview recordings, interview transcripts, notes, and documents into folders and files. The folder's name were "Data," and the files in the folders were named "interviews," "notes," "documents," and "literature." Folders labeled "Cases," "Coding," and "Sets" aided organization of cases

with similar and different themes. The data was placed in appropriate folders in NVivo Release 1.5.1 (940).

Data Analysis

Methodological triangulation is appropriate for analyzing data for a case study (Abdalla et al., 2018). Abdalla et al. (2018) described methodological triangulation as the process of using more than a single source to obtain information about a phenomenon. I used participant interviews, document analysis, and member checking. A study using triangulation is more substantial than a study relying on a single source of data (Heesen et al., 2019). Researchers increase the validity of their research by exploring several sources (Yin, 2018).

I used NVivo Release 1.5.1 (940) to compile, disassemble, and reassemble handwritten interview notes, documents, and interview transcripts to code the data and identify patterns and themes. I interpreted the themes by comparing them with existing literature and my conceptual framework to identify which themes are novel. I answered the research question and used my findings to add new context to existing literature.

The analysis plan includes several steps. Castleberry and Nolen (2018) described Yin's (2016) five components of case study data analysis: compiling, disassembling, reassembling, interpreting, and concluding.

Compiling

Compiling transforms data into an easily understood form; an example is a transcription of an interview (Castleberry & Nolen, 2018). Yin (2018) suggested entering notes from interviews, observations, and other data into a database. To compile field

notes, a researcher places the notes in order (Yin, 2016). Data should be entered into the computer-assisted qualitative data analysis software (CAQDAS) (Yin, 2018). Authorized individuals such as the doctoral student researcher or the Walden University supervisor can retrieve the necessary data (Yin, 2018). I used NVivo Release 1.5.1 (940) for this purpose. I recorded the interviews, took handwritten notes during the interviews, and obtained publicly accessible documents. The recordings were transcribed, and the handwritten notes and company mission statements, policy statements, and group meeting minutes were typed into the computer. The transcripts, public accessible documents, and handwritten notes were cataloged.

Disassembling

After the data are catalogued, they are disassembled by reading, and making notes on, participants' responses. Disassembling requires a researcher to break down compiled information into different groups (Yin, 2016). When disassembling data, a researcher separates data and places them according to similarity into groups that correspond to codes and themes (Castleberry & Nolen, 2018). Saldana (2016) described a code as a word or phrase used to summarize field notes, interview transcripts, or documents in qualitative research. Although researchers can use software to identify codes in data, the output of the software requires careful review (Yin, 2018). I used NVivo Release 1.5.1 (940) to identify patterns and themes in the data. When reassembling the data, meaningful information in the output of the software was identified. NVivo Release 1.5.1 (940) was used to code the data by summarizing data with words and phrases from the handwritten notes, documents, and interview transcripts.

Reassembling

Coded data are reassembled by similarity to form themes that provide context to the topic under investigation (Castleberry & Nolen, 2018). Yin (2018) suggested that researchers find patterns in data that provide insight into, meaningful information about, and context for the issue under study. When reassembling data, a researcher focuses on pattern matching and identifying broad themes from among the different participants' data (Yin, 2016). Pearse (2019) identified thematic analysis and pattern matching as a frequently used deductive method for identifying themes in qualitative case studies. To determine themes during reassembling, Yin (2016) recommended creating a matrix to organize each participant's information into columns and rows. To focus on themes using thematic analysis, a researcher (a) combines all data associated with specific themes; (b) reviews and identifies themes from the coded extracted data, including all the data collected; (c) defines and identifies themes based on what participants said; and (d) relates the themes to the research question by showing examples (Scharp & Sanders, 2019). I used NVivo Release 1.5.1 (940) to identify patterns in the data. Having already identified patterns and themes in existing literature, I reviewed any newly published work on transformational leadership theory and technostress and revised the proposal and conceptual framework accordingly. I used NVivo Release 1.5.1 (940) to automatically identify patterns and themes in the data collected and manually review the data to identify patterns and themes using the matrix. The questions were placed into rows, and the case numbers were placed in the left column of the matrix. The answers from the interviews are placed in boxes next to their assigned numbers. The excel spreadsheet list all

participant data from the interview. I matched similar words and phrases to identify

similarities in the data. Figure 1 depicts a sample matrix.

Figure 1

Sample of Matrix

Q1. What leadership strategies are you using to address the influence of technostress on your company's productivity?

    <u>Line#   Response   1st Cycle Descriptive 2nd Cycle Concepts</u>

<u>   3rd Cycle Patterns</u>

Q2. How did you implement leadership strategies for reducing technostress on your company's productivity?

    <u>Line#   Response   1st Cycle Descriptive 2nd Cycle Concepts</u>

<u>   3rd Cycle Patterns</u>

Interpreting

Castleberry and Nolen (2018) defined interpreting as the process of analyzing codes and themes to provide a conclusion. Creswell and Creswell (2018) suggested that researchers analyze data using general and specific steps and analyze data using different strategies or approaches. When analyzing data using different methods, researchers try to see if they can find any new concepts within the data (Yin, 2018). Yin (2016) said that researchers may identify new patterns that other scholars have not discussed. Before concluding the study, I used NVivo Release 1.5.1 (940) to identify new patterns, themes, and concepts from the data. Interpreting data is different from reassembling or compiling the data, as in interpreting, you seek to identify new concepts from analyzing the data.

Concluding

When concluding, researchers answer their research questions by interpreting themes (Castleberry & Nolen, 2018). Castleberry and Nolen (2018) described the conclusion of a study as the answers to its research questions, and providing a conclusion is the purpose of conducting a research study. Yin (2018) said that case study research may lead to new concepts related to the topic of study. The conclusion should be connected to the interpreting phase and the data obtained (Yin, 2016). Yin (2016) suggested that emerging relevant information should add to what is already known about the phenomenon. The research question was answered by analyzing and interpreting the themes that emerged from the data. Similarities and differences were found during the analysis of the data. And new concepts related to leadership strategies technology managers use to minimize technostress on corporate productivity were identified. NVivo Release 1.5.1 (940) was used to identify themes in the data.

<p align="center">**Reliability and Validity**</p>

Reliability

Spiers et al. (2018) described reliability as the accuracy of collected data and validity as the degree to which data collected from participants forms a valid account of their experiences. I enhanced the study's dependability by consistently using member checking and applying the interview protocol. Data analysis involves constant review of interview transcripts and codes to ensure accuracy (N. R. Brown & Shorter, 2020). Smith and McGannon (2018) described member checking as the process of allowing interview participants to confirm the accuracy of the transcripts of their interviews. The use of an

interview protocol in qualitative research is essential for establishing consistency among interviews when collecting data (Braaten et al., 2020). Reviewing data until data saturation is reached aided the dependability of the study.

Validity

Steps were taken to increase the strength of the case study results. Spiers et al. (2018) described validity as checking the data continuously for changes to ensure that the patterns and themes identified have not changed to ensure that the study results are robust. Yin (2018) suggested that participants review the transcript and provide feedback to ensure that the participant's thoughts and ideas were correctly interpreted. Increase the validity of a research study when you start collecting data from the participants by ensuring that the information collected and used accurately represents the participants' experience.

The following attributes strengthen the results of the case study:

- Validity

- Credibility

- Transferability

- Confirmability

- Data saturation

Credibility

To enhance the study's credibility, I employed member checking, interpretation, triangulation, and an interview protocol (see Appendix B). Spiers et al. (2018) described validity as the ability to portray study participants' experiences accurately. Researchers

use member checking to establish the credibility of interview transcripts by providing each participant with a copy of their transcript and asking the participant to check its accuracy (Smith & McGannon, 2018). During face-to-face interviews, researchers must involve participants in the interviews, creating two-way conversations, which increases the credibility of the data provided by participants during interviews (Lincoln & Guba, 1989). Abdalla et al. (2018) described triangulation as way to combine data from several sources. I interviewed participants until interviews provided no new information to reach data saturation. After completing the study, the participants were emailed all the findings and asked to analyze them and comment critically. Nine participants were asked to confirm that the findings affirm and reflect their views and experiences or if the findings do not and reply by email. Nine participants were asked to verify the accuracy of the collected data. I created a two-way conversation with each participant during their interview. Two methods were available for participant interviews: (a) telephone and (b) zoom. I conducted five telephone interviews and four zoom interviews.

Transferability

I enable future researchers to determine the transferability of the findings using the interview protocol and data saturation. A qualitative researcher's goal is to expand knowledge about the research topic; the researcher does not transfer the results; readers transfer the results to their own contexts (Stahl & King, 2020). Future researchers can expand on the study's research question to add to existing literature. Future researchers will determine the transferability of the findings of the study.

Confirmability

I used member checking to enhance confirmability. Lincoln and Guba (1985; as cited in Haven and Van Grootel, 2019) described confirmability as a method to determine if an analysis was understandable and if an analysis provided a clear interpretation of the data. The aim of confirmability is to show that data are objective and derived from participants' real-life experiences (Abdalla et al., 2018). Recorded interviews were transcribed, and I checked the transcripts against the recordings to confirm the accuracy of the transcripts. After completing the interviews, the participants were emailed all the findings and asked to analyze them and comment critically. Nine participants were asked to confirm that the findings affirm and reflect their views and experiences or if the findings do not and reply by email. The participants did not request changes to the interpretation of the findings. Confirmability helps to ensure the trustworthiness of collected data and findings derived from those data. I obtained data from nine technology managers to ensure that data saturation could be reached.

Data Saturation

Data saturation enhances the validity of the study. Guest et al. (2020) used data saturation to determine the sample size required for their case study. Fofana et al. (2020) suggested that an adequate sample size ensures enough information is gathered to answer research questions. Data saturation occurs when data begins to repeat, and no new data emerge (Hennink et al., 2019). Guest et al. reached data saturation after six to seven participant interviews. I conducted nine interviews, and the point at which information

begins to repeat determined the sample size. After six interviews, the information did not repeat, and I continued interviewing until I reached data saturation.

Transition and Summary

Section 2 began with a restatement of the purpose of the study. The section continued with identification of my role as the researcher, the study participants, the research method and design, the population and sampling, ethical research, the data collection instruments, data collection and organization techniques, data analysis, and reliability and validity of the study.

Section 3 begins with a presentation of the findings. Discussion of the implications for social change addresses how the findings positively affect the local community. The section also identifies strategies leaders use to minimize technostress on corporate productivity.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The objective of the qualitative multiple case study was to explore leadership strategies technology managers use to minimize technostress on corporate productivity. Nine technology managers were interviewed using a semistructured interview. The participants were found using participant pools, posting flyers, and asking my family and friends to share my flyer with anyone they believed met the participant inclusion criteria. A questionnaire was used to ensure that all nine participants met the eligibility criteria before the interview. An interview protocol ensured focus and that all nine participants were asked the same eight questions. Four participants were interviewed using zoom conferencing; five were interviewed using telephone interviews. All participants were asked for their permission to record the interview before recording.

The interviews were recorded on a sony ICD-PX 370 mono digital voice recorder. The interviews were transcribed using NVivo Release 1.5.1 (940). The interviews were transcribed and compared to the recordings by listening to them, reading the transcript, and making necessary corrections during the review. Handwritten notes were jotted down during each participant interview. The handwritten notes were reviewed with participants' to affirm the notes reflect the participants' views and experiences. The notes were typed into the computer, loaded into NVivo Release 1.5.1 (940), and organized by participant number.

The internet was searched for publicly accessible documentation: (a) company mission statements, (b) policy statements, (c) group meeting minutes, and (d) blogs to

support the participants' answers. I reviewed company mission statements, policy statements, and group meeting minutes. The documents confirmed the technology managers' titles and team collaboration and emphasized a work-life balance. The transcribed interviews, handwritten notes, mission statements, policy statements, and group meeting minutes were entered into Nvivo Released 1.5.1 (940) to analyze the data. After conducting the interviews, I interpreted what the technology managers shared by looking for patterns and themes in the interview transcript, handwritten notes, and documentation. An interpretation of the findings was shared with the participants for validation. Each participant was emailed the findings to their specific interview and asked to analyze the findings and reply by email, notifying me if the interview findings accurately describe their feelings and experiences. The technology managers replied by email with the following responses:

- P551 stated, "I confirm that this reflects my experiences shared in our interview."

- P552 said, "looks good!"

- P556 replied, "yes, these answers reflect my views."

- P557 stated, "looks great; I think you captured everything from my ramblings."

- P558 said, "yo, this is awesome, thanks."

- P559 stated, "yes, this is accurate."

Five main themes were discovered using Yin's (2016) five components of case study data analysis: compiling, disassembling, reassembling, interpreting, and

concluding: (a) tech-break; focus on employees taking time away from the computer for a break and giving employees time to recharge to minimize employee burnout (b) training and employee development (c) focus on working as a team and team members (d) managers are mindful of employees' stress levels (e) utilizing transformational leadership (TL) attributes [Table 2]. Tables 2 display the main themes that emerged from analyzing the interview transcript using NVivo Release 1.5.1 (940).

Table 2

Emergent Themes

Nodes/Themes	Number of Respondents	Number of times Theme was addressed
Tech-Break	7	15
Team	7	14
Training	6	31
Mindfulness	8	23
TL Attributes	9	12

NVivo Release 1.5.1 (940) was used to create a word cloud from the interview transcript, handwritten notes, mission statements, policy statements, and group meeting minutes. Time, team, technology, stress, and people were the most frequently used words. A word cloud displays the most frequently used words. As the researcher, I used the word query to identify patterns and themes in the data. Figure 2 depicts the word cloud.

Figure 2

Word Cloud

Presentation of Findings

The single research question that guided the study was: What leadership strategies do technology managers use to reduce technostress on corporate productivity? I was the primary data collection instrument. I conducted interviews with the participants. The publicly assessable documents were the second data collection instrument, and member checking was used to validate the participants' responses and gain information on missed or misinterpreted responses. The electronic data were saved on an external hard drive. Participant code numbers were assigned to refer to participants' handwritten notes, recordings, and documents to make identifying participants impossible. Participants were numbered P551 through P559 to protect their confidentiality. Data collected were entered into NVivo Release 1.5.1 (940) for coding, cataloging, and identifying of themes. Nine

technology managers were interviewed, aged 18 years and older, with expertise in successfully reducing technostress on employees and organizations.

Semistructured interviews, documents, and member checking were used to collect data. The interviews were recorded, notes were taken, and publicly accessible documents were obtained from an internet search. The recordings were transcribed, and the handwritten interview notes and documents were typed into the computer. The transcripts, documents, and handwritten notes were cataloged. Methodological triangulation was used to analyze the data.

Member checking was used to establish the reliability and validity of the data collected. For member checking, after the interviews, I reviewed the handwritten notes with participants to ensure that the notes reflected their views and their experiences. After completing the data analysis, the participants were emailed the findings and asked to analyze them and comment critically. Participants were asked to determine whether the findings affirm and reflect their views and experiences and reply by email.

The transcribed interviews, typed notes, mission statements, policy statements, and group meeting minutes were entered into NVivo Release 1.5.1 (940). The data were coded using (a) priori and (b) open coding. Five main themes were identified in the data using Yin's (2016) five components of case study data analysis. The five main themes are (a) tech-break; focus on employees taking time away from the computer for a break and giving employees time to recharge to minimize employee burnout, (b) training and employee development, (c) focus on working as a team, and team members, (d) managers

are mindful of employees' stress levels and (e) utilizing transformational leadership attributes.

Theme 1: Tech – Break

The managers focused on tools and techniques to reduce technostress for employees, such as: influencing employees to take time off to recharge and only work during their assigned work hours. The first focus is on taking time away from the computer for a break and recharging employees to minimize employee burnout. A pattern of ensuring the employees take breaks to recharge to minimize technostress was discovered. Seven respondents recommended employees take breaks and time off to reduce technostress. The technology managers discovered that when employees take frequent breaks and only work during their scheduled work hours, they experience less technostress, increasing their productivity.

Scheduling breaks and taking time away from computers were necessary for a work-life balance. P551 stated, "set calendars with off times, block calendar set times to step away from the screen." Employees should take breaks to reduce technostress. To ensure employees take their necessary breaks, they should schedule frequent breaks throughout the day. For example, employees may schedule two 15-minute breaks and one 30-minute break when working an 8-hour shift.

Time frames were set by setting calendars with off times and blocking calendar set times to step away from the computer screen. In addition to scheduling breaks, P551 watches out for signs that employees need a break from what they are working on or when they may need to ask others for help. The technology manager monitors employees

for signs of stress and implements strategies to reduce technostress once observed. P552

company mission statement found on publicly assessable documentation states, "we are

committed to work-life balance—with more than 20 paid times off days per year and a

flex-time/flex location policy." Also, P553 said, "employees must also know when to

take breaks from their work when working with computers as a few strategies, including

training and user-friendly software." Employees schedule frequent breaks throughout the

day to reduce technostress. Scheduling breaks are essential for employees' work-life

balance.

A work-life balance and time management are vital. P553 stated, "work and time

management, planning and organizing are crucial." Employees benefit from planning and

organizing by prioritizing the work and time on their many projects. To help employees

prioritize their time at work, P554 provided employees with laptops and cell phones.

Employees were only allowed to use the company-provided devices during their work

shifts when they started working from home. Time management, planning, and

organizing are vital aspects of work-life balance.

Planning and organizing are helpful to employees working in remote locations.

P554 stated, "and another thing that we also helped organize is using this in applications

like rescue time to help them to have their time in how to be the most productive working

from home." Rescue time is a web-based time management tool used to help employees

understand how they spend their time. Time management apps such as rescue time were

tools recommended to employees to help them maximize productivity. P554 also

monitored employees' activity to ensure that they took the necessary breaks and were not

working when they should be off work. P554 had employees turn off their devices and only use the company-provided devices and monitor the devices provided by the company to monitor employees' activity. Managers use tools and strategies to maximize the productivity of employees working remotely.

P556 gave employees leeway for time off. Usually, senior management required time off requests 2 weeks in advance, but P556 gave them leeway. P556 stated, "priority giving employees time off when they need it. Barriers ensured that enough people worked to meet deadlines and timeframes when employees requested time off. Juggling deal lines and timeframes to meet everyone's needs is a barrier." P557 found that having employees take a break was one of the most effective leadership strategies. P557 recommended employees take a break from work. P557 stated, "take a time out, take a breather, and take the afternoon off if needed." Technology managers give employees time off to reduce technostress; the challenge is ensuring that they have coverage when several employees request time off for the same days.

Taking time to step away from the computer is crucial. P558 encouraged employees to take time away from the computer to mentally reset and connect to help relieve any stress they are experiencing. P558 said, "we report on their close rate, report on the number of calls they are taking, the average time of calls, and average on computer time every quarter, for every person, and that non-computer work time." P558 monitored employees to ensure that the employees were taking breaks. P559 encouraged employees to participate in programs that focus on mental health and encouraged employees to take a break and train. P559 stated, "managers encouraging employees to take a break,

encouraging them to disconnect, participate in wellness programs." One strategy was to have a day where there were no meetings, a no meetings day—encouraging employees to take a break to reset mentally. Taking frequent breaks away from the computer reduce employee burnout.

Relevancy of the Conceptual Framework

The transformational leadership theory is the conceptual framework. The transformational leadership theory has four attributes: idealized influence, inspirational motivation, intellectual stimulation, and individual consideration (M. Brown et al., 2019). I compared the findings in Theme 1 to the four attributes to see how they match each of the attributes. Findings for Theme 1 were more comparable to inspirational motivation and idealized influence.

Inspirational motivation and idealized influence attributes are used to motivate employees. In using inspirational motivation, individuals develop a plan and encourage others to use the plan to accomplish the goal or mission (Harb & Sidani, 2019; J. Yin et al., 2019). Idealized influence motivates individuals (Kabore et al., 2021). P559 stated, "encourage employees to take a break and encourage them to work on their mental health." P559 shows an example of inspirational motivation to get employees to take breaks to reduce stress to reduce their technostress and its influence on productivity.

The inspirational motivation and the idealized influence attribute motivate employees. P551 said, "managers must lead by example by doing blocking time frames and taking breaks in between working on projects. Time frames were set by setting calendars with off times and blocking calendar set times to step away from the computer

screen." In Theme 1, the technology managers use inspirational motivation, and idealized influence attributes to motivate employees to take actions that would reduce the technostress and increase productivity. The technology managers used transformational leadership attributes idealized influence and inspirational motivation to reduce technostress on employees and increase productivity for the company by being positive examples for employees to follow.

I compared the findings in Theme 1 to the intellectual stimulation and individual consideration attributes. Theme 1 does not match the transformational leadership theory's intellectual stimulation and individual consideration attributes. Yaslioglu and SelenayErden (2018) found that leaders use intellectual stimulation to get followers to share their ideas. Leaders use individual consideration attributes to motivate followers by having one-on-one meetings (Yaslioglu & SelenayErden, 2018). Technology managers do not encourage employees to share their ideas or meet with employees one-on-one in Theme 1.

Relevancy to Current Literature

New literature on the inspirational motivation attribute has similar definitions of the attribute discussed in prior literature. Leaders use inspirational motivation to motivate followers to increase their performance to ensure that they reach their goals (Mbindyo et al., 2021). P556 stated, "we strive to ensure our team members have a great environment filled with transparency, fun traditions, and positivity." Providing employees with a positive work environment reduces stress and increases productivity. P559 stated, "encourage employees to take a break and encourage them to work on their mental

health." Employees increase their work performance by ensuring that they are well-rested and mentally healthy. The current literature on the transformational leadership theory inspirational motivation attribute confirms the findings found in Theme 1. Janet et al. (2021) found that the inspirational motivation dimension of transformational leadership is vital for the following reasons:

- Leaders use the inspirational motivation attribute to reach organizations' goals.
- Innovative organizations benefit from using inspirational motivation.
- Innovative organizations use inspirational motivation as a resource to discover variations in the outcome of their organization's vision.

Technology managers use transformational leadership theory, inspirational motivation, and idealized influence to encourage employees to improve their performance to reduce technostress and increase productivity. The findings confirm that technology managers use idealized influence and inspirational motivation to improve employees' performance.

Employees are constantly exposed to technology. Techno-overload exposes employees to too much technology, such as computers, cell phones, emails, text, and notifications (Torres, 2021). Technology is incorporated into all aspects of an employee's life. Schmidt et al. (2021) described techno-overload as an individual using too much technology. Employees' exposure to too much technology is harmful to employees and increases technostress's adverse influence.

Employees working with computers experience Techno-invasion. Torres (2021) described techno-invasion as individuals being exposed to technology at all times without

a break from it. Techno-invasion affects employees who work for several hours on a computer without frequent breaks. In contrast, Schmidt et al. (2021) found that techno-invasion and techno-overload did not significantly affect technostress in adolescents between 10 and 17 years old. Minors are exposed to technology early, and therefore they may not experience techno-invasion or techno-overload. Torres (2021) found that technostress creators impact employees in an organization, and leaders should find strategies to address the influence of technostress. Techno-invasion and overload are technostress creators closely related to employees taking breaks identified in Theme 1 as strategies to minimize technostress.

Techno-overload can be related to the findings in Theme 1. Managers require employees to take breaks to reduce technostress because they have been working too long or have had too much time on the computer. The findings in Theme 1 confirm that time restrictions or emphasizing employees taking a break from using technology and computers is a strategy to minimize technostress. Techno-overload was reduced by employees taking frequent breaks, as discussed by technology managers in Theme 1.

Theme 2: Working as a Team on Projects

Technology managers monitor employees during team meetings. Technology managers use team meetings to identify individuals experiencing technostress. A pattern of working as a team to reduce technostress from individual team members emerged from the findings. Seven respondents identified working with teams to reduce employees' technostress and increase productivity. Technology managers focused on team members and teams to reduce technostress. The teams formed by employees working in the same

group and the information technology (IT) team that provide IT services to employees are vital to reducing employees' technostress.

Technology managers must recognize technostress as a problem for employees and organizations. P551 stated, "think what we've been mentioning, including the recognition of stress and the management dynamic and even bringing up the subject and seeing what it is and to recognize it amongst your team members and yourself, recognizing your personal flags." Technology managers must recognize technostress as a real problem before fixing it. P551 also stated, "the recognition includes discussing technostress with your managers on identifying it and how to identify it in your team members." The management team should work together to develop strategies reduce technostress. P554 stated, "let employees know that they are part of a team and that this is a team effort." One of the strategies managers use to minimize technostress is letting their teams know that they are going to work with them to reduce technostress.

Happy clients and happy employees are a benefit to the company. P552 stated, "I looked at what projects were done, and it's time to complete them. I secured feedback from both the clients and the teams working on the projects to see if they were happy with the outcome." Additionally, P552 stated, "well, yeah, but I think the customer has to be satisfied, so satisfied they have to be happy, but the project team has to as well." The technology manager wants their company to stay in business and make a profit, and that is why it is essential for the client to be happy. Employees need to be happy to reduce employee turnaround and increase productivity. The technology manager uses customer and employee feedback to measure the company's productivity. P554 stated, "we are

having the virtual happy hour two days a week for a few hours." Employees participate in team-building events to increase employee engagement, positively affecting a company's productivity.

Communication and employee training is essential for team development. P553 stated, "I implemented leadership strategies by using communication with the team and organization. Also, it is crucial to be a good listener and master the act of diplomacy when communicating to your team." Two-way communication between technology managers and employees helped reduce employees' stress. P558 said, "the most effective strategy is having open honest communication." Managers and employees must communicate their honest feelings about their work and how it affects them. Honest communication is the best way to identify and fix the problem. P553 and P558 identified communicating with a team as strategies to reduce technostress and increase productivity.

Every employee is an integral part of the team. P554 stated, "let employees know that they are part of a team and that this is a team effort." Managers can reduce employees' techno-insecurities by informing employees that they are essential to their success. Techno–insecurity is an attribute of technostress that makes employees fear being replaced by individuals who are better at using the technology (Le Roux & Botha, 2021). Employees feel that they will be fired if they cannot keep up with the challenges of the job, which includes knowing and working with computers and new technology. P553 said, "education is the key management and organization of investing and user friendly software, knowing when to go on and offline, and having a dedicated team"

Organizations show employees how valuable they are by investing in computer programs that make the employees jobs easier to reduce technostress.

An employee's work environment affects their performance. P556 stated, "we strive to ensure our team members have a great environment filled with transparency, fun traditions, and positivity." P556 uses strategies to promote employee engagement to increase their teams' productivity. P556 also stated, "peer programming and working in teams on projects to take days off when requested. Each employee is different; some people adapt well when working from home, and some are more social and need more attention than others or more social contact." Managers must monitor employees in their teams to assess their different needs to help them be successful when working remotely. P558 said, "in a hybrid work scenario, it becomes much more important to have an office space that not only allows our teams to collaborate effectively, but that also actively engages them with our corporate culture." Employees may feel isolated when working remotely; involving employees in team activities reduce their feelings of feeling alone.

All team members' contributions add to the success of a company. P558 stated, "I would probably want to make sure that people understand that it is a team strategy. Anything that you are thinking about needs to be filtered through your team. Most strategies will come from the people you are trying to affect, and it does not work without constant communication and input from your teams." For managers to be effective, they need input from their employees, whom the decisions primarily affect. P552 said, "positive. Making people a part of the process makes for positive results." Involving

employees in the decisions that affect them and their lives improves employee

engagement and are beneficial to increasing productivity.

Working in a team atmosphere decreases employees' technostress. P559 stated,

"participating and kind of the community people well-being things that would be

allowing them to disconnect. So may an employee team-building be an idea, you know,

this kind of activity." Technology managers can decrease the damage of technostress by

having employees participate in activities that increase the bond between employees in

the team and promote employee engagement by making work fun and less stressful.

Team building is a strategy to reduce technostress on employees and increase

productivity in the organization. Emphasize that employees are not alone; they have the

support of an entire team to help them with their challenges.

Relevancy of the Conceptual Framework

Transformational leadership attributes were identified in leadership strategies

used by the technology managers to reduce technostress and increase organizations'

productivity. Brod (1984) identified technostress as an individual's inability to cope with

the anxiety and stress from using computers and new technology. Leaders use the

transformational leadership theory to solve problems of organizations (Bass, 1985). The

leaders found that having employees work as teams reduced technostress on employees

and increased the organizations' productivity.

The findings connect to the transformational leadership theory's idealized

influence, inspirational motivation, and intellectual stimulation attributes. P558 said,

"feedback from your team is critical. Getting feedback and involving your team. Need

constant information." The technology managers discussed employee feedback and said that it was imperative and contributed to their decisions about their company. The leaders used idealized influence by being role models for the employees, inspirational motivation by encouraging followers to participate as teams to complete projects, intellectual stimulation by sharing their ideas, and feedback in team meetings (Yaslioglu & SelenayErden, 2018). Using transformational leadership attributes, leaders and followers worked together to reduce technostress and increase productivity.

Relevancy to Current Literature

The transformational leadership theory attributes assist leaders in increasing followers' performance. Islami and Mulolli (2020) found that team performance was increased by leaders using the following transformational leadership attributes:

- Idealized influence – team leaders are role models for followers, and to increase followers' productivity and performance, team leaders should display behaviors that the team members will admire.

- Inspirational motivation-leaders should find various ways to motivate their teams. The leader should motivate their followers using different strategies.

- Intellectual stimulation – leaders should mentally stimulate their followers, provide challenges to teams and encourage the team to find strategies to overcome them.

- Individual consideration – leaders should give each follower one-on-one attention, listening, teaching, and developing each team member individually.

Technology managers use transformational leadership attributes to increase employees' productivity. A transformational leadership environment in top management teams positively influenced the organization's followers' self-esteem and increased the organizations' proactive environmental strategies (Huang et al., 2021b). The transformational leadership attributes contributed to team members' performance and increased the corporations' productivity. The transformational leadership theory attributes contribute to leaders increasing a team's performance by addressing technostress creators to increase a corporation's productivity. Technostress creators' techno-overload, techno-complexity, and techno-insecurities may be used to motivate employees to be more productive.

Components of technostress contribute to employee anxiety. Techno-overload is when employees have too much exposure to information and communication technology, causing them anxiety and stress (Zhao et al., 2020). Employees become overwhelmed and non-productive when faced with working with too much technology. Zhao et al. (2020) found that employees used techno-overload as a motivator to be more productive and work to keep up with the fast pace of working with technology and see it as a challenge. The employees enjoy the challenge and fast pace of the work, and they enjoy being productive. Additionally, Abbas et al. (2020) found that techno-overload explains individuals' feelings when working with too much technology. Employees working with too much technology experience techno-overload, contributing to their anxiety.

Techno-invasion and techno-complexities are additional components of technostress. Techno-invasion caused employees to work beyond scheduled work times,

making them less competitive and less productive (Zhao et al., 2020). Techno-invasion causes employees to experience employee burnout making them less productive. Abbas et al. (2020) described techno-complexities as complications created from using technology. Techno-complexity motivates employees to be more competitive by finding better technology, but it may make them use it less (Zhao et al., 2020). Techno-invasion and techno-complexity components of technostress expose employees to being overwhelmed with too much technology causing them anxiety and technostress.

Techno-uncertainty and techno-insecurity components of technostress challenge employees working with computers and technology. Abbas et al. (2020) described the constant development of new technology to replace the current or old information and communication technology as techno-uncertainty. Techno-uncertainty causes employees to be unproductive as it takes time to learn how to use new software. Zhao et al. (2020) described techno-insecurities as fear of job security and may challenge employees to work harder and be more productive. Techno-insecurities may also cause employees to lose their competitiveness as the work becomes more complex, and they can no longer keep up with the job's demands (Zhao et al., 2020). Employees fear that they cannot use the technology and lose their jobs, causing techno-uncertainty and insecurity.

Employees have found strategies to cope with the technostress creators. Abbas et al. (2020) found that individuals used the following strategies to cope with techno-overload, techno-complexities, and techno-uncertainty;

- Avoidance strategy to avoid anything stressful

- Seeking support strategy was used to get help with working with the technology

- The problem-solving strategy was used by trying different ideas to find a solution, and

- They used religious coping by saying that this is what God wanted.

Technology managers use teams to increase employees' productivity. Employees working in teams avoid techno-overload and techno-complexity. As in Theme 2, employees work together in teams to reduce technostress on employees working on different projects. Employees working in teams reduce technostress and increase productivity.

Theme 3: Training and Employee Development

Training is essential for employee development. Employees need training on new technology before implementation. There are not many tools available for managers to help employees. Additional tools are needed to help managers with employee development. Participants stated more tools and training need to be developed to help managers reduce employee technostress. Technology managers train employees to be more knowledgeable and familiar with the technology they are working with to minimize technostress. Six respondents discussed training employees on new technology to reduce technostress on employees and organizations' productivity.

Employees need training on new technology before implementation. P551 stated, "and it's kind of just more of work-related development and. so that works in parallel to the weekly objectives that we do for the, for the tech development." Training on

technology was prioritized to reduce technostress to meet the organization's goals. P552 stated, "you can't just shove a new application or a new piece of technology sort of down their throats. What I find is very successful is you're trying to make the team or the firm a part of the process in understanding why they need to do something different on change is very, very difficult." New technology should be introduced to employees through training, and employees should not be expected to work with the technology without becoming familiar with it first.

The participants discussed workplace development and additional tools for managers to minimize technostress. P551 stated, "we need more products on training for managers on how to help employees manage technostress and all types of stress." More products on training will help managers successfully reduce technostress on employees. P552 stated, "the primary leadership strategy used to address implementing new software or products is to treat employees as people. Make employees involved in the process." P551 and P552 discussed training employees on the new technology; P552 discussed introducing employees early in the process to reduce employee technostress. Training is an effective tool to reduce technostress.

Educating employees will reduce technostress. P553 stated, "education is the first key to conquering the negative harm of technostress, education. I mean, you know, having to manage to have to organize training for your employees" One of the first things managers must do is schedule a training class for employees before implementing the new technology. Employees should know how to use the technology before being required to use it. P553 stated, "education is vital as a manager; providing training to

employees is crucial. They knew when to get offline. The training will make them more familiar with using the technology and provide employees with user-friendly software." P553 emphasized the importance of managers training employees on the new technology, and becoming familiar with it is crucial for organizations. Educating employees on the technology they use will reduce technostress.

Employees are taking classes on the new technology. P554 stated, "provides classes for employees to learn new technology before implementation. The classes benefit the employees by giving them time to review the new technology and ask questions." Technology managers allow employees to get familiar with the new technology to reduce their technostress. P554 stated, "the classes helped employees understand how to use the new technology before using it." P553 and P554 are the first technology managers to discuss possible formal employee training. Training employees on how to use the new technology will reduce technostress.

Employees must become familiar with the software. P555 also discusses getting employees familiar with the technology to reduce stress, similar to P553 and P554. P555 stated, "try to make them understand and be more comfortable with technology or the technology that we're using that we utilize in our office." Technostress will have less impact on employees as they become more familiar with it. P555 also stated, "I do teach them step by step, and try to make them understand and be more comfortable with technology or the technology that we're using that we utilize in our office" P555 discussed teaching employees one-on-one about the technology. Technology managers, P551, P553, and P554 discussed training employees in a group or classroom setting

rather than one-on-one. All of the technology managers discuss training as a strategy to reduce technostress amongst employees; the difference is the method of training employees. Employees will become familiar with the technology through training, which will reduce their anxiety and stress.

The employees were provided introductory training. P557 similarly discussed training employees early on in the process, similar to P552 and P554. P557 states, "the first couple weeks is to make sure everyone. Is using computers right, and comfortable with expanding," Technostress decreases as employees build their confidence by working with the technology before working with it. P557 also stated, "make sure everyone uses their computers correctly to minimize stress, for example, the keyboard and the mouse. Make sure they are issuing computers that are comparable with employees. Education, having a plan, listening to them, and looking at what is working and not." P557 discussed training employees one-on-one and training employees in group meetings on new technology to reduce technostress. Ensuring that employees know how their computers function reduces their stress.

Relevancy of the Conceptual Framework

Training and education were similar themes identified in the findings. Burns (1978) found that transforming leaders identified followers' needs and took actions to meet the needs of the followers. The leaders took actions to meet the followers' needs to increase productivity. Transformational leaders aim to meet the basic needs of followers, such as exchanges of work for salaries and helping followers meet additional needs such as self-fulfillment and work satisfaction (Bass, 1985). Technology managers used

training to increase employees' knowledge about computers and technology, minimizing technostress.

Employee feedback is used to find user-friendly software. P554 stated, "introducing the technology before it's time for it to be implemented and getting their user feedback on it, that helps them to feel like not only could they help to understand the program, but it also helps them to feel like they're not stressed out." Employees' feedback helps improve employee and management relationships and increases employee engagement. P552 stated, "you can't just shove a new application or a new piece of technology sort of down their throats. What I find is very successful is you're trying to make the team or the firm a part of the process in understanding why they need to do something different on change is very, very difficult." Technology managers use employee feedback, education, and training to increase followers' knowledge and decrease employees' stress.

The transformational leadership theory positively affects leaders' performance. Passakonjaras and Hartijasti (2019) found the four attributes of transformation leadership positively affect leaders' performance. Leaders use transformational leadership attributes to address performance problems in the organization. Transformational leadership attribute inspirational motivation was more significant in performance effectiveness than idealized influence as leaders who cared about their followers used the inspirational motivation attribute (Passakonjaras & Hartijasti, 2019). The inspirational motivation attribute was the most effective for addressing employee performance problems. Yaslioglu and SelenayErden (2018) found that leaders used transformational leadership

attributes to transform, inspire, influence, motivate, and stimulate their followers intellectually by helping them become more robust. The four transformational leadership attributes in conjunction positively affect leaders' performance.

Relevancy to Current Literature

Training leaders in transformational leadership strategies improves organizations' productivity. Organizations should not invest most of their resources to hire new employees but use those resources to train current managers on transformational leadership strategies to improve employee engagement and employee performance (Huang et al., 2021a). It is more expensive to train someone new than to mentor or coach a current employee. Training leaders in transformational leadership strategies helps leaders intellectually stimulate and encourage innovative work behaviors (Messmann et al., 2021). Training organizational leaders in transformational leadership strategies provide leaders with more strategies to minimize technostress on employees.

Training is a tool to reduce technostress. Estrada-Muñoz et al. (2021) discovered that teachers did not have assistance with technology errors, support systems, or training experienced with technostress. Computer malfunctions and errors also cause technostress and teachers did not have enough training with computers to resolve these issues. The training helped employees change their behaviors and attitudes toward technology and look for different strategies to help them learn and reduce technostress (Torres, 2021). Employees learned how to find solutions to their technology challenges, which reduced their stress.

Training employees on new technology is related to employee performance. Rayburn et al. (2021) found that technology training improves employees' performance. Training is vital to employees being successful. To increase efficiency, organizations must tailor their training programs around the individuals' personalities to reduce technostress and increase their productivity (Tiwari, 2021). Technology managers' discussions on training to reduce technostress confirm that training increases employees performance and reduces technostress

Theme 4: Mindful of Employee Stress Levels

The technology managers observe employees' stress levels during one-on-one interaction. During one-on-one interaction and group meetings, technology managers monitor employees for signs of technostress. Technology managers observed that technostress increased for employees working remotely during the pandemic. The theme findings illustrate a pattern of technology leaders observing employees' behavior for indications of technostress. Eight respondents discussed observing employees for signs of technostress to address issues employees were having that contributed to a loss in production.

The technology manager used one-on-one meetings to talk to employees. P551 stated, "as managers have one-on-ones every week. So and that's much more about not so much about the projects and the metrics and the KPIs. It's like, how are you doing?" How an employee feels is just as important as an employee's productivity. The technology manager uses one-on-one meetings to determine if the employee is experiencing technostress or having any problems that the manager can help resolve.

Employees' behaviors were monitored for signs of technostress. P554 stated, "study their behavior because their behavior has an impact on their productivity and their behavior. I can see some things wrong. I want to talk to them individually." Employees cannot be productive if they have their minds on other things besides work. P554, similar to P551, talks to employees individually to see how they are feeling.

Employees were forced to work from home during the pandemic. During the pandemic, technology managers used one-on-one meetings to monitor employees' stress levels. P554 stated, "you know, I mean, their behavior is some people are natural introverts, and some people are extroverts. So for, people who are extroverted by nature they have the most difficult time being home in an office environment, learning all of these new things, and not being around people. So I have to study that behavior to see what kind of a personality type they are so I know how to address it and what things I can do to help them through this time." P554, P556, and P558 discussed how stress from using computers and technology affected their employees, as they had to work from home during the pandemic. Covid-19 forced employees to move from working in the office to working from home, and working from home increased technostress amongst employees.

The Covid-19 pandemic created additional technostress for employees. P554 stated, "so the first and foremost is to reduce the technostress. I brought in a software firewall system that blocks outside apps and websites because a lot of my work is because of covid-19." The manager reduced the employees' exposure to unwanted notifications to reduce their stress. P553 stated, "the barrier that I found was having to

find new technologies. To still be able to conduct business. Like normal during a time when abnormal things were happening. So the barrier that we were having is still, in some senses, are experiencing the threat of covid if a person gets killed and how to keep your employees safe." The technology manager implemented tools and strategies to help employees adapt to working from home alone.

One-on-one meetings are used to help employees. P555 stated, "it's hard to see if I can get into words. We're very casual in the office because so I talk to them individually." Talking to employees one-on-one and the relaxed environment jointly reduces employees' technostress. P555 also stated, "talk to them individually and ask them what they don't feel comfortable doing. Work with employees individually to reduce stress. Give employees limited access for their safety and protection from malware. Help employees solve their issues." The technology managers work with the employees to resolve their issues to reduce technostress.

Talking to employees is a strategy for addressing employees' questions and concerns. P556 stated, "so just by talking to them, you can tell what their stress level is at their success as well as the outcome of the projects they work on." The managers monitored employees for early detection of stress before it became a significant problem affecting productivity. P556 stated, "doing regular monthly one-on-ones gives me a good temperature of how they're feeling about things." Monthly one-on-one reviews with employees allow the technology manager time to talk to them to see how they are feeling. P556, similar to P554, believes that working with employees increases employee engagement and reduces technostress.

The technology manager worked one-on-one with employees. P557 stated, "it was really working one-on-one. I probably had over 50 people at the SAP and working with them." The one-on-one strategy proved to be successful in reducing employees technostress. P557 also stated, "I also implement leadership strategies during group meetings by checking in on everyone and asking them are they ok. The leadership strategy was implemented during meetings with employees." P557 implemented training to employees using one-on-one meetings; this strategy is different from P554, which used one-on-ones to observe the employees' behavior.

The technology manager used the one-on-one strategy to observe employees' stress levels. P558 stated, "having private one-on-ones conversations with people to discuss how they are feeling." Talking to employees privately allowed them to voice their questions and concerns with management, which reduced their anxiety and stress. P558 also stated, "we check up on each other by doing mental health checks. We are giving people the opportunity to vent." P558 used one-on-ones to help employees reduce their technostress by talking about what they are going through.

Group meetings and one-on-ones allowed managers to talk to employees individually. P559 stated, "reach out to employees one-on-one. Managers watch employees more closely to ensure that they are being mindful of their health by making sure that employees are taking breaks." Managers believe that early detection of technostress allows them to address it before it affects the employees and their productivity. P559 Stated, "that's kind of our strategy for those who are trying to reach out to them one-on-one to make sure that they're using their benefits and their time off."

Managers used team meetings and individual meetings to check on employees' stress levels to determine if the employees are experiencing technostress to minimize or eliminate technostress and increase productivity. Technology managers P558 and P559 discussed checking up on employees and their mental health using one-on-ones.

Relevancy of the Conceptual Framework

Technology managers use one-on-one meetings to develop employees. Bass (1985) identified individual consideration as a leader's way of mentoring followers, counseling followers through one-on-one communication to help develop followers and meet their highest potential. Managers gave employees their undivided attention to fully listen to them and work with them to help them thrive. The mentoring provided by leaders provides followers with the confidence they need to help them complete work tasks (Bass & Riggio, 2006). Moon and Park (2019) found that individualized consideration helps leaders build confidence and motivate followers to take on more responsibility. Employees were not confident that they knew what they were doing; meeting with a leader built their confidence, which helped them make decisions and continue with their work.

Technology managers use one-on-one communication to observe and monitor employees' stress levels and reduce employees' technostress. P559 Stated, "that's kind of our strategy for those who are trying to reach out to them one-on-one to make sure that they're using their benefits and their time off." Leaders used their time with followers to ensure that the followers took advantage of the break time they were allowed to use to reduce their stress. Leaders use the individualized consideration attribute of

transformational leadership to determine and meet followers' needs (Shaw et al., 2018). One-on-one meetings in private allow employees to open up to managers and disclose their true feelings and needs. The employees may not open up to the technology managers without the one-on-one meetings.

Leaders can motivate employees, speaking to employees individually. P551 stated, "as managers have one-on-ones every week, not so much about the projects and the metrics and the KPIs. It's like, how are you doing?" Managers attempt to determine how the employee is doing personally during the one-on-one meetings and evaluate the employees' work performance. P554 stated, "study their behavior because their behavior has an impact on their productivity and their behavior. I can see something wrong. I want to talk to them individually." Technology managers motivate employees through counseling and mentoring them through one-on-one meetings.

Relevancy to Current Literature

Technology managers discussed using one-on-one interaction with employees. The transformational leadership attribute of individualized consideration is how leaders show an interest in others' development through listening and guidance (Mbindyo et al., 2021). The technology managers show the employees that they care about their goals and aspirations and not just about the work during the one-on-one meetings. One-on-one interaction is an example of the individual consideration attribute of the transformational leadership theory. McClean et al. (2021) suggested that the transformational leadership theory is crucial to an organization's success. Managers used the transformational

leadership individualized consideration to have employee one-on-one interaction to reduce employees' technostress.

A work-life balance has a positive influence on employees and their families. The transformational leadership theory's individualized consideration, intellectual stimulation, and inspirational motivation attributes were found to have a significant positive effect on leaders through the experience of family work-life enrichment (McClean et al., 2021). Employees with a robust family support system benefit from the transformational leadership theory's individualized consideration, intellectual stimulation, and inspirational motivations attributes. Families are at home more because of Covid-19. Tuan (2021) found that because Covid-19 has more employees working from home, organizations should use training to help employees feel more secure with their work and identify strategies to reduce technostress. Employees obtain a positive work-life balance using the individual consideration attribute. The individual consideration attribute contributes to strategies technology managers use to minimize technostress on employees.

Technology managers should be mindful of employees' stress levels. Pflügner et al. (2021) found that mindfulness reduces leaders' and followers' perception of technostress, but it does not reduce employee burnout. Leaders knowing that there is a possibility that employees suffer from technostress does not necessarily stop the employee from experiencing its influence. There is a significant positive link between interpersonal and preventative mindfulness and technostress (Tuan, 2021). Leaders should be mindful of employees' stress levels and take measures to reduce technostress to minimize the influence on employees and productivity.

Covid-19 affected employees that work with technology. Saleem et al. (2021) discovered that technology positively affected university professors' performance during the Covid-19 pandemic. Covid-19 did not stop people from working; technology allowed people to continue to work through the pandemic. During the Covid-19 pandemic, female teachers experienced the highest anxiety and fatigue levels of technostress (Estrada-Muñoz et al., 2021). Employees' anxiety and stress levels increased because they work remotely from home, relying more on technology to do their work with less support.

Technostress has an impact on employees' health. Borle et al. (2021a) found no statistically significant relationship between employees' mental health and information and communication technology; there was a statistically significant relationship between employees' physical health, technology intensification, and information and communication technology use. The relationship between technostress and employees' mental health was not as significant as technostress and an individual's physical health. Stadin et al. (2021) discovered that managers and employees with high exposures to technology use experience more technostress. The more frequently an employee uses technology, the more likely it is that the employee will experience technostress.

Technostress affects managers and employees. Managers and employees must identify the harm of technostress (Pflügner et al., 2021). Managers and employees must first identify technostress before finding solutions to the adverse influence on individuals. Borle et al. (2021b) found that technostress caused employees to experience employee burnout, while personal and work technostress harmed individuals. Technostress hurts managers, employees, and corporations. Managers and non-managers experience

employee burnout. Additional training programs should be used to decrease the technostress experienced by managers and employees (Stadin et al., 2021). Technology managers used one-on-ones to check employees' stress levels and monitor their mental health as a strategy to reduce technostress. Knowing that technostress exists does not stop employees from experiencing technostress, but it helps reduce it.

Theme 5: Utilizing Transformational Leadership Attributes

Managers use transformational leadership's four attributes to encourage and motivate employees: Idealized influence, inspirational motivation, intellectual stimulation, and individual consideration. Technology leaders use the four attributes to encourage and motivate employees to reduce technostress on employees and the company's productivity. A pattern of using transformational leadership attributes to reduce technostress was identified. Technology managers' encouragement and motivation of employees to participate in team building and employee enrichment programs for employee development are renowned for TL attribute behaviors. Nine respondents discussed using one or more transformational leadership attributes to minimize technostress.

Leaders affect employees using the idealized influence attribute. P551 stated, "as managers, we also do a lot by leading by example." Bass (1985) found that the idealized influence attribute leaders have personal effects on employees. Employees follow their leaders' actions; therefore, leaders need to be positive role models for their followers. The idealized influence attribute suggests that employees have strong feelings for their

leaders (Kabore et al., 2021). Participants discussed using strategies of the idealized influence attribute of transformational leadership to minimize technostress.

The technology manager cares about the teams' happiness and success. P552 stated, "well, yeah, but I think the customer has to be satisfied, so satisfied they have to be happy, but the project team has to as well." A happy team provides quality customer service to clients. Investing in employees keeps them happy and keeps the company in business. P553 stated, "education is the key management and organization of investing and user-friendly software, knowing when to go on and offline, and having a dedicated team." A happy team is dedicated to ensuring that the company is successful.

Employee support is available to the team members." P554 stated, "let employees know that they are part of a team and that this is a team effort." Team members do not have to struggle alone, and there are support systems to help them when they are struggling with either working alone or working with technology. P556 stated, "we strive to ensure our team members have a great environment filled with transparency, fun traditions, and positivity." P558 stated, "consider: Does our space promote inclusion and engagement while keeping our team comfortable from a health standpoint?" Human resources and employee assistance programs are available for employees that need support.

Leaders encouraged their employees to participate in enrichment activities. P559 stated, "participating and kind of the community people well-being things that would be allowing them to disconnect. So may an employee team-building be an idea, you know, this kind of activity." Employee enrichment could include continuing professional

education training for two weeks once a year for team building and employee development. P551 stated, "and its kind of just more of work-related development and. so that works in parallel to the weekly objectives that we do for the for the tech development." Training employees on the technology routinely minimize technostress.

Technology managers discussed the inspirational motivation attribute. Bass (1985) suggested that employees inspired through motivation and encouragement are influenced by the inspirational motivation attribute of the transformational leadership theory through the idealized influence attribute. A leader motivates their employees through their actions. Leaders may use idealized influence to motivate employees by assigning them a challenging task using the inspirational motivation attribute (Kabore et al., 2021). Providing employees with a challenge encourages and motivates them to take pride in their work.

The technology managers care about how the employees are doing personally. P551 stated, "I don't know, it opened up more, revealed a lot of conversation as compared to last year or something like that about how the environment of being in just virtual inside of it becomes a more real conversation, and I do feel that they are more honest with me." After managers started asking employees how they were doing personally, the employees started sharing more of their ideals. P558 stated, "every month people share some of the things they have done during the month and every month we reward them with 30 dollars, created to share ideas, plus we are always enlisting feedback." The managers care about how their employees are doing, and sometimes they offer incentives to get employees to share their experiences.

Employees are motivated to take action to reduce their stress. P554 stated, "introducing the technology before it's time for it to be implemented and getting their user feedback on it, that helps them to feel like not only could they help to understand the program, but it also helps them to feel like they're not stressed out. Employees work better with familiar software, relieving their stress and increasing productivity." P559 stated, "encourage employees to take a break and encourage them to work on their mental health." Employees are encouraged to take frequent 5 or 10 minutes breaks to give them time to rest and mentally reset.

Participants discussed strategies to motivate employees using intellectual stimulation. Leaders use the intellectual stimulation attribute to motivate employees to work beyond what is required by stimulating employees' minds (Bass, 1985). Motivate and encourage employees to meet work obligations. Motivate employees by providing them when challenges to help build their confidence. Kabore et al. (2021) found that leaders may use the intellectual stimulation attribute to evoke employees to find innovative methods to meet work challenges. Employees challenged to learn how to find solutions to their problems with technology using intellectual stimulation experience less technostress in the future because they know how to solve complex problems

The employees' feedback helps the managers make decisions. P554 stated, "introducing the technology before it's time for it to be implemented and getting their user feedback on it, that helps them to feel like not only could they help to understand the program, but it also helps them to feel like they're not stressed out." The employees' feedback is essential and helps managers decide whether the software fits the company

and the employees. P558 stated, "feedback from your team is very important. Getting feedback and involving your team. Need constant information." The employees are doing the work, and their feedback can only help the company grow and be more innovative and competitive in the global environment.

Leaders' and employees' relationships are essential to help leaders reach their goals. Individual consideration is leaders' consideration for employees, which leads to positive leader-employee relationships, increasing employee satisfaction and employee productivity (Bass, 1985). One-on-one meetings with leaders and employees allow leaders to mentor and develop employees and create a positive relationship by helping employees meet their personal goals. McClean et al. (2021) described the individual consideration attribute of transformational leadership as leaders having a closer relationship with their employees. Employees are more dedicated to the company and its goals because they respect and admire its leaders.

Managers get the employees' perspectives by speaking with them individually. P554 stated, "study their behavior because their behavior has an impact on their productivity and their behavior. I can see something wrong. I want to talk to them individually." Leaders should talk to employees if they see that they are struggling, which helps relieve stress. P555 stated, "I it's hard to see if I can get into words. We're very casual in the office because so I talk to them individually." The followers may not feel comfortable sharing their concerns with their leaders; therefore, leaders must ensure that followers know that they can come to them.

The technology managers use one-on-one meetings to monitor how their employees are feeling. P556 stated, "doing regular monthly one-on-ones gives me a good temperature of how they're feeling about things." Monthly reviews with employees allow the leader to help employees with challenges. P557stated, "it was really working one-on-one. I probably had over 50 people at the SAP and working with them." P558 stated, "having private one-on-ones conversations with people to discuss how they are feeling." Talking to people and making sure that they know that it is safe to voice their opinions helps relieve their technostress.

One-on-one meetings allow managers to monitor employees' stress levels. P551 stated, "as managers have one-on-ones every week with our reports. So and that's much more about not so much about the projects and the metrics and the KPIs. It's like, how are you doing?" Managers show their employees support by conducting frequent informal meetings. P559 stated, "that's kind of our strategy for those who are trying to reach out to them one-on-one to make sure that they're using their benefits and their time off." As more employees are working remotely due to Covid-19, managers must reach out to employees to ensure that working in a remote environment is not causing anxiety or employee burnout from constantly working on a computer.

Relevancy to Conceptual Framework

The conceptual framework of the study was the transformational leadership theory. Transformational leadership requires leaders to identify issues, make suggestions, and develop ideas to reduce employees' stress during difficult times (Yaslioglu & SelenayErden, 2018). Leaders utilize the transformational leadership attributes to

encourage, mentor, motivate and develop their employees. M. Brown et al. (2019) suggested that the transformational leadership theory increased employees' morale and job satisfaction. Yaslioglu and SelenayErden (2018) described the four transformational leadership attributes: Idealized influence, inspirational motivation, intellectual stimulation, and individual consideration as strategies leaders may use to motivate and support employees. Technology managers use the transformational leadership attributes in conjunction with the themes to reduce technostress on company employees'.

Technology managers discussed transformational leadership strategies to motivate and support their employees. The employees were supported and motivated using one-on-one meetings. Inspirational motivation and individualized consideration attributes of transformational leadership were essential in motivating employees using one-on-one meetings. The technology managers provided training on new software and computers to increase employees' knowledge on using the technology. The technology managers reduced technostress by using transformational leadership attributes: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration.

The research findings included: tech-break by ensuring employees took frequent breaks and used their time off to minimize their technostress. Training on computers increased employees' productivity. Employees were grouped into teams to work on projects and observed and monitored to reduce their stress levels. The technology managers also worked with employees individually to observe, monitor, train, and suggest strategies to employees to reduce the employees' stress from using computers and technology and increase productivity.

The technology managers use strategies associated with the idealized influence attribute of transformational leadership. P551 stated, "as managers, we also do a lot by leading by example." Leaders show employees how they want them to work through their actions. Participants illustrated the idealized influence attribute of the transformational leadership theory. Leaders are role models for their employees and are an example of moral conduct to employees (Yaslioglu & SelenayErden, 2018). A leader with a work-life balance is a role model to their employees.

Utilization of the idealized influence attribute encourages employees to share. Yin et al. (2019) described the idealized influence attribute as leaders and followers sharing the same goal and involves leaders and followers trusting one another and working toward meeting the shared goal. The organization's goals are shared with the employees, and leaders work with employees to meet their individual goals and the organization's goals. P551 stated, "I don't know, it opened up more, revealed a lot of conversation as compared to last year or something like that about how the environment of being in just virtual inside of it becomes a more real conversation. And I do feel that they are more honest with me." Covid-19 forced employees to work remotely, and technology managers use this time to foster a better working relationship with their employees through communication and sharing of ideas.

Employees are encouraged to provide feedback on the technology they use. P554 stated, "introducing the technology before it's time for it to be implemented and getting their user feedback on it, that helps them to feel like not only could they help to understand the program, but it also helps them to feel like they're not stressed out."

Leaders getting employees involved in the decision-making process helps employees understand that they are an essential asset to the company and that leaders care about what they think. P558 stated, "feedback from your team is very important. Getting feedback and involving your team. Need constant information." The technology managers secure feedback from employees to make improvements that reduce employees' technostress and improve productivity.

Employees share their ideas with their managers. P556 stated, "doing regular monthly one-on-ones gives me a good temperature of how they're feeling about things." The managers listen to the employees to find out how they are doing to gauge their stress levels. Yaslioglu and SelenayErden (2018) described the inspirational motivation attribute as leaders getting employees involved in the organizations' vision. Employees feel empowered when asked to share their ideas on meeting the organization's goals.

Leaders ask employees to share their ideas. Employees are asked to provide feedback, speak up, and help find solutions in the intellectual stimulation attribute of the transformational leadership theory (Yaslioglu & SelenayErden, 2018). Employees are intellectually stimulated with they are encouraged to find solutions to problems. Yin et al. (2019) found that intellectual stimulation is a positive transformational leadership attribute as it helps leaders mentally stimulate followers and get their followers to share their knowledge freely. Obtaining multiple ideas from employees helps improve productivity and innovation, and the innovation helps the company become more competitive.

Managers encourage and develop employees using one-on-one meetings. P558 stated, "having private one-on-ones conversations with people to discuss how they are feeling." One-on-one meetings are vital in getting employees to share their ideas to increase organizational innovation and productivity. P559 stated, "that's kind of our strategy for those who are trying to reach out to them one-on-one to make sure that they're using their benefits in their time off." The technology managers use the individual consideration attribute to interact with employees one-on-one, ensure that employees take breaks, and identify their training needs.

Managers mentor employees to help them with employee development. Leaders use the individual consideration attribute of transformational leadership to interact with followers individually by listing to followers and helping them achieve their goals (Yin et al., 2019). Employee development practices help increase an employee's productivity through the individual consideration attribute. Yaslioglu and SelenayErden (2018) described the individual consideration attribute of transformational leadership using the following descriptions:

- Leaders were building relationships with followers individually.

- Leaders were listening to followers to identify their needs and abilities.

- Leaders worked with followers' to develop their potential.

- Leaders are mentors to followers, helping them reach their highest potential.

Relevancy to Current Literature

The transformational leadership theory attributes contribute to employee performance. Kabore et al. (2021) found that transformational leadership theory and team

size did not have a significant statistical influence on project success; the idealized

influence attribute of the theory had a positive effect on international development

projects. The attribute contributed to the organizations' projects globally; the attribute and

team size failed to add to a project's success locally. The transformational leadership

theory was positively affected by family work enrichments on leaders and their

employees through inspirational motivation and intellectual stimulation attributes

(McClean et al., 2021). Leaders implement different transformational leadership strategy

attributes to increase employees' productivity and decrease technostress.

There are several positive consequences from leaders implementing the

transformational leadership theory. Huang et al. (2021a) discovered that the

transformational leadership theory influenced employee engagement and that employee

engagement influenced counterwork behaviors in employees. Transforming leaders used

strategies to improve employees' behaviors by helping them care about their jobs and the

quality of the services they provide to clients. Transformational leaders improve

organizations' innovativeness by influencing employees to be creative and motivating

employees to contribute to organizations' corporate social responsibility programs

(Gashema, 2021). Employees who contribute to corporate social responsibility programs

positively impact society by helping the people who need assistance.

Employee engagement improves productivity. Transforming leaders improve

organizations' productivity. Improving productivity also improves organizations'

financial stability and the support of people in local communities. Organizations improve

employee engagement by introducing employees to computers and technology before working with them.

Leaders use attributes of transformational leadership to increase productivity. Armugam et al. (2021) found a relationship between the four attributes of transformational leadership and organizational health related to the teachers' administration in Malaysia. The transformational leadership attributes positively affected the teachers' administration, indicating that transforming leadership also helps people in all industries. The attributes' significance contributed to positive employee entrepreneurial behavior, employee change, and employee commitment (Huynh, 2021). Transforming leadership attributes contributed to changes for employees in education and entrepreneurial professions, indicating that the attributes effectively create positive change for people working in multiple companies. Transformational leadership contributes to technology managers' leadership strategies to increase productivity.

Company Profile

The study volunteers work for different organizations'. Case P551, P552, P555, and P558 work for technology services and consulting companies that help organizations meet their business initiatives. P553 sells computers and new technology to organizations. The participants worked for technology companies that sold, fixed, and recommended technology and software to companies that use the technology to operate their businesses.

The participants work in multiple industries. P554 operates an online apparel company that uses technology to allow customers to view and purchase products online.

Online utility services are provided to customers by P556. P557 works for an automobile

manufacturing company that uses technology in automotive manufacturing and sales in

the auto manufacturing industry. P559 works in a museum in the western region of the

United States and uses technology to help with providing the public with art exhibits. The

multiple case study explored nine technology managers working in different companies'

from multiple regions of the United States to explore leadership strategies that technology

leaders use to minimize technostress on employees and company productivity. The nine

participants represented the northeast, southeast, and western regions of the United

States. The companies are located in the following regions of the United States:

- P551 and P552 are located in the northeastern region of the United States.

- P553, P555, and P558 are located in the southeastern region of the United
  States.

- P554, P556, P557, and P559 are located in the western region of the
  United States.

Application to Professional Practice

The findings offer business leaders potential strategies for professional business

practice. Technology managers may apply the findings from my research to minimize

technostress on corporate productivity. Business leaders may apply the findings to the

four technostress creators; techno-overload, techno-invasion, techno-complexities, and

techno-insecurities. The research results offer business leaders potential strategies to

reduce employee turnover, employee burnout, employee presenteeism, and absenteeism.

Technology managers may use the findings to minimize technostress creators. Technostress creators are techno-overload, techno-invasion, techno-complexities, and techno-insecurities. Employees experience technostress because of the technostress creators, and reducing them will increase productivity. The five major themes identified were tech – break, teams, training, employee development, being mindful of individuals' stress levels, and utilizing the transformational leadership attributes. The research findings provide potential strategies for technology managers to reduce technostress creators.

Theme 1, employees should take frequent breaks. Technology managers may use Theme 1 findings to reduce techno-overload and techno-invasion by recommending that employees take frequent breaks away from the computer and only work their scheduled work hours. Tarafdar et al. (2020) said techno-overload was people doing too much work to use technology. There is a learning curve with using new technology, and learning how to use new technology is stressful. Techno-overload refers to employees being exposed to too much technology (Zhao et al., 2020). Technology managers may minimize techno-overload by requiring employees to take breaks and only work during scheduled work hours.

Theme 2, team collaboration on projects, helps employees. An employee's techno-insecurities may be minimized by utilizing the Theme 2 strategies. Technology managers may use transformational leadership attributes, inspirational motivation, and idealized influence to reduce team stress. Employees having assistance from managers and coworkers in a team setting may remove some of the burden and pressure an employee

feels when working on a project alone. The technology managers said working in teams reduces employees' technostress.

Theme 3, technology managers suggest training and employee development reduces technostress. Training may minimize technostress and increase productivity by making employees more familiar with the technology before using it. Work is more manageable for employees when they are not faced with challenges attached to working with technology or the computer. Leaders should incorporate continuous training on the technology to reduce stress.

Theme 4, mindfulness, managers discussed having one-on-one meetings with employees. A one-on-one is utilized to monitor employees' stress levels and mentor employees to help them develop. Individualized monthly reviews allow managers to help employees manage their workload and address their questions and concerns. Technology managers may apply Theme 4 to minimize technostress creators by mentoring employees individually. Mentoring employees may help them reduce their anxiety and stress from using technology and increase a company's productivity.

Theme 5, technology managers utilized strategies associated with the transformational leadership attributes to minimize technostress. Tech-breaks, teams, training and employee development, and mindfulness emerged as significant themes discussed by the technology managers. Therefore, the fifth significant theme that emerged from the study findings is utilizing the transformational leadership attributes to minimize technostress. The strategies associated with the TL attributes are used to encourage and motivate employees to increase productivity.

Employee engagement may lead to an increase in productivity. Transformational leadership assisted leaders in encouraging and motivating employees to increase employee satisfaction and productivity (Bass, 1985). Helping employees meet their goals and aspirations will motivate them to be more productive. Tarafdar et al. (2020) said individuals' behaviors to minimize technostress enabled productivity. Technology managers in professional practice may apply the five themes identified in the findings to increase a company's productivity and reduce employees' stress from using computers and technology.

Implications for Social Change

The implications of positive social change from my research findings are decreased employee technostress. Borle et al. (2021b) discovered that extensive use of technology significantly affected individuals' mental health. Leaders may help employees' mental health by addressing the anxiety and stress of working with technology. Individuals should take frequent short breaks from using computers and interact with others (Othman et al., 2021). Technology managers requiring employees to take frequent short breaks is an example of one of the strategies technology managers may potentially utilize for positive social change.

The findings provide technology managers with potential leadership strategies to reduce technostress. Leaders may use tech-break and team strategies to reduce employee burnout. Reducing employee burnout may create a positive work environment for the employees. The implications of positive social change would be a potentially positive change in the employees' work and personal environments. The research findings

identified in the study may benefit technology managers with leadership strategies they can use to help employees reduce their anxiety from working with technology and increase a company's productivity.

A company's increase in productivity may increase its financial stability. As the company became resilient, they contributed to the resilience of the local community by making small financial contributions to community programs that supported people (Adekola & Clelland, 2020). The company leaders contributed to corporate social responsibility programs after being financially stable. The bond they share with the people in the community motivates the small business owner to contribute to local community programs and create positive social change behaviors (Park & Campbell, 2018). The potential strategies to decrease technostress may increase a company's productivity and possibly its leaders' ability to invest in corporate social responsibility programs established to help people in their local community.

Recommendations for Action

Technology managers may use the research findings to identify leadership strategies to reduce technostress and increase their company's productivity. Business owners and managers can reduce employees' technostress by influencing employees to take frequent breaks away from their computers and technology. Employees can be reminded during group meetings to make sure that they take stand-up breaks, walk out and get some fresh air, and to only work during their scheduled work hours. Frequent breaks from computers and technology and team collaborations on projects reduce employees' technostress.

The team and manager support reduced the individual's burden. Managers may put employees together in teams to work on different projects to reduce employees' technostress. Leaders may reduce followers' technostress and increase productivity by continuously training followers on new technology. The technology that followers work with is constantly changing, and followers need the training to keep up with the technology.

Providing employees with training classes ensures that employees are familiar and knowledgeable in using the technology. Training is a positive method of reducing employee anxiety and stress. Technology managers may use one-on-one reviews to observe, mentor, and train employees to minimize employee burnout, turnaround, employee absenteeism, and employee presenteeism. I recommend that business owners and managers whose employees use high levels of technology use multiple leadership strategies to reduce technostress on the employees to increase the company's productivity.

The research provides important information to corporate managers. Corporate managers may find the information helpful in improving business processes and continue meeting the company's financial obligations. The information may be vital in identifying leadership strategies their managers can use to increase their productivity and performance. Managers may find the research results helpful in identifying leadership strategies to increase their employees' performance.

I will provide the research study participants with a summary of the study's overall findings. The study findings will provide them with potential leadership strategies

to help them continue increasing their employees' performance and their organization's productivity. I plan to publish the findings in the American Institute of Stress (AIS) publication. The AIS members may find the research results helpful in reducing workplace stress and helping improve physical and mental health. I also plan to publish my findings with other online websites that provide information to organizational leaders and managers looking for strategies to reduce technostress and provide additional information to other researchers.

Recommendations for Further Research

The following recommendations may assist future researchers in addressing possible limitations. Access to data was a possible limitation of the case study. Future researchers may expand their search to include multiple types of business managers of employees who work with technology to access more data. Utilizing the transformational leadership theory, this study's conceptual framework, to minimize technostress was a limitation. The transformational leadership theory was the only theory used as a lens to conduct the research. In future research, researchers can use the full-range leadership theory as the conceptual framework, incorporating the transformational, transactional, and lassie faire theories as a lens to conduct the research study on leadership strategies to address the influences of technostress on a corporation's productivity.

Collecting documentation to collaborate data was a limitation. There was a small percentage of participants that published their meeting minutes. The internet search of publicly accessible documents only provided limited information about the participants to collaborate the data. Leaders may have limited documentation to support their claims

during data collection. Future researchers may collect archival records to help them

support the claims made by business leaders during data collection in future studies.

Conducting face-to-face interviews to collect data was a limitation of the research.

Because of the limitation of face-to-face interviews during the Covid-19 pandemic,

leaders may not have time to meet with researchers to answer questions on the leadership

strategies to reduce technostress. I recommend that future researchers use a quantitative

or mixed-method methodology to collect data to compensate for the lack of face-to-face

interview opportunities. To address time constraints as a limitation, future leaders can

schedule shorter time frames to conduct the interviews or reduce the number of interview

questions. Future researchers can manage time constraints by putting a time frame of

completion on each section of their study, allowing for time to reschedule or extend

completion dates, or tracking time.

Leaders might not use a specific leadership strategy. Future researchers should

ask participants various questions to identify the leadership strategies during the data

collection process. Changing the conceptual framework to conduct the research may

benefit future leaders. A quantitative methodology to collect data on leadership strategies

to minimize technostress may also benefit future leaders.

Reflections

My experience attending Walden University has been exciting and challenging. I

have enjoyed taking classes, writing papers, communicating with my peers, working with

my professors, chair, and committee. My professors, chair, and committee have

positively contributed to my lifelong learning goals. In learning, there were challenges

that I did not think I would be able to overcome, but through grit and perseverance, I continued to work hard and use the feedback to improve my thinking and writing skills. My experience at Walden University was positive and fulfilling.

Organizations have incorporated using computers and new technology to complete work tasks and projects. I did not initially know that the stress from using computers and new technology had a specific name or was studied. Still, I knew that it was stressful to keep up with the work generated by computers and that learning new programs and software was challenging. Researching the leadership strategies technology managers use to minimize technostress on employees and a company's productivity provided me with new ideas of technostress, different strategies to cope with technostress, and new strategies to minimize technostress before implementation or being introduced to the technology.

My original bias was that technostress is a negative phenomenon affecting people who work with computers. I now believe that changing one's perceptions and behaviors can change the perception of technostress. Individuals' behaviors can potentially be changed and positively influence the following:

- A company's productivity

- Social change for employees

- Social change for local communities

- Technology managers

Conducting the interviews and hearing the technology managers speak about the leadership strategies was the best part of the doctoral study process. We did not meet

face-to-face because of Covid-19. The interviews were conducted using zoom conferencing and telephone calls. The participants were excited about the subject and very knowledgeable, and willing to share their experiences and perspectives of technostress.

One of my major fears for the study was finding volunteers and finding volunteers familiar with the phenomena. It was not easy finding participants using cooperative partnership methods. I changed my methods to finding volunteers through participant pools. One of the technology managers never used the term technostress but was familiar with the phenomena and understood its meaning, concepts, and how they managed its influence on their employees and company. All of the other participants were familiar with technostress and its influence on employees and productivity.

The technology managers and employees are using technology more during the pandemic. Covid-19 forced many companies to move to have their employees work remotely; as a result, they are experiencing technostress more and using more leadership strategies to address its influence on the employees and the company. As I reflect on the participants' interviews, covid-19 has affected technology managers and employees as more employees work from home.

Conclusion

This multiple case study was intended to explore leadership strategies that technology managers use to minimize technostress on corporate productivity. The targeted population consisted of business leaders in the United States who have implemented successful strategies to minimize technostress on the productivity of their

corporations. Technology managers identified potential leadership strategies that some organizations may use to minimize technostress on employees and their corporation's productivity. Company leaders may implement more than one strategy in working with employees to reduce technostress. Owners and managers may reduce technostress by changing employees' perceptions and behaviors working with computers and new technology (Torres, 2021).

I collected data using semistructured interviews to interview nine participants using an interview protocol, asking the same questions. Notes were taken during the interview, and I used member checking by going over the notes with the participants to ensure that I captured their reflections and experiences. Public accessible documents were reviewed to support the data collected during the interviews. After completing the study, I used member checking to confirm the findings reflect the participants' experiences.

The study participants were emailed the findings and asked to analyze the findings and affirm the findings reflect their views and experiences. Six of the nine participants' emailed replies affirming the findings reflect their views and experiences. Three of the nine participants did not respond. Five main themes were identified through Yin's (2016) five components of case study data analysis: (a) tech-break; focus on employees taking time away from the computer for a break and giving employees time to recharge to minimize employee burnout (b) training and employee development (c) focus on working as a team, and team members (d) managers are mindful of employees' stress levels; and (e) utilizing transformational leadership attributes. The participants confirmed

the findings reflected their feelings and experiences identified in the five main themes of the study.

The business leaders use several potential leadership strategies simultaneously to reduce technostress on employees' and organizations' productivity. To minimize technostress on employees and the organizations' productivity, business leaders do not use just one specific leadership strategy. Additionally, the research findings identified five potential leadership strategies business leaders and managers might use to reduce employees' technostress, increase their company's productivity, and increase organizations' financial stability.

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Appendix A: Interview Questions

1. What leadership strategies are you using to minimize technostress on your company's productivity?

2. How did you implement leadership strategies for reducing technostress on your company's productivity?

3. What was the response from company employees to implementation of the leadership strategies?

4. What fundamental barriers did you encounter when implementing leadership strategies for reducing technostress on your company's productivity?

5. What actions did you take to minimize the fundamental barriers to implementing the strategies for reducing technostress on your company's productivity?

6. How do you measure the influence on productivity of the leadership strategies for reducing technostress?

7. What was the most effective leadership strategy you used to minimize technostress on your company's productivity?

8. What additional information would you like to share about leadership strategies to minimize technostress on your company's productivity?

Appendix B: Interview Protocol

1. Select a setting that is quiet and free from distractions.

2. Make sure to explain the purpose of the interview clearly.

3. Review the informed consent form with the participant.

4. Request consent to record the interview.

5. Address terms of confidentiality.

6. Explain the format, structure, and process of the interview.

7. Discuss what happens once the interview ends.

8. Make the participant feel comfortable physically and emotionally.

9. Ask the participant if they have any questions before the interview begins.

10. If the participant gives consent to record, make sure that the recorder is turned on.

11. Call the participant before the interview to confirm the interview day and time.

12. Send the participant the interview questions and consent form before the interview.

13. Ask follow-up questions.

14. Thank the participant and appreciate their time and responses.

15. Write notes on a copy of the instrument with the participant's name and date so that they can clarify or follow up with any questions and critical ideas.

16. Write down any observations that made during the interview.

17. Send the participant a $30.00 visa gift card after participation in the research study.

18. If possible, follow up by email or with a handwritten note to thank the participant.

Appendix C: Participant Eligibility Questionnaire

1. What type of manager are you?

o Accounting

o Human resources

o Payroll

o Technology

o Collection

o Other

2. Where in the United States is your company located?

o West

o Midwest

o Northeast

o Southeast

o Southwest

3. Are you between the ages of 18 and above?

o Yes

o No

4. Do you manage employees who use technology?

o Yes

o No

5. Have you successfully implemented leadership strategies to minimize stress on
   employees' and organizations' productivity?

o   Yes

o   No

Appendix D: Introductory Email

Strategies to Reducing Technostress on Corporations' Employees

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Dear technology manager

You are invited to participate in this study by being interviewed on a volunteer basis.

The interview session may take 1 hour to complete.

This study seeks six to eight volunteers who are:

- Technology managers ages 18 and older have successfully used leadership strategies to reduce technostress on a corporation's productivity.

- Have at least 2 years' experience as technology manager managing employees that work with computers or new technology.

- Volunteers must live in the United States.

The purpose of this study was to explore leadership strategies to reduce technostress in organizations' employees. Technostress is caused by an individual's inability to cope with anxiety associated with computers and new technology.

I will take appropriate measures to protect participants' confidentiality. The final doctoral study will not include names of individuals or organizations involved in the study, to protect their privacy.

Individuals will receive a $30.00 visa gift card to participate in the research study.

Please provide a day and time that is convenient for you, and I will do my best to meet with you during that time.

Appendix E: Consent Form

You are invited to take part in a research study about strategies to reduce technostress in organizations' employees. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study seeks six to eight volunteers who are:
- Technology managers ages 18 and above have successfully used leadership strategies to reduce technostress on a corporation's productivity.
- Have at least 2 years' experience as technology manager managing employees that work with computers or new technology.
- Volunteers must live in the southeastern United States.

This study is being conducted by a researcher named Kenneth M. Coble, who is a student at Walden University.

Study Purpose:
The purpose of this study is to explore leadership strategies technology managers use to minimize technostress on a corporation's productivity.

Procedures:
This study will involve you completing the following steps:
- Take part in a confidential, audio-recorded interview for one (phone and zoom options are available) (1 hour).
- After completing the study, the participants will be emailed all the findings and asked to analyze them and comment critically. Participants will be asked to confirm that the findings affirm and reflect their views and experiences or if the findings do not and asked to reply by email (30 minutes).

Here are some sample questions:
19. What leadership strategies are you using to minimize technostress on your company's productivity?
20. How did you implement leadership strategies for reducing technostress on your company's productivity?
21. What was the response from company employees to implementation of the leadership strategies?

Voluntary Nature of the Study:
Research should only be done with those who freely volunteer. So everyone involved will respect your decision to join or not.
If you decide to join the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study:
Being in this study could involve some risk of the minor discomforts that can be encountered in daily life such as sharing sensitive information. With the protections in place, this study would pose minimal risk to your wellbeing.

The benefit to participants is to identify leadership strategies used to reduce the harmful element of technostress on a corporation's employees.

Payment:

Individuals will receive a $30.00 visa gift card to participate in the research study.

Privacy:

The researcher is required to protect your privacy. Your identity will be kept confidential within the limits of the law. The researcher is only allowed to share your identity or contact information as needed with Walden University supervisors (who are also required to protect your privacy) or with authorities if court-ordered (very rare).The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. If the researcher were to share this dataset with another researcher in the future, the dataset would contain no identifiers so this would not involve another round of obtaining informed consent. Data will be kept secure by password protection, use of codes in place of names, storing names separately from the data, and discarding names (when possible). Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:

You can ask questions of the researcher by phone at xxx-xx-xxxx and or by email xxxxxxxxxx. If you want to talk privately about your rights as a participant or any negative parts of the study, you can call Walden University's Research Participant Advocate at 612-312-1210. Walden University's approval number for this study is **IRB will enter approval number here**. It expires on **IRB will enter expiration date.**

You might wish to retain this consent form for your records. You may ask the researcher or Walden University for a copy at any time using the contact info above.

Obtaining Your Consent

If you feel you understand the study and wish to volunteer, please indicate your consent by replying to this email with the words, "I consent".