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# Strategies for Developing Trust in Virtual Project Teams

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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the review committee have been made.

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Abstract

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MBA, American University, 2003

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

Organizational leaders often fail to use the trust building strategies necessary for the

successful implementation of virtual project teams (VPTs). Grounded in Meyerson et

al.'s swift trust theory, the purpose of this qualitative single case study was to explore

strategies project team leaders (PTLs) and project management office leaders in

charitable nonprofit organizations leverage to effectively develop trust in VPTs. The

participants were six PTLs and project management office leaders from a charitable

nonprofit organization in the Washington, DC metropolitan area. Data were collected

through semistructured interviews and a review of the organizational documentation.

Data analysis occurred through a thematic approach. The major themes emerging from

the study were trust, leadership, communication, and technology. A key recommendation

is for leaders to create an environment conducive to effective communication and the

right technology to facilitate the collaboration and work efforts of the team. The

implications for positive social change include the potential for nonprofit organizations to

effectively utilize VPTs in support of humanitarian and disaster relief projects for the

benefit of people and communities around the world.

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Dedication

I dedicate this study to my parents and my late grandparents who provided me with the foundational principles and support in every way during each stage of my educational and life pursuits.

Acknowledgments

I would like to thank my family, friends, and supporters from every corner of my life for their encouragement throughout my doctoral study journey. All of you provided me with the inspiration and motivation necessary to complete the Doctor of Business Administration (DBA) program at Walden University. I also extend special thanks to faculty members and everyone I encountered at a Walden University Residency for your advice and assistance. Every opportunity to learn from you was important and crucial during the DBA process. I express my sincere appreciation to my DBA Chair, Dr. Brandon Simmons, for his guidance and advice throughout each phase of this process. To all, I extend my profound and humble gratitude.

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Section 1: Foundation of the Study

Organizational leaders use different approaches to accomplish organizational performance objectives. Virtual work teams, which often consist of geographically dispersed team members, represent an effective means for leaders to satisfy organizational objectives (Derven, 2016). The virtual team achieves a specific organizational purpose (Pathak, 2015), with effectiveness coming from the relationship among team members (Prasad et al., 2017), which stems from trust (Zuofa & Ochieng, 2017). Building trust in virtual teams is one of the main challenges in a distributed work model ("Virtual TeamLearning: The Role of Collaboration Process and Technology Affordance in Team Decision Making," 2016). Virtual project team (VPT) leaders must understand how to build trust among team members in order to realize positive contributions from geographically dispersed work members.

**Background of the Problem**

The globalization of world economies and technological advancements enable businesses and all types of organizations, including nonprofit organizations, to operate without concern for traditional boundaries. Information and communication technology advances have contributed to the increased popularity of the VPT (Pathak, 2015). Virtual teams consist of members who are not co-located (Painter et al., 2016), enabling organizations to utilize talent without geographical restrictions (Pathak, 2015). VPTs represent an effective means for accomplishing organizational performance objectives (Zuofa & Ochieng, 2017). Despite the many advantages of a virtual workforce,

organizations must contend with the many challenges associated with virtual teams
(Killingsworth et al., 2016).

Virtual work teams often form quickly and consist of team members having
limited work histories with each other (Zuofa & Ochieng, 2017). The lack of in-person
communication and past work relationships often represents an obstacle to the
development of trust among team members. Trust means the extent to which team
members believe others in the group possess the capability to assist with the achievement
of the performance goal established for the team (Crisp & Jarvenpaa, 2013). The
presence of trust in virtual work teams relates to the performance of the team (Crisp &
Jarvenpaa, 2013). Thus, trust is an essential element of virtual teams, and project team
leaders (PTLs) must use appropriate strategies to build trusting behaviors and cohesion to
facilitate team success.

## Problem Statement

Geographically dispersed virtual teams continue to surge in popularity as
organizations expand operations globally to complete time-sensitive goals (Derven,
2016). Sixty-six percent of all organizations that have operations worldwide use virtual
teams (Society of Human Resource Management, 2012, as cited in Handke et al., 2020).
One of the major challenges for virtual team leaders is building trust among members of
the team (Turesky et al., 2020). The general business problem is that some PTLs and
project management office leaders lack strategies to build trust within their virtual teams
to meet organizational performance goals. The specific business problem is that some

PTLs and project management office leaders in charitable nonprofit organizations focusing on disaster relief lack strategies to effectively develop trust in VPTs.

## Purpose Statement

The purpose of this qualitative single case study was to explore strategies PTLs and project management office leaders in charitable nonprofit organizations focusing on disaster relief use to effectively develop trust in VPTs. The target population for this study was at least six PTLs and project management office leaders in one charitable nonprofit organization located in the Washington, DC metropolitan area with operations worldwide that use successful strategies to build trust in VPTs. The implications for positive social change include the potential to assist PTLs in nonprofit organizations focusing on disaster relief in building trust within VPTs. Nonprofit organizations with social missions exist to benefit the public in the areas of human services and to address societal problems such as reducing poverty levels (Bin-Nashwan et al., 2020; Ebrahim & Rangan, 2014). When VPT members build trust and work collaboratively resulting in lower costs, the performance of the nonprofit organization may be positively affected, helping provide support relief effort for citizens and communities suffering from a natural disaster. If the populations in affected disaster areas recover successfully, communities may sustain less damage and be able to withstand disaster events that occur in the future.

## Nature of the Study

The purpose of this qualitative single case study was to explore strategies PTLs and project management office leaders in charitable nonprofit organizations focusing on disaster relief use to effectively develop trust in VPTs. Researchers use qualitative

research to understand the experiences of study participants (Koch et al., 2014). In contrast, quantitative methodologies are appropriate when the intent is to test a theory (Hessie-Biber, 2016). Mixed method research study involves a combination of quantitative and qualitative research (Boeren, 2017; Florczak, 2019; Steen et al., 2018). The goal of this study on virtual teams was not to test a theory, which makes a quantitative method inappropriate for this study. Given the need to exclude a quantitative approach, a mixed method design is not appropriate. Since researchers use qualitative research methods to reveal strategies associated with a phenomenon (Hesse-Biber, 2016), I used this approach to identify and explore the successful strategies for developing and maintaining trust in virtual teams to meet organizational performance goals.

I used a single case study design to explore strategies for developing trust within virtual teams to achieve organizational performance goals. Although qualitative studies include other strategies of inquiry such as phenomenology and ethnology, the features of those designs are not conducive for this study. The focus of phenomenological studies is on the meanings of participants' lived experiences (Erlingsson & Brysiewicz, 2013), but the focus of this study was not exclusively on the meanings of personal experiences. The scope of the research project was also not limited to a cultural group (Jaimangal-Jones, 2014; Yin, 2018), which precludes the use of an ethnographic study. A researcher using a case study attempts to communicate a message within the boundaries of a conceptual understanding (Haines, 2017; Priya, 2020; Tomaszewski et al., 2020). The case study was most appropriate for understanding the central research question, which requires an

exploration of strategies PTLs in charitable nonprofit organizations focusing on disaster relief use to effectively develop trust in VPTs.

## Research Question

What strategies do PTLs and project management office leaders in charitable nonprofit organizations focusing on disaster relief use to effectively develop trust in VPTs?

## Interview Questions

1. What strategies do you use to maintain trust in virtual teams to meet organizational performance goals?

2. What were the key barriers your organization encountered when you first attempted to develop and implement strategies for building trust within virtual teams?

3. How did you address the key barriers for building trust within virtual teams?

4. How would you assess the effectiveness of the strategies PTLs use to develop trust within the VPT?

5. What strategies were successful with affecting individual performance of team members as part of the development of trust?

6. What strategies are successful for implementing virtual teams to meet organizational performance goals?

7. What strategies did you use to help the virtual project team members develop trust immediately after team formation to enable successful collaboration on the project?

8. What strategies did you use to overcome cultural differences, which may affect the development of trust within the virtual teams?

9. How, if at all, does the issue of building team members' trust affect the selection of leaders within the virtual teams?

10. What other strategies have you found to be helpful in developing trust within virtual teams to meet organizational performance goals?

## Conceptual Framework

The conceptual framework that formed the context of the study was the swift trust theory, first introduced by Meyerson et al. in 1996. Researchers use the swift trust theory to suggest that trust materializes in temporary teams without the benefit of developing relationships. Meyerson et al.'s (1996) application of swift trust focused on dispersed teams including virtual teams. Key concepts of the swift trust theory are as follows: (a) it occurs in a temporary team setting; (b) there is no time for group members to develop shared experiences; and (c) in the absence of traditional opportunities to develop relationships, group members presume that trust will exist in the group (Meyerson et al., 1996). Building on Meyerson et al.'s swift trust theory, Germain and McGuire (2014) argued that membership on a virtual team does not automatically lead to the development of swift trust without the removal of certain barriers. The swift trust theory provides the lens for the study and aligns with the research objective to identify strategies PTLs in charitable nonprofit organizations focusing on disaster relief use to effectively develop trust in VPTs. As applied to the study, I used the theory of swift trust as the lens for

exploring the basis upon which virtual teams operate initially and the successful strategies needed to maintain and develop trust to meet organizational performance goals.

## Operational Definitions

*Geographically dispersed teams:* Teams that are not in the same physical location (Prasad et al., 2017).

*Information and communication technology (ICT):* Technology that allows users to communicate without proximity limits (Arvedsen & Hassert, 2020).

*Virtual teams:* Teams that are not co-located and that rely on different forms of technology to communicate (Dixon, 2017). The teams are typically temporary with a defined goal for accomplishment (Watanuki & Moraes, 2016).

*Virtuality:* The degree to which there is face-to-face interaction between individuals involved with a project (Painter et al., 2016).

## Assumptions, Limitations, and Delimitations

As I undertook the study, there were several assumptions, limitations, and delimitations that provided context for the research effort. The beliefs or assumptions of researchers influence the nature of the study (Kirkwood & Price, 2013). The limitations in a study affect the researcher's ability to collect adequate data to address the research question (Lefever et al., 2007). The focus of a study is the delimitation imposed by the researcher (Doyle et al., 2019; Gomes & Duarte, 2018; Tomaszewski et al., 2020a). This section outlines the primary considerations in each of the areas.

**Assumptions**

A substantive assumption represents beliefs, which surface in a certain context (Roy & Pacuit, 2012). The researcher's personal beliefs and experiences will affect the research project (Darnhofer, 2018; Lahman et al., 2020; Mao et al., 2016). One of my key assumptions during the study was that the dynamics of virtual teams are different from traditional face-to-face teams. Due to the differences in virtual and face-to-face teams, managers need to understand how to lead geographically dispersed work groups. Another assumption related to the participants I selected for the study. I expected each participant to share and articulate their respective experiences in a virtual environment through the interview process. The participants' common understanding of what constitutes a virtual team was anticipated during the study.

**Limitations**

All research methods have limitations, which refer to anything that may affect the validity of the research results (Prowse & Camfield, 2012). A limitation of this study is that one organization was the subject of the study. There may be cultural or regional differences in the operations of nonprofit organizations across the United States and the world, which may limit the ability to generalize the results. Another limitation of the study is that data collection took place from a single organization, which may reflect participant experiences that are unique to the participants in the study and not generalizable to virtual teams in other organizations.

**Delimitations**

Delimitations concern the scope of the study in relation to data collection in support of the central research question (Gomes & Duarte, 2018). The research question is the driving force during the study that the researcher relies upon to channel and focus data collection efforts (Tomaszewski et al., 2020a). The scope of the study was a nonprofit organization in the Washington, DC metropolitan area that successfully employs virtual teams. An exploration of the virtual team experiences of for-profit organizations was outside the scope of the study. The successful experiences of traditional face-to-face project teams was also beyond the scope of the study.

The objective of the study was to conduct a qualitative single case study on a nonprofit that successfully utilizes a virtual team. The organization selected for the study was located in the Washington, DC metropolitan area. The inclusion of a nonprofit organization that is not effective in a virtual team model would not yield research results that are helpful in addressing the central research question of the study.

## Significance of the Study

**Contribution to Business Practice**

Virtual team members often work on interdependent tasks (Malhotra & Majchrzak, 2014). Given the need for collaboration and trust among team members, the study's results may be valuable for PTLs in charitable nonprofit organizations that use virtual teams. The creation of trust within the VPT may allow members to work cohesively toward the accomplishment of organizational performance goals. The presence of trust may also mitigate cultural differences that would otherwise impede the

success of the VPT. This study may be significant because the results may inform the PTLs on the strategies to ensure optimal success in a virtual environment and enable accomplishment of organizational performance objectives.

**Implications for Social Change**

The findings from this study may contribute to positive social change by providing PTLs of charitable nonprofit organizations with the strategies necessary to meet organizational performance goals that address social problems. The information from the study may also further positive social change by providing the strategies necessary to deploy VPTs that support socially responsible initiatives such as economic development and environmental sustainability. Nonprofit organizations exist to help communities (Ebrahim & Rangan, 2014), which makes their performance important to deliver relief, alleviate human suffering, and benefit individuals in the communities within which they live.

<p style="text-align:center">**A Review of the Professional and Academic Literature**</p>

I followed a thematic approach for the literature review. My objective in this section is to provide an exhaustive review of the major topical areas related to building trust and effective performance of virtual teams to meet organizational performance goals. The analysis of extant literature focused on information related to (a) swift trust theory, (b) sociotechnical systems (STS) theory, (c) overview of virtual teams, (d) virtual team effectiveness, (e) managing conflict in virtual teams, (f) leadership in virtual teams, (g) technology considerations for virtual teams, and (h) impact of culture on virtual teams. One of the essential elements of qualitative research studies is identifying the

literature reviewed to demonstrate a logical basis and connection with all of the elements of the researcher's study (Koch et al., 2014). The literature included in this section contains information on the growing importance and the essential considerations for successful virtual teams.

The prevalence of virtual teams within organizations continues to redefine the work accomplishment around the world. Organizational leaders frequently use virtual teams to satisfy work objectives (Derven, 2016) and complete a specific task, after which teams usually disband (Watanuki & Moraes, 2016). Technological advances allow workers to connect with colleagues using multiple platforms in the absence of the traditional co-located workspace (Costa et al., 2021; Mangla, 2021; Zhu & Smith, 2019). Virtual teams represent an available strategy to combat the challenges associated with accomplishing organizational goals without a co-located workforce. However, though virtual teams offer many opportunities for organizations (Watanuki & Moraes, 2016), the challenges accompanying dispersed work teams include managing cultural differences, communication, leadership, coordinating work activities, and developing trust among team members (Watanuki & Moraes, 2016). Trust is also one of the key elements in temporary work teams (Moldjord & Iversen, 2015). The ability of team members to be open about mistakes and work together effectively relates to trust (Moldjord & Iversen, 2015). Given the growing presence of VPTs within organizations, leaders must understand how to develop trust among team members and gain insight on the other considerations, which affect the effectiveness of VPTs to organizational performance goals.

Contemporary research on building trust within virtual teams to support organizational success remains comparatively limited in the field of business topics. In this literature review, I examined the concept of virtual teams, the swift trust theory, and other factors, which directly affect the performance of virtual teams. I relied primarily on peer-reviewed articles from the following databases in the literature review: Emerald Insight, ABI INFORM Collection, SAGE Journals, and Business Source Complete. The following phrases and keywords were used to search the databases: *virtual teams, swift trust, trust, virtual team effectiveness, culture, technology, communication technology, leadership, virtual team effectiveness, geographically dispersed, virtuality, qualitative, virtual, global, project teams, knowledge sharing, organizational learning, on-line, transformational leadership, virtual team trust, digital,* and *virtual project team*. The review of the professional and academic literature contains a total of 184 sources, which includes the following: 175 peer-reviewed articles, seven nonpeer reviewed articles, and two books (seminal sources). Of the 184 total sources, 130 (70%) were both peer-reviewed and published within 2017–2021.

The literature review organizational structure includes six sections and subsections as appropriate. The section on swift trust theory focuses on building trust within the team as well as role trust, and vulnerability trust. The section on STS theory includes a contrast discussion with respect to the tenets of swift trust. The section on virtual teams provides an overview on the general characteristics of dispersed teams along with key challenges for team members. In addition, the virtual teams section addresses virtual team effectiveness including handling conflict, knowledge sharing, and

managing virtual team performance. The section on leadership includes leadership styles, and leadership for creativity. The section on technology includes technology choices and leveraging technology for success. The section on culture and virtual teams includes a discussion on managing cultural differences and the benefits of diversity.

**Swift Trust Theory**

The success of any business is rooted in a mutual belief in the character of other parties (Ahlf et al., 2019; Høgevold et al., 2020; Mandják et al., 2019; Yang, 2016), which includes maintaining trust by promoting behaviors consistent with expectations (Crane, 2018; Mirońska & Zaborek, 2018; Udomkit et al., 2019). The temporary nature of virtual teams combined with the unfamiliarity among members of the team creates a unique environment for the manifestation of trust. Global virtual teams are synonymous with temporary systems designed to collaborate and deliver results (Crisp & Jarvenpaa, 2013). Temporary systems include individuals who have diverse skills, little or no experience working together, uncertain future working relationships, complex tasks, assigned to meet project deadlines, and where group interaction leads to accomplishment of the goal (Meyerson et al., 1996). Meyerson et al. (1996) suggested in the seminal work on trust creation within temporary systems that trust exists in temporary groups without the usual foundational elements of trust including shared experiences, fulfillment of commitments, confidence in displays of vulnerability, and mutual disclosure of information. Each of the preceding antecedents of trust appears to be missing in temporary systems (Meyerson et al., 1996). Within temporary groups, one of the major issues is the ability to cope with the vulnerability inherent in group interactions

(Meyerson et al., 1996; Moldjord & Iversen, 2015) Thus, developing trust among members of temporary organizations is difficult (Moldjord & Iversen, 2015). Furthermore, individuals in temporary systems do not have historical experiences upon which to form relationships with co-workers, which promote interpersonal trust.

Despite the lack of previous work experiences, the members of temporary groups must bond and collaborate in order to fulfill team goals. Swift trust forms uniquely in temporary groups (Meyerson et al., 1996). The key foundational propositions of swift trust theory include the following: (a) trust develops rapidly among individuals who are members of an elite talent pool; (b) stable role-based interactions among group members leads to rapid trust; (c) role behavior that is inconsistent impedes trust building; (d) information processing focuses on speed and acceptance instead of confirmation and processing of information; (e) group member perceptions conform to organizational culture or stereotypes, which makes trust easier; (f) quickly forming trust may result in incongruent behavior and disappointment for members in the future; and (g) swift trust flourishes when there is moderate interdependence (Meyerson et al., 1996).

The emergence of swift trust in temporary groups is important for team success. Swift trust allows members of temporary systems to overcome the challenges associated with the unfamiliarity of colleagues. The momentum of swift trust builds successively within the group as each individual member in the temporary system exhibits trust (Crisp & Jarvenpaa, 2013; Meyerson et al., 1996). The time constraints typically imposed on temporary teams to accomplish tasks also contribute to swift trust (Henderson et al., 2016). Swift trust originates from group members' view of other teammates as competent

for the assigned role (Meyerson et al., 1996). The role-based focus causes individuals to put greater emphasis on another member's skills rather than character, which manifests as swift trust (Meyerson et al., 1996). The paradox of swift trust is that the elements that encourage swift trust (i.e., temporary nature, time constraints, and group attitudes toward deficient role performance) impede other permanent forms of trust (Meyerson et al., 1996). The research by Van der Werff and Buckley (2016) provides context for understanding swift trust as advanced by Meyerson et al. (1996) when the authors found that intentional trust behaviors by new coworkers usually occur during an employee socialization period that evolves over time. Swift trust has broad implications and application in the business world for both for-profit and nonprofit organizations.

### *Swift Trust and Temporary Systems*

The issue of trust extends to all forms of organizational partnerships. For example, trust is an important factor in humanitarian supply chains (Dubey et al., 2018). Swift trust is one of the imperatives when examining the effectiveness and utility of humanitarian supply chains designed to help people in need (Dubey et al., 2018). Unfortunately, many humanitarian organizations and logistics support organizations often lack trust (Bag et al., 2020; Behl & Dutta, 2019; Gossler et al., 2020; Paluri & Mishal, 2020). The lack of trust serves as a barrier when collaboration among these organizations is required during disaster relief operations (Bag et al., 2020; Behl & Dutta, 2019; Gossler et al., 2020; Paluri & Mishal, 2020). Dubey et al. (2018) argued that swift trust is essential to the success of humanitarian supply chains. Once trust exists, parties are open to working in support of business relationships (Ahlf et al., 2019; Høgevold et al., 2020;

Mandják et al., 2019; Meyer et al., 2017). Similarly, Curnin et al. (2015) found that role clarity is an enabling force for swift trust in temporary organizations formed to respond to an emergency. If humanitarian organizations are able to foster better collaborative partnerships with logistics support organizations, mission objectives designed to help vulnerable populations after a disaster will be successful (Bag et al., 2020; Behl & Dutta, 2019; Gossler et al., 2020; Paluri & Mishal, 2020). Trust is at the foundation of all types of business transactions from social organizations to for-profit enterprises.

The need for the development of swift trust also has relevancy when exploring a range of online business relationships such as crowdsourcing vendor decisions(Guo, Feng, et al., 2017). Crowdsourcing refers to soliciting talent from a pool of individuals online through a crowdsourcing marketplace (Guo, Feng, et al., 2017). Unlike traditional outsourcing, which focuses on an individual for a job, crowdsourcing seeks a pool of people to complete the task (Guo, Feng, et al., 2017). In this case, swift trust is necessary due to the absence of a historical contractual work history with the selected vendor (Guo, Feng, et al., 2017). In another study, Guo, et al. (2017a) found that crowdsourcing intermediaries must cultivate and develop a reliable pool of talent to create an opportunity for swift trust to emerge within those responsible for making sourcing decisions. Without trust, individuals will not share information openly in any type of temporary business relationship (Crisp & Jarvenpaa, 2013; de Vries et al., 2017; Zuofa & Ochieng, 2017). The swift trust phenomenon resonates in online business partners and extends to other environments where there is a need to share information.

Swift trust has applicability across a wide domain of human interactions. Swift trust means that an individual willingly becomes vulnerable to another person (Moldjord & Iversen, 2015; Schilke & Huang, 2018). Interpersonal contact allows an individual to determine the disposition of another person, which provides valuable insight on whether someone is worthy of receiving trust (Korzynski, 2015; Schilke & Huang, 2018). Interpersonal experiences create an opportunity for the trustor to decipher visual and verbal cues that enable amplification of the other person's demeanor to make a judgement on swift trust (Schilke & Huang, 2018). Schilke and Huang (2018) argued that the accurate display of swift trust is more important than the mere existence of swift trust. Schilke and Huang (2018) further suggested that quick trusting decisions in a group environment require accurate judgements on who to trust since inaccurate trusting decisions may lead to exploitation. Temporary settings, such as conferences and seminars, often require others to share information for mutual learning (de Vries et al., 2017). Swift trust is an aspect of the dynamics in temporary learning settings, such as conferences and seminars, given the vulnerability of participants and need to share information for mutual learning (de Vries et al., 2017). De Vries et al. (2017) reinforce the importance of swift trust when they reported that swift trust greatly influences knowledge sharing within groups. Swift trust thus manifests in a broad range of informal environments as well as in formal work relationships such as virtual teams.

### Swift Trust and Virtual Teams

Trust is one of the hallmarks of virtual team success (Calonge & Grando, 2012; Lippert & Dulewicz, 2018). Established protocols and trust remain critical to the ability

of virtual teams to function, as they allow teams to work within time limitations and specific objectives (Henderson et al., 2016). Swift trust is an important phenomenon in virtual teams because team members often have little information to form trusting beliefs about team members (Crisp & Jarvenpaa, 2013; Kuo & Thompson, 2014). But swift trust does not always occur in virtual teams, which impedes the success of the team (Henderson et al., 2016; Kuo & Thompson, 2014). One of the ways to sustain trust within virtual teams is to create timely interactions among team members (Henderson et al., 2016). Leaders sustain trust in virtual teams through intentional efforts to facilitate interactions between members of the team (Mitchell & Igurs, 2009). Swift trust in virtual teams or temporary organizations endures only when clear norms of communication exist among members of the team in addition to role clarity (Henderson et al., 2016). The maintenance of swift trust within the team remains predicated on actions congruent with member expectations (Crisp & Jarvenpaa, 2013). Virtual team members must embrace trust quickly in order to form a cohesive team.

The rapid and swift formation of trust within a virtual work environment represents a challenge for new work groups. Kuo and Thompson (2014) contend that swift trust does not always occur in virtual teams, which impedes the success of the team. Swift trust is such an important phenomenon in virtual teams given the fact that team members often have little information to form trusting beliefs about team members (Crisp & Jarvenpaa, 2013; Kuo & Thompson, 2014). Another key factor related to the development of trust within teams is the perceived ability and integrity of teammates (Ha et al., 2016; Kuo & Thompson, 2014; Webber, 2008). A consideration when exploring

the formation of trust is the general propensity of individuals to trust (Kuo & Thompson, 2014; Nienaber et al., 2015).  Individuals with a high general propensity to trust will likely give teammates the benefit of the doubt in the absence of information or work history (Kuo & Thompson, 2014). Kuo and Thompson (2014) reported that swift trust often forms when members determine that colleagues participate in the same social networks. The joint association and participation in similar networks gives the unknown teammate greater credibility (Moldjord & Iversen, 2015). Kuo and Thompson (2014) further suggested that the prevalence and growing visibility of various social networking platforms can facilitate the development of swift trust in virtual teams. Swift trust is crucial for virtual team performance.

Swift trust helps to explain how newly formed virtual teams operate. Temporary global virtual teams relate to swift trust (Crisp & Jarvenpaa, 2013). The maintenance of swift trust within the team remains predicated on actions congruent with member expectations (Crisp & Jarvenpaa, 2013). The sustainment of swift trust within the group results from normative behavior that leads to enhanced performance by the team (Crisp & Jarvenpaa, 2013). Normative actions are critical in temporary teams when members lack previous history working together (Crisp & Jarvenpaa, 2013). Trust within virtual teams serves as an encouragement to normative actions and mediates team performance (Crisp & Jarvenpaa, 2013). Calonge and Grando (2012) found that swift trust is a necessity in virtual environments. Lippert and Dulewicz (2018) also noted that trust is a factor in virtual team performance. Team performance and swift trust are positively related (Crisp & Jarvenpaa, 2013). When looking at team performance, the measurables are the quality

of the output and the time required to complete the task (Crisp & Jarvenpaa, 2013). Leaders use performance metrics to gauge team performance, while focusing on the health of social interactions within the group.

Organization leaders must recognize the broad implications of trust in order to maximize team and organizational performance. Trust is a critical element in virtual environments (Arora et al., 2019; Calonge & Grando, 2012; Crowther et al., 2021; Einola & Alvesson, 2019; Johnson et al., 2021; Lippert & Dulewicz, 2018; Pangil & Chan, 2014). Organizations use online platforms to engage with employees and build interpersonal relationships among workers. Leaders can promote swift trust in online networking environments by actively participating in the communication platforms with employees (Korzynski, 2015). Swift trust does not result from previous work relationships in organizational online networked environments but through the present interactions of community members (Korzynski, 2015). Communication by itself does not cause trusting beliefs but the actions resulting from the communication lead to trust resiliency (Crisp & Jarvenpaa, 2013). Leaders need to leverage online networking platforms to encourage employee engagement (Korzynski, 2015). Advances in communication technologies will continue to change the role of managers (Korzynski, 2015). As managers' roles continue to evolve due to technological advancements (Korzynski, 2015), trust between members within an organization and with outside partners remains a constant driver for meeting work objectives. The ubiquitous nature of trust in the business world compels a deeper understanding of the major components of trust and how trust forms.

*Cognitive and Affective Trust*

Trust is a multi-faceted concept. Trust exists along two main dimensions: cognitive and affective (Chih et al., 2017; Kim & Kim, 2019; Ling & Guo, 2020; Louis & Murphy, 2017; Saleem et al., 2020). Cognitive trust results from the professionalism and perceived competencies of others (Webber, 2008). Affective trust results from the relationships among members in the group (Webber, 2008). Affective trust is emotion-based (Chih et al., 2017; Dadzie et al., 2018; Ha et al., 2016; Webber, 2008; Wu & Neill, 2020). Affective trust is able to endure throughout the existence of a team, whereas cognitive trust can deteriorate when expected behaviors and norms are not met (Webber, 2008). Activities that allow for teambuilding and the formation of relationships will enable affective trust (Webber, 2008). Affective trust helps to promote normative behaviors (Chih et al., 2017) and improve team performance. Affective trust and team performance are positively related (Webber, 2008). Affective trust develops from relationships, which differs from swift trust. Affective trust would not be a factor in the development of swift trust in virtual teams.

The tenets of cognitive trust appear to be in concert with the swift trust required within VPTs. Although Crisp and Jarvenpaa (2013) found that swift trust in virtual teams is rooted in cognitive beliefs of others dependability and capability, Webber (2008) diverges by suggesting that cognitive trust can develop over time in teams. Although Webber's (2008) study did not focus on virtual teams, the findings provide a duality when looking at cognitive trust. While one can argue that cognitive factors serve as the impetus for swift trust development in virtual teams, cognitive trust develops over time in

traditional work teams. Another contrasting viewpoint is Webber's (2008) argument that a form of early trust in teams is the result of member familiarity and previous experiences as compared to the formation of swift trust in virtual environments, which is the result of the absence of previous history among members of the team (Crisp & Jarvenpaa, 2013; Calonge & Grando, 2012). The lack of previous experiences eliminates foundational elements for trust.

Trust exists along a continuum. Webber (2008) found that early trust, affective trust, and cognitive trust manifest at different times within teams and that each form of trust has unique antecedents. Likewise, Chih et al. (2017) distinguishes cognitive trust from affective trust, but also suggests that the development of affective trust is in part dependent on cognitive trust, which differs from Webber's (2008) conclusions. Ha et al. (2016) also seem to recommend a primordial importance for building cognitive trust and then affective trust. Thus, cognitive and affective trust remain important within teams. Cognitive trust surfaces from perceptions about others' abilities, and affective trust results from feelings about fellow team members and induces vulnerability for trustors.

### *Vulnerability Trust*

Whenever there is a trust relationship among individuals, there is an element of vulnerability for the trust participants. Trust only exists if there is vulnerability (Nienaber et al., 2015). There is a difference between role-based trust and vulnerability trust (Moldjord & Iversen, 2015). Role-based trust means there is a perception that an individual possesses the competency to carry out an assigned role (Moldjord & Iversen, 2015). Vulnerability trust manifests from affective experiences with others (Moldjord &

Iversen, 2015). The trust surfaces when team members are comfortable sharing personal experiences (Moldjord & Iversen, 2015; Nienaber et al., 2015). Personal relationships and exhibiting caring behavior are critical aspects in the development of vulnerability trust (Moldjord & Iversen, 2015). Building vulnerability trust is challenging in team environments (Moldjord & Iversen, 2015). However, vulnerability trust is important because it relates to enhancing team performance (Moldjord & Iversen, 2015). Building rapport with team members is at the core of the development of vulnerability trust, which enables the team to function more cohesively.

Members of temporary systems are especially susceptible to the difficulty of vulnerability when they have no relationship with other members. However, vulnerability trust can develop swiftly within temporary high-performance teams when there are opportunities for members to share personal experiences and closely held thoughts (Moldjord & Iversen, 2015). When team members share concerns, a safe environment is formed (Moldjord & Iversen, 2015). Creating opportunities for sharing information is important during the early moments of the team (Moldjord & Iversen, 2015). Leaders should encourage trust relationships (Meyer et al., 2017). During the early phases of team development, members should refrain from criticism, which impedes the formation of vulnerability trust (Moldjord & Iversen, 2015). When a team initially forms, a fertile environment exists for relationship building and setting the foundation for vulnerability trust.

A number of factors contribute to the formation of vulnerability trust. The familiarity among team members is one of the most important contributors to

vulnerability trust (Moldjord & Iversen, 2015; Nienaber et al., 2015). Although it is

important to allow team members early opportunity to share experiences, group leaders

should be careful to limit the number of individuals participating in the experience

(Moldjord & Iversen, 2015). Sharing vulnerable ideas and attitudes becomes more

difficult as the number of participants in the exercise increases (Moldjord & Iversen,

2015). Several other factors for developing vulnerability trust are to encourage caring

behavior, being sensitive to fears of rejection, ensure complete team member

participation in the sharing experiences, and seek to avoid criticism of others (Moldjord

& Iversen, 2015). Leaders within an organization play an important role in building trust

within an organization through openness about mistakes and creating a safe environment

for team members to acknowledge challenges (Meyer et al., 2017). Consistent with the

findings by Nienaber et al. (2015), the extent to which a leader shows vulnerability

relates to the degree to which followers have trust. Vulnerability trust, similar to other

prevailing trust theories focusing on the performance of teams, originates in social and

emotional factors. Team performance may also relate to non-social factors.

**Sociotechnical Systems Theory**

When exploring the concept of team performance, much of the literature focuses

on social issues. Pava (1983), in the seminal work on STS theory, argues that non-routine

and routine work requires different analytical methods to resolve issues. Pava (1983)

focused on the importance of deliberations to solve work related issues. Deliberations

have three components including the participants, forums used to exchange ideas, and the

topic (Pava, 1983). Each area relates to an analysis of the technical subsystem (Pava,

1983). When examining the social subsystem, each deliberation of importance requires analysis to determine ineffectiveness (Pava, 1983). The deliberation analysis results in understanding the values of the participants, identifying how responsibility flows among participants, and the interaction of participants who have different values (Pava, 1983). The STS theory provides a broader perspective on project success given that the theory combines technical and social considerations into a single model (Stelson et al., 2017; Vermeerbergen et al., 2016). When examining an issue, the social and technical considerations require consideration in order for a holistic problem-solving approach.

Exploring the structure of work systems is also useful in virtual contexts. For work teams that are not co-located, the enhancement of work systems is necessary to improve knowledge work and innovation (Painter et al., 2016). For virtual teams, one of the major challenges is knowledge management for geographically dispersed members (Killingsworth et al., 2016; Painter et al., 2016; Pathak, 2015). Work that is knowledge-based and non-linear characterizes virtual organizations that focus on innovation (Painter et al., 2016). The lack of face-to-face interaction due to potential differences in time and distance heightens the need for a reliable method to share ideas among virtual members to meet team goals.

The technical systems and structures for virtual teams will contribute to the overall effectiveness of the group. The predominant approach for research efforts devoted to studying virtual teams is to focus on either the social systems or technical systems, with a heavy focus on the social systems (Painter et al., 2016). When exploring an organization's technical subsystems, the focus is on the procedures and work processes

(Painter et al., 2016; Tai & Mai, 2016). Structural and technical processes have a great effect on virtual team's innovation when there is a low degree of task uncertainty (Painter et al., 2016). Conversely, social mechanisms help to alleviate impediments to knowledge coordination when task uncertainty is high (Painter et al., 2016). STS allows for a unified view between social and technical subsystems to meet maximum engagement and performance (Painter et al., 2016). STS provides a good context for exploring group work dynamics.

STS has great utility when analyzing the effectiveness of an organization or team. STS are essential in business given that the redesign of business processes involves both social and technical components (Shin & Ibahrine, 2020). Scholars in the field of management recognize the importance of STS in the pursuit of knowledge (Curşeu et al., 2020; Lyytinen et al., 2020; Said et al., 2019; Winby & Mohrman, 2018). STS enables an understanding of not just how social and technical systems are structured, but how they interact within teams (Painter et al., 2016; Stelson et al., 2017). When looking at the technical system in a work environment, four main factors that influence the perceptions of employees include organizational hierarchy, communication and support within the organization, freedom to take risks, and the organization's atmosphere (Tai & Mai, 2016). Following a STS approach to virtual teams can help to lower the costs of coordinating knowledge within virtual teams (Painter et al., 2016). The usefulness of STS extends to all corners of business work environments.

STS theory clearly has application when exploring the effectiveness of virtual teams. While swift trust theory focuses on the social aspects of team member perceptions,

STS theory will account for the social concerns in conjunction with the division and structure of tasks to meet desired work outcomes (Vermeerbergen et al., 2016). Although swift trust theory provides a useful framework for exploring the performance of VPTs, STS theory may provide a more enlightened and comprehensive lens through which to view the effectiveness of virtual teams. Understanding the effectiveness of virtual teams is of vital importance since team effectiveness links to the ability of an organization to meet performance goals.

**Virtual Teams**

The purpose of this qualitative single case study was to explore strategies PTLs in charitable nonprofit organizations focusing on disaster relief use to effectively develop trust in VPTs. Organizations employ different work environment models to accomplish objectives.  One work model used to accomplish organizational goals is virtual teams. Dispersed or virtual working environments or teams continue to gain popularity in the world of business (Cordes, 2016a; Costa et al., 2021; Mangla, 2021; Prasad et al., 2017; Zhu & Smith, 2019). Virtual teams are usually temporary (Watanuki & Moraes, 2016). The teams are designed to achieve a project objective (Almatrooshi et al., 2016; Pathak, 2015). The extent to which team members have physical separation characterizes the geographical dispersion of the group (Painter et al., 2016; Prasad et al., 2017). Virtual teams allow organizations to leverage talent around the globe (Pathak, 2015). Virtual group members may operate in different regions and time zones without the limitations connected with traditional boundaries for employment.

Virtual work environments allow organizations to function with distributed team members. When examining virtual teams, geographic separation is one of the defining qualities of the team (Pathak, 2015; Prasad et al., 2017). The physical separation of team members means that virtual work groups usually have limited face-to-face interaction (Prasad et al., 2017; Watanuki & Moraes, 2016). The geographical dispersion of team members can result in challenges when there is a need for group collaboration (Painter et al., 2016; Prasad et al., 2017). One of the ways VPT leaders enhance team cohesiveness and combat the difficulties of a distributed work team is by leveraging information technology and other communication tools.

Technology advances continue to facilitate and enhance business operations. Information and communication technology has contributed to the rise and feasibility of virtual teams (Müller & Antoni, 2021; O'Connor et al., 2021; Pathak, 2015; Swartz et al., 2019. The differences in time and space for team members within virtual teams causes challenges with coordinating work (Painter et al., 2016). When it comes to virtual teams, technology can be a valuable tool, which enables group members to communicate effectively (Müller & Antoni, 2021; O'Connor et al., 2021; Pathak, 2015; Prasad et al., 2017; Swartz et al., 2019). The choice of the communication medium affects the social dynamics within virtual teams (Klitmøller et al., 2015). The differences between written and verbal media help to shape social categorization among team members in global virtual teams (Klitmoller et al., 2015). Prasad et al. (2017) argued that the value of the communication medium is not simply the tool's similarity to traditional face-to-face communication, but the extent to which team members find the communication useful in

achieving team objectives. Likewise, Klitmoller et al.'s (2015) found that the

communication medium affects the degree of social categorization within a global virtual

team. When there are language differences within the team, the communication medium

chosen could lessen language proficiency differences among team members (Klitmoller

et al., 2015). Team members that are not proficient in the dominant language as well as

the other teammates will find value and use in the communication tool if the medium

reduces language barriers.

One of the challenges for VPT leaders is to encourage group members to stay

connected to the organization and the project objective. The greater the isolation team

members experience in a virtual setting, the greater the possibility that the members

become disinterested and detached from team goals (Prasad et al., 2017). If members are

isolated, managers should focus on having the workers involved in constant

communication to promote connectedness to the organization and to the team (Prasad et

al., 2017; Watanuki & Moraes, 2016). Without a shared commitment to project goals, the

team will not be successful.

Organization leaders depend on VPTs to accomplish performance goals. The

productivity of virtual teams relates to the strength of the relationships among team

members (Watanuki & Moraes, 2016; Wickramasinghe & Nandula, 2015). Team

performance links to vulnerability trust among team members, which is trust based upon

relational factors (Moldjord & Iversen, 2015; Nienaber et al., 2015). The relationship

among virtual team members is one of several factors related to the success of the team.

*Keys to Virtual Team Success*

Organizational leaders understand the value of deploying virtual teams to accomplish performance goals around the world. The use of global virtual work teams continues to surge as businesses compete in many countries and leverage talent without regard to geographic borders (Derven, 2016; Pathak, 2015). Virtual teams offer many opportunities for success including providing an environment that stimulates innovation, increased productivity, access to a large pool of talent, and promoting efficiencies (Derven, 2016; Pathak, 2015). Organizations can expand the reach and effectiveness of mission objectives by effectively using VPTs.

In order for organizations to capitalize on the benefits of virtual teams, the team must perform effectively. Even though global virtual teams allow for great flexibility, organizational leaders must encourage structure to optimize team performance (Cordes, 2016b; Derven, 2016). One of the important decisions when forming a virtual team is how many members to include in the work group (Watanuki & Moraes, 2016). VPTs need the right composition of individuals both in terms of technical and functional skills in order to meet team objectives (Derven, 2016; Pathak, 2015). The interdependence required in virtual group collaboration necessitates members with complementary skill sets to meet task objectives.

The leaders within virtual teams must harness the abilities of diverse members. The leader of the virtual team plays a critical role in the success of the group (Derven, 2016b; Dixon, 2017). The leader must be committed to advancing a culture built on inclusiveness and respect (Derven, 2016). The virtuality of distributed teams often

translates into culturally diverse team members (Derven, 2016; Killingsworth et al., 2016). Team leaders need to be sensitive to how cultural differences influence team members' perceptions on hierarchy, time management, and conflict resolution (Derven, 2016). The team leader is responsible for maximizing and encouraging the participation of all team members while working to avoid a situation, which causes a team member to retreat from regular group interactions due to cultural differences (Derven, 2016). Cultural diversity can lead to innovation and idea generation within the team (Pathak, 2015; Derven, 2016). The leaders should recognize diversity as a benefit, which is crucial for team success and achievement of goals.

The success of a virtual team is dependent on the ability of members to work collectively toward a stated objective. The goal of most global virtual teams is to meet an organizational performance imperative (Almatrooshi et al., 2016; Derven, 2016; Pathak, 2015). Team members must know the purpose of the group in order to meet key milestones and to remain motivated (Cordes, 2016a; Derven, 2016). The goals must be clear, which allows for measurable success (Derven, 2016). Without a unified performance target, members of virtual teams will not add value to the organization.

PTLs in a virtual environment need to stay attuned to the needs of group members to ensure commitment to the team, operational effectiveness, and the availability of the tools necessary to meet performance targets. Recognizing the accomplishments of team members is one way to build comradery within the virtual team (Derven, 2016). The distributed nature of team members also necessitates a defined decision-making process (Cordes, 2016a; Derven, 2016). The team governance includes identifying roles,

responsibilities, norms for dealing with conflicts, and reporting requirements within the group (Derven, 2016). Technology is another way PTLs can achieve objectives within the virtual team (Derven, 2016; Malhotra et al., 2007). Virtual team members must have the necessary tools, information, and skills to execute assignments.

The individuals who make up the virtual work group are the indispensable resources for the team. One of the critical decisions facing VPT leaders is the composition of team members (Derven, 2016; Watanuki & Moraes, 2016). A related consideration is how many members to include in the group (Watanuki & Moraes, 2016). No matter how many individuals are on the team, the members within the team must engender a level of trust in order for effective collaboration to exist. Trust is one of the most important factors for success within virtual teams (Crisp & Jarvenpaa, 2013; Derven, 2016). Trust within the team helps to promote communication, exchange of ideas, and a culture that encourages the sharing of different opinions (Crisp & Jarvenpaa, 2013; Derven, 2016). Virtual work teams thrive when members can rely upon each other based upon mutual trust to accomplish work tasks.

### *Virtual Team Effectiveness*

Project team effectiveness and goals are essential to organizations. There is a difference between the objectives of a team and the effectiveness of a team (Costa et al., 2015). When examining the effectiveness of any team, the three main criteria include the social dynamics of the team during performance, team output, and the satisfaction of team members (Costa et al., 2015). When looking at project teams in general, teams that have high engagement exhibit the belief that time is limited while working in the team,

individuals have constant discussion about work with teammates during breaks, and members avoid non-work related activities during working hours (Costa et al., 2015). Project team effectiveness requires an understanding of not only what the team produces, but also the inner-workings and relationships among team members. The underpinnings of traditional project teams are foundational for VPT leaders. Insight on the basic dynamics of project teams is critical for organizations given the increasing use of virtual teams to accomplish organizational performance goals (Prasad et al., 2017; Zuofa & Ochieng, 2017). Project teams in a virtual context enable an organization to capitalize on the synergistic efforts of members working towards a common objective.

Virtual teams provide organizations with another model to achieve project goals. Virtual teams exist to meet a certain project objective (Almatrooshi et al., 2016; Watanuki & Moraes, 2016). Virtual teams allow organizations to satisfy the diverse and changing needs of clients (Zuofa & Ochieng, 2017). The geographic and or dispersed nature of virtual teams manifests with limited face-to-face contact and the physical separation of team members (Pathak, 2015; Prasad et al., 2017). The goals and objectives of members in virtual teams synergize through various technological solutions (Prasad et al., 2017). As Klitmoller et al. (2015) suggested, the social dynamics of virtual teams are influenced by the chosen communication medium. The structure of virtual teams promotes diversity of team members both in terms of their physical location and norms for interaction based upon regional or local customs.

A number of complex considerations for leaders emerge from the distributed nature of virtual workers. Virtual team effectiveness and efficiency hinges on the

experience of team members, knowledge sharing, and the shared group experiences of all members (Watanuki & Moraes, 2016; Zuofa & Ochieng, 2017). One of the other key factors in the effectiveness of virtual teams is the number of sites from which team members operate (Prasad et al., 2017). As the number of sites increases, leaders of virtual teams must focus on the communication, coordination, and the effect of local customs on team members (Prasad et al., 2017). Regional or other geographic preferences and approaches to work will cause problems among members if left unaddressed by leaders.

The number of distributed sites is only part of the consideration for virtual team leaders.  The distribution of team members across geographic sites affects the effectiveness of virtual teams (Prasad et al., 2017; Watanuki & Moraes 2016). The actual number of individuals in the various sites will result in the creation of subgroups (Prasad et al., 2017). The subgroups will self-identify with the local work customs and further complicate the cohesion of virtual teams (Prasad et al., 2017). Subgroups will impede the development of group norms. Virtual team effectiveness correlates to how well responsibility, accountability, and role definition is within the group (Derven, 2016). Creating an environment, which results in an imbalance in the number of team members across sites, is one way to alleviate the challenge of subgroups (Prasad et al., 2017). The imbalance forces the emergence of a majority site, which will impose norms leading to group unity and a reduction in regional conflicts among members (Prasad et al., 2017). The site with the dominant members has the ability to affect the speed of decision-making and influence norms within the entire group (Prasad et al., 2017). Using an approach that balances team membership across sites actually encourages coalition

building and interferes with team performance long-term (Prasad et al., 2017). Although

the use of an imbalance regional site structure is counterintuitive for many virtual team

leaders, following a strategy that places an equal number of members in each site

impedes the effectiveness of the team.

Even though members may work in the same location, the level of interaction

may vary based upon the project. As a result, a topic of importance related to the number

of individuals working in a location is the extent to which persons work in isolation

(Prasad et al., 2017).  Isolation refers to how much a team member works by themselves

in a location (Prasad et al., 2017). As isolation grows, there is a possibility for reduced

engagement and awareness among members (Prasad et al., 2017). The alienation from

other members fosters detachment from team goals (Prasad et al., 2017; Watanuki &

Moraes, 2016). Part of the virtual team building process must include actions by leaders,

which enable and create opportunities for members to communicate constantly using an

appropriate medium of technology. Selection of an effective technology solution must

account for the evolution of available products and be integrated with other approaches

designed to combat the difficulties associated with leading geographically dispersed team

members.

Despite the many challenges with managing virtual teams, leading distributed

work groups to successful outcomes is not impossible given technological advances.

Virtual work teams leverage communication technology to satisfy project objectives

(Cheng et al., 2017; Malhotra et al., 2007). In addition to prudent use of technology,

several other successful strategies for managing virtual teams include alternating the

times of meetings to accommodate workers in different time zones, following through on

commitments, promoting honesty, openly admitting mistakes, and limiting distractions

during meetings (Derven, 2016). Establishing norms for virtual team members who are

located in different locations helps to build group togetherness (Derven, 2016). Zuofa and

Chieng (2017) support this observation when they found that a shared identity, builds

unity within virtual teams. If unity is absent within a team, members may be unwilling to

share information and knowledge with co-workers.

***Effective Knowledge Management and Sharing in Virtual Teams***

Information serves as a critical resource for businesses. The dynamic global

economy necessitates rapid information exchange (Dixon, 2017; Killingsworth et al.,

2016).  Organizations may be able to achieve a competitive advantage when knowledge

sharing translates to knowledge creation (Wu & Lee, 2016). Global virtual teams rely

upon knowledge sharing to create value for the organization (Killingsworth et al., 2016).

The lack of knowledge management in virtual teams serves as an impediment to

performance (Eaidgah et al., 2018; Pathak, 2015; Patil, 2020; Peñarroja et al., 2020;

Ullah et al., 2016). The virtual team dynamics introduce the common challenge of

knowledge sharing among individuals who are culturally different or who work in

different time zones (Killingsworth et al., 2016). There are three steps for developing

knowledge for both individuals and teams (Pathak, 2015). The first step begins as team

members repeat and execute tasks consistently; tacit knowledge develops (Pathak, 2015).

When discussions occur with others, tacit knowledge becomes explicit (Pathak, 2015).

Knowledge codification represents the last step as information conveys to others without

limits (Pathak, 2015). The dissemination of information to other group members allows for the building of the knowledge necessary to carry out the team's tasking.

Organizations expect virtual teams to function in a way, which leads to the realization of performance goals, including knowledge sharing. The topic of knowledge receives great attention since knowledge allows organizations to innovate (Al-Busaidi & Olfman, 2017). However, the limited duration of VPTs often lessens the opportunity for members to develop tacit knowledge (Pathak, 2015). Additional knowledge sharing impediments result from the lack of familiarity virtual team members have with each other (Pathak, 2015). The lack of familiarity may prevent members from knowing, which teammates possess relevant knowledge in a particular area (Pathak, 2015). Killingsworth et al., (2016) found that member attitudes towards knowledge sharing is influenced by team environment and the motivation of members, which is consistent with Liao et. al. (2013) who found that a desire to help others was the strongest motivator for knowledge sharing in virtual communities. Failure to realize knowledge sharing within teams may cause experts to leave the group, which may result in schedule delays, project failure, and damage to the organization's reputation (Hosseini et al., 2017). The information exchange within teams is contingent upon the individuals involved in the process.

Given the importance of members in virtual team knowledge sharing, the composition of work groups has greater importance. Teams that have a low power distance and elevated sense of collectivism will promote knowledge sharing (Ajmal et al., 2017; Engelsberger et al., 2021; Scanlan et al., 2019). One of the often-overlooked considerations when creating a virtual team is including members who can facilitate

knowledge sharing for others to use as necessary (Pathak, 2015). A barrier to knowledge sharing is individuals' desire to protect their knowledge space from others (Akgün et al., 2017). Members of teams often view and use knowledge to solidify status and jobs within groups (Akgun et al., 2017). While individuals with the appropriate skill set should be matched with desired project outcomes, the team also needs members who can further the goal of knowledge management (Pathak, 2015). As Dixon (2017) argued, team members must be willing to give access to knowledge in order for the team to benefit. Hosseini et. al. (2017) supported this argument by recommending a model to select individuals for projects teams that have a combination of the right skills for the task and the accompanying motivation for knowledge sharing. Elevating the concern for identifying persons who can facilitate the transfer of knowledge will increase the opportunities for virtual team success.

Once a virtual team has the right mix of individuals, leaders can initiate certain actions to stimulate knowledge sharing behaviors. Knowledge management within virtual teams may occur through face-to-face meetings or by video conferencing (Pathak, 2015). Although time zone differences may prevent an in-person team induction, the point is to bring everyone together initially so members can discuss and become acquainted with the type of knowledge residing with teammates (Gordon & Edwards, 2012; Pathak, 2015). When possible, knowledge management and sharing within teams through the rotation of roles and assignments among team members (Pathak, 2015). Promoting awareness of knowledge management among virtual team members through targeted training is another way to further the sharing of information (Killingsworth et al., 2016; Pathak,

2015). The leaders of virtual teams are responsible for establishing the necessary routines so the team can learn (Dixon, 2017). As knowledge sharing and learning occurs, VPT leaders can focus on managing the team's performance to meet objectives.

### *Managing Virtual Team Performance*

The tasking for virtual team members often requires close coordination and collaboration.  Several of the challenges associated with virtual teams include participation by members, trust, motivation, and the overall team performance (Cordes, 2016a). One of the keys for managing virtual team performance is the existence of processes for collaboration that are easily applied and understood by team members (Annarelli et al., 2017; Bickle et al., 2019; Cordes, 2016b; Dullemond et al., 2014; Eaidgah et al., 2018; Gapp & Fisher, 2012; Gordon & Edwards, 2012; Velez-Calle et al., 2020a; Wei et al., 2018). The processes outline how team members need to work collectively to meet project goals (Cordes, 2016b). Virtual teams often struggle when team members do not have the skills for online collaboration (Cordes, 2016b; Gordon & Edwards, 2012). When a communication skills deficit exists with members, virtual teams will not function or interact at an optimal level.

The engagement by the members within distributed work teams should be structured. Virtual teams require clarity on the rules for interaction (Cordes, 2016a). Several important processes for virtual teams include goal monitoring, monitoring of systems, monitoring the team, and coordination (Cordes, 2016a). Goal monitoring in virtual teams involves the sharing of important information required for decisions (Cordes, 2016a). Likewise, Gapp and Fisher (2012) found that daily goal setting is one

approach for accomplishment of work objectives in virtual groups. The monitoring of

systems entails constantly reviewing the functionality and viability of technology in use

by the team and making the necessary adjustments over time (Cordes, 2016a).

Interestingly, Shepherd and Hagstrom (2015) observed that technology can facilitate a

sense of community when an organization uses message boards to allow employees to

share stories about successes and ideas. Monitoring the team concerns the need to ensure

collaboration is present when team members need assistance (Cordes, 2016a).

Coordination involves gathering feedback from others when decisions need to be made

(Cordes, 2016a). Coordination is especially important in virtual teams given the need for

information exchange and processing for decision making in distributed environments

(McLeod, 2013). If conflict exists within a team, the lack of trust among co-workers will

inhibit coordination and the sharing of information.

**Managing Conflict in Virtual Teams**

The social interactions of team members are always complicated for PTLs. The

differences in time and distance of virtual teams creates challenges for members

(Malhotra et al., 2007; Prasad et al., 2017; Wickramasinghe & Nandula, 2015). The use

of information and communication technology (ICT) to access talent increases the

likelihood that members will differ in terms of regional, ethnic, time, and distance

considerations (Wickramasinghe & Nandula, 2015). The nature of global dispersed

virtual teams can lead to relationship conflict, which is conflict due to differences in

personality and/or mutual dislike and lack of trust (Wickramasinghe & Nandula, 2015).

Relationship conflict is similar to affective conflict. Affective conflict, or personal

conflict, usually results in members reporting a less than satisfying team experience (Medina, 2016). Conversely, cognitive team conflict, or task related conflict among team members usually leads to a more satisfying team experience for members (Medina, 2016). The satisfaction likely results from members' perception that the conflict allowed the individual to experience a new way of thinking about an issue (Medina, 2016). Relationship and cognitive conflict may exist at the same time within a team. Leaders must stay attuned to any type of work relationship discord among members, which will frustrate the attainment of project goals.

Relationship conflict is crippling for virtual teams. Leaders should seek to mitigate relationship conflict (Derven, 2016; Wickramasinghe & Nandula, 2015). Relationship building is important for reducing conflict in virtual teams (Wickramasinghe & Nandula, 2015). Organizations need to devote funding for training for virtual team leaders on reducing relationship conflict to facilitate the accomplishment of project goals (Wickramasinghe & Nandula, 2015). Once conflict arises, leaders must also be equipped to foster an environment that promotes the resolution of differences.

An important aspect of managing conflict is conflict resolution. Conflict resolution involves shifting divergent attitudes or beliefs to a common understanding or agreement (Asenjo Palma, 2018; Behrens et al., 2019; Budd et al., 2019; Gomez & Taylor, 2017). For collaborative conflict management to exist, the individuals involved must possess a genuine concern for the perspective of others in conjunction with personal concerns (Asenjo Palma, 2018; Behrens et al., 2019; Budd et al., 2019; Gomez & Taylor, 2017). Clarity about conflict management process is important for members working on a

complex project (Derven, 2016; Lohr et al., 2017). Without a structured process for managing conflict, internal disagreements may erode team unity and the shared sense of purpose towards the project goal.

Clear organizational direction on handling conflicts is an imperative for distributed work teams. The integration of conflict management into the governance structure of global virtual teams is important (Derven, 2016). As Pazos (2012) found, virtual team effectiveness relates to successful conflict management. Interestingly, Stark et. al. (2014) reported that increases in relationship conflict cause team members to desire less face-to-face communication and more virtual communication. Several approaches for managing conflict effectively in virtual teams is to promote a shared understanding of team goals, confronting conflict, encouraging respect and active listening when resolving issues, and requesting everyone involved in the conflict to work together to find a solution (Derven, 2016).  Coaching or mediation services for members of projects may alleviate conflicts (Lohr et al., 2017). The leaders of virtual teams should communicate that conflict is a natural occurrence in teams, which should stimulate a constructive approach to conflict situations (Derven, 2016). Efforts related to conflict management enable the development of trust among members. Trust is a fundamental element of virtual team success (Crisp & Jarvenpaa, 2013; Zuofa & Ochieng, 2017). The leaders of virtual teams play a vital role in building trusting behaviors within the group and coordinating the performance of the team. Leaders may adopt various approaches and styles for leading and managing virtual groups.

**Leadership in Virtual Teams**

Organizational leaders guide teams towards the achievement of performance targets. Organizational success is linked to leaders' ability to execute strategies (Almatrooshi et al., 2016). Leaders must be adaptive and flexible with techniques in order to operate in changing environments (Almatrooshi et al., 2016). Leaders are responsible for effectively communicating both the vision and the strategies for realizing the vision to employees (Almatrooshi et al., 2016; Salas et al., 2005). The critical role of leaders means that leadership development is an important part of an organization's strategic planning (Viitala et al., 2017). Leadership competency and the organizational culture created by leaders influence the success of organizations (Almatrooshi et al., 2016; Sarros et al., 2002). Leadership competencies consist of the intellectual, ethical, creative, knowledge, self-confidence, and charismatic qualities of the leader (Almatrooshi et al., 2016). Without effective leaders, organizations would not be able to function. Leaders help to drive and motivate all organizational participants towards a shared goal.

The issue of leadership now extends from traditional work environments to distributed work teams. The work environment is becoming more mobile and global (Korzynski, 2015). In addition, the business environment is constantly changing (Dutta & Khatri, 2017; Killingsworth et al., 2016). When looking at approaches to leadership as it relates to the effectiveness of virtual teams, the topic of trust continues to prevail as an indispensable trait within the group (Meyer et al., 2017; Shah, 2016; Zuofa & Ochieng, 2017). Stated another way, the effectiveness of leadership in a virtual environment is related to team trust (Ben Sedrine et al., 2020; Mysirlaki & Paraskeva, 2020; Shah,

2016). Effective leadership in virtual teams results in meaningful collaboration among members (Meyer et al., 2017; Shah, 2016). Virtual team leaders aid in furthering a spirit of collaboration and trust within the team, which leads to the necessary rapport for information and knowledge sharing between group members.

Virtual team leaders face the normal challenges found in traditional work models along with the often-unique dynamics of distributed teams. Eichenauer et al. (2021) suggest that there are certain complexities inherent in the distributed leadership associated with virtual teams. Likewise, White (2014) argued that the three dimensions of virtual teams that serve as barriers include time differences, language difficulties, and the geographic location of team members. In order to overcome the challenges, leaders of global virtual teams must possess not only technical skills, but also skills to build group unity (Cordes, 2016b; Derven, 2016). Leaders of virtual groups need a heightened focus on team results and relationships within teams (Derven, 2016; Malhotra et al., 2007). VPTs will not succeed in the absence of relationships and results. Virtual team leaders require adaptability and an ability to manage performance and work relationships simultaneously.

The leaders of virtual teams may employ a number of techniques to increase the chances for team success. Zaharie (2021) suggested that project managers of virtual teams should remain in constant contact with team members, provide clear direction, create trust among team members, and encourage team members to be sensitive to cultural differences. Global virtual team leaders must be an advocate for the group, frame team goals consistent within the organizational vision, and serve as a source of information

when there are organizational changes (Derven, 2016; Malhotra et al., 2007). Leaders should also promote a work-life balance for members (Derven, 2016). Although virtual group members may not work in a traditional office setting, leaders should be mindful that the individuals on the team probably have outside interests and family responsibilities. Leaders can help to avoid the mistaken belief that virtual team members should always be connected and available for work.

Leaders will not be successful without a genuine concern for those responsible for carrying out work tasks. Employees constitute another key aspect of organizational success (Almatrooshi et al., 2016). The relationship between the virtual leader and team members is important (Derven, 2016; Nienaber et al., 2015). The expanse of communication technology affords greater opportunities for leaders to engage with employees (Korzynski, 2015; Prasad et al., 2017; Riordan & Glikson, 2020). Organizations must communicate the rules of conduct for employees who will participate in selected on-line communication platforms and promote leadership participation (Korzynski, 2015; Malhotra et al., 2007). Training is also important for all employees, including leaders, who will use on-line collaboration technology (Korzynski, 2015). Leaders can promote swift trust through purposeful and active participation in online platforms (Korzynski, 2015). The roles of leaders will continue to change with advances in communication technology (Korzynski, 2015). The evolution of technology creates further opportunities for employees at all levels to communicate and build functional and positive work relationships. Although leaders within virtual environments experience a

deprivation of the traditional face-to-face interaction with group members, technology allows the leaders to connect with employees on a different level.

Leadership manifests in different forms within teams. Complexity leadership theory advances the belief that leadership can emerge anywhere in the organization based upon the situation (Mendes et al., 2016). Instead of a permanent team lead, a shared leadership approach in virtual contexts help with task accomplishment and team unity (Han et al., 2017). Unlike the common face-to-face work environments, shared or network leadership is an effective replacement for a hierarchical structure (Han et al., 2017). Srivastava and Jain (2017) found that distributed self-organized scrum teams could implement a framework under which members can take the lead as situations dictate and there is an overall shared approach to leadership. Hoch (2014) found that there is a strong relationship between shared leadership and team performance in diverse teams in terms of values, expertise, and knowledge. Han et al. (2021) similarly reported that there is a positive relationship between team performance and shared leadership. Shared leadership is synonymous with emergent leadership. Ziek and Smulowitz (2014) suggested that multiple leaders come forward or emerge in virtual teams as needed. Shared leadership in virtual teams is a valuable construct for viewing leadership. The customary authoritative, formally appointed leader model subordinates to an agile leadership approach. The networked leadership model works best when relationship building is one of the cornerstones of the virtual team culture and trust emanates from the group.

*Leadership Styles in Virtual Teams*

Leaders within virtual teams may employ several different approaches when guiding the actions of group members. Ben Sedrine et al. (2020) found that there is a correlation between leadership style and satisfaction of the members in virtual contexts. The two main business leadership styles are transformational and transactional when examining leadership in environments dominated by ICT (Eisenberg et al., 2019). Transformational leadership is relationship oriented (Borgmann et al., 2016; Eisenberg et al., 2019; Pattnaik & Sahoo, 2021). The transformational leader is concerned with the needs of followers (Ben Sedrine et al., 2020; Grošelj et al., 2020; Mysirlaki & Paraskeva, 2020; Sarros et al., 2002; Yin et al., 2019). Transformational leadership is closely associated with efficiency in teams (Pattnaik & Sahoo, 2021). De Poel et. al. (2014) found that teams with high organizational tenure diversity respond to transformational leadership with creativity, commitment to the organization, and job satisfaction. Transactional leadership focuses on task completion and clarity with expectations on performance standards (Ben Sedrine et al., 2020. The most effective leaders can call upon transformational or transactional behaviors as the situation dictates.

*Leadership for Creativity in Virtual Teams*

Organizations constantly strive to realize creativity to maintain or gain a competitive advantage. Leaders often have the responsibility to promote innovative solutions in co-located and distributed environments (Malhotra et al., 2007). Leaders of virtual teams are responsible for leveraging and facilitating knowledge sharing within the team (Dixon, 2017; Malhotra et al., 2007). Virtual team members can benefit from

knowledge sharing across geographic boundaries (Malhotra et al., 2007). Zuofa and

Ochieng (2017) argued that virtual team effectiveness and efficiency hinges on expertise

of team members, knowledge sharing, and the shared group experience of all members.

When team members have an opportunity to learn from each other, the chances for

creativity increase (Han et al., 2017). In knowledge environments such as virtual teams,

members share information openly when there are feelings of psychological safety (Han

et al., 2017). Members feel safe when trust exists within the group. Leaders are

responsible for building trust within the team (Malhotra et al., 2007; Meyer et al., 2017).

When trust is present, information exchange aids the team with problem solving efforts

including finding new or innovative approaches and products.

Encouraging innovation and creativity is possible even when team members are

not able to interact in face-to-face discussions. Virtual meetings can allow for creativity if

structured appropriately (Malhotra et al., 2007). One way to develop structure is to focus

on pre-planned meetings with clearly defined and choreographed topics (Malhotra et al.,

2007). Several leader behaviors associated with generating creative outcomes include

communicating expectations and guidelines for members, developing team norms,

promoting open and honest discussions, and feelings of psychological safety (Han et al.,

2017). Fan et. al. (2014) reported that leaders use of feedback and motivating language

influence the creativity of virtual group members. Using technology that is appropriate

and effective for the virtual team is another way to encourage creativity (Han et al., 2017;

Zuofa & Ochieng, 2017). Leader behaviors that will inhibit creativity include lack of

communication, ineffective scheduling of meetings that do not account for differences in

time zones, and the use of technology, which is unreliable for members (Han et al.,

2017). The virtual team leader carries the responsibility to create an environment, which

fosters the type of relationship building and trust that leads to creativity within the team.

Various mediums of technology enable virtual team member interaction and work

synergy. Given the nature of virtual teams, effective use of technology will aid members

from diverse backgrounds.

**Technology in Virtual Teams**

Various forms of ICT expand the traditional boundaries of the workplace by

allowing organizations to utilize distributed work models. Technology functions as an

enabling force for virtual teams (Aritz et al., 2017; Boonda et al., 2018; Darics & Cristina

Gatti, 2019; Davidekova & Hvorecky, 2017; Dossick et al., 2019; Elyousfi et al., 2021;

Kilcullen et al., 2021; Laitinen & Valo, 2018; Panteli et al., 2019; Parlamis & Dibble,

2019; Shaik et al., 2020; Zakaria, 2017). Members working in a dispersed environment

link through technology mediums (Koppman & Gupta, 2014; Prasad et al., 2017).

Technology mediums aid members with goal accomplishment and help to unify work

efforts in many situations (Adam et al., 2017; Lois et al., 2020; Prasad et al., 2017;

Presbitero, 2019). For example, ICTs along with face-to face interaction, contribute to

unification in virtual environments when an organization is involved in an acquisition or

merger (Ettlie et al., 2017). ICT also mitigates collaborative challenges in virtual teams

(Koppman & Gupta, 2014; Killingsworth et al., 2016; Prasad et al., 2017). The ability to

collaborate and share ideas promotes relationship building within virtual teams (Marlow

et al., 2017). Therefore, technology is useful for creating trust in virtual environments

(Zuofa & Ochieng, 2017). Without technology, the evolution of virtual work teams would falter and organization leaders would question the utility of the distributed work model.

*Technology Considerations*

The indispensable use of technology in virtual teams raises the importance on the choice of communication and collaboration platforms for group members. Although ICT may lead to greater efficiency and effectiveness within a group, ICT also has the potential to complicate the work for groups (Arvedsen & Hassert, 2020; Bjorvatn & Wald, 2019; Maynard et al., 2018; Zhu & Smith, 2019). When leaders explore what technology to use, the main considerations include the ICT's capability, the type of task that needs to be completed, and task urgency (Arvedsen & Hassert, 2020; Cordes, 2016a; Derven, 2016). Excessive or inadequate systems for employees lead to dissatisfaction in the workforce (Eseryel et al., 2020; Kilcullen et al., 2021; Patil, 2020). Mohd Daud and Zakaria (2017) found that individuals with personal innovativeness in information technology help the team to identify technologies suitable for the accomplishment of team goals. After deployment of the appropriate technology within the team, ICT will only be effective if workers understand how to use the tools (Eseryel et al., 2020; Kilcullen et al., 2021; Killingsworth et al., 2016; Patil, 2020). Training on how to use systems is critical in order to limit avoidance and resistance (Eseryel et al., 2020; Kilcullen et al., 2021; Olson et al., 2014; Patil, 2020). The ICT selected for virtual teams will play a major role in whether the team is able to collaborate effectively (Klonek et al., 2021; Schulze & Krumm, 2017; Vidovic et al., 2020). The technology will also drive team members' feelings of work

satisfaction. Virtual team leaders need to provide adequate training opportunities for workers, so all members develop the requisite competency with the ICT tools.

The continuous technological advances create a diverse pool of ICTs for virtual teams to consider. The tools fall into two main categories, synchronous and asynchronous. When the team needs to coordinate closely, synchronous communication tools offer many benefits (Derven, 2016; Klonek et al., 2021; Koles & Nagy, 2013; Zhu & Smith, 2019). An example of synchronous ICT includes video conferencing, which is a communication medium that approximates traditional face-to-face interaction (Prasad et al., 2017). Other synchronous tools include teleconferences and groupware applications (Prasad et al., 2017). Conversely, asynchronous tools do not always promote instant communication. The benefit of asynchronous ICT includes the ability to memorialize instructions for the team (Klonek et al., 2021; Zhu & Smith, 2019). Email, which is an asynchronous tool, represents a less rich communication medium in terms of social interaction than many synchronous tools (Prasad et al., 2017). Virtual work groups rely upon email heavily to accomplish tasks (Prasad et al., 2017). Interestingly, Koles and Nagy (2013) found that instant messaging in a virtual environment might constitute both synchronous and asynchronous characteristics in a virtual environment based upon the communicative practices of the virtual participants. The key decision on the selection of a communication tool does not rest on the social richness of the tool, but on whether the ICT is effective in helping the team accomplish tasks (Prasad et al., 2017). The inherent functional capability of a tool is less important than members' ability to use the technology proficiently for information sharing and collaboration (Prasad et al., 2017).

Synchronous and asynchronous ICT can both contribute to virtual team success under the right circumstances. When selecting a tool for the team to use, there may be situations where ICT with fewer features is more appropriate than the latest model of a communication tool if the older version facilitates the necessary group coordination in a superior manner.

### Technology for Success

The effective use of technology within distributed teams has the potential to contribute significantly to the team and the overall organization's success. When virtual teams possess effective technology, the opportunity exists to enhance creativity, create a competitive advantage, and encourage learning (Zuofa & Ochieng, 2017). Chih et. al. (2017) observed that technology not only facilitates communication within organizations, the proliferation of social networking sites creates opportunities for businesses to build brand awareness among customers. Likewise, Chen and Wei (2019) found that organizations increasing use enterprise social networking platforms for collaboration and communication. As it relates to organizational learning, leaders recognize the utility of on-line training programs for workers, which include virtual reality (Bernardes et al., 2019; Brennan et al., 2018; Lin et al., 2021). When deploying technology for virtual teams, organizations should consider a redundant technology strategy so that back-up systems ensure reliable communication (Zuofa & Ochieng, 2017). Without communication, distributed work teams will be unaware of the activities of other members and the team will not benefit from collective information sharing. Global virtual teams depend on knowledge sharing (Killingsworth et al., 2016). Technology helps to

facilitate knowledge sharing among members in an organization (Eseryel et al., 2020; Kilcullen et al., 2021; Patil, 2020). However, the presence of technology alone is not a substitute for collaboration among members (Aritz et al., 2017; Darics & Cristina Gatti, 2019; Kilcullen et al., 2021). As Derven (2016) argued technology alone cannot overcome the challenges associated with cultural and language barriers. Virtual teams need to meet in person occasionally once during the initial team formation and at other key points during the team's existence (Derven, 2016). Virtual team success is available by leveraging technology. The team needs to have a resilient communication environment for collaboration and information sharing along with the requisite training on how to use all forms of available communication tools. Technology helps to connect members by increasing awareness on the activities of the group and as a vehicle for the dissemination of knowledge. When possible, periodic face-to-face interaction in conjunction with ICT maximizes the usefulness of technology in virtual teams,

Although the availability of ICT is important, team members must actually use the technology available. As technology assumes a greater role in virtual teams, members with limited computer skills require training in order for collaboration to be realized (Eseryel et al., 2020; Kilcullen et al., 2021; Killingsworth et al., 2016; Patil, 2020). The establishment of norms within virtual teams on the use of communication technology is also important (Darics, 2014; Malhotra et al., 2007). Norms include the content of postings on shared bulletin boards, frequency of communication, how to communicate availability, etiquette for audio-conferences such as announcing name before speaking, and the appropriate use of email (Malhotra et al., 2007). The norms on technology use

should be revised as necessary during the virtual team's existence (Malhotra et al., 2007). The expectations on the use of technology within the team must be communicated to all members so, there is congruency within the team on the use of ICT. The establishment of norms will guide team members' interactions and mitigate differences among team members who come from different backgrounds.

**Cultural Differences in Virtual Teams**

Cultural diversity is a natural occurrence in virtual work team models. The nature of virtual teams increases the likelihood that the group will have members from different geographic areas or cultures (Derven, 2016; Kramer et al., 2017; Malhotra et al., 2007). In addition to cultural differences, team members may come from vary in terms of level of education, language proficiency, and gender (Derven, 2016). Gender differences may influence the level of participation by individuals in a virtual work environment (Shen et al., 2017). Interacting with individuals from diverse backgrounds may create social challenges in certain work situations (Berraies, 2019; Bobek & Devitt, 2017; Bogilović et al., 2020; Brett, 2017; Calabuig et al., 2018; Dahanayake et al., 2018; Dang & Chou, 2019; Kadam et al., 2020; Kalargyrou & Costen, 2017; Malik et al., 2017). Knowledge sharing within culturally diverse groups may be impaired due group members' perspectives on power distance, which is an individual's views and acceptability on inequalities of power within the team (Killingsworth et al., 2016). The success of virtual teams will depend in part, on whether there is a leveraging of group differences, acknowledged of differences, and there is an understanding of diversity (Malhotra et al., 2007). When virtual team leaders provided opportunities for individuals with different

backgrounds to collaborate closely on certain tasks, the work experience helps to improve

communication and dispel cultural biases (Malhotra et al., 2007). Leaders of virtual work

teams must focus on diversity and inclusion (Derven, 2016; Zaharie, 2021). Virtual team

leaders need to promote a team culture, which welcomes new ideas and respects all

cultures represented within the group (Derven, 2016). Alon et al. (2016) supported the

idea of cultural awareness within groups and virtual teams with a proposed scale to

measure cultural intelligence of the work team. Virtual team members may differ

culturally and socially in many different ways. Virtual groups that embrace diversity

create a pathway for successfully accomplishing team objectives.

***Managing Culturally Diversity in Virtual Teams Through Technology***

The global nature of business relationships necessitates an awareness of cultural

diversity within organizations. Business relationships span geographic boundaries

because of technological advancement (Siakas & Siakas, 2015; Wickramasinghe &

Nandula, 2015). Within organizations, virtual worlds, which simulate real-life

experiences, help to connect individuals from different cultures (Chung et al., 2016).

Likewise, Bennett (2014) reported that company intranets can be used strategically to

communicate organizational culture and to help employees interpret their work

environment, which is consistent with Long et. al. (2015) findings that corporate websites

may significantly influence perceptions and understanding of organizational diversity

both internally and externally. Visual templates represent another tool for increasing

communication structure of culturally diverse groups (Bresciani & Comi, 2017). An

example of a visual template is a strategy map that contains boxes for group participants

to complete during a collaboration session (Bresciani & Comi, 2017). Within global virtual teams, email is viewed as a platform that mitigates language proficiency differences (Klitmoller et al., 2015). Email is a form of asynchronous communication. Asynchronous communication mediums allow team members with diverse language and speech patterns to share thoughts and feelings confidently when communicating in a language that is non-native (Klitmoller et al., 2015; Malhotra et al., 2007). While synchronous communication tools, such as audio-conferencing, require immediate responses (Malhotra et al., 2007). Klitmoller et al. (2015) argue that verbal media choices may lead to social categorization based upon proficiency in language within global virtual teams. Virtual teams comprised of members with cultural and language differences should develop policies on language use along with training for members (Cleary et al., 2018; Kilcullen et al., 2021; Klitmøller et al., 2015; Mangla, 2021; Purvanova & Kenda, 2018). In addition, seeking immediate feedback from members after interaction lessens communication breakdowns (Derven, 2016). The inter-cultural dynamics of the workplace dictate a prudent approach for leveraging the contributions of diverse workers through various technology mediums. The team can capitalize on the benefits of diverse workforce when everyone is able to participate towards the accomplishment of performance goals.

### Benefits of Diversity in Virtual Teams

Despite the challenges associated with bringing together individuals with different backgrounds, diversity offers may benefits for organizations and virtual teams. Organizations that form international alliances frequently use virtual work environments

(Pesch & Souncken, 2017). Organizations require diversity and innovation in order to remain competitive (Siakas & Siakas, 2015; Steele & Derven, 2015). Embracing a culture of diversity can lead to innovation within teams (Derven, 2016; Jones et al., 2020; 2021; Neukam, 2017; Ratasuk & Charoensukmongkol, 2020; Steele & Derven, 2015). A heterogeneous work team creates the opportunity for new perspectives and points of view, which add value to the organization (Derven, 2016; Jones et al., 2020; 2021; Neukam, 2017; Ratasuk & Charoensukmongkol, 2020; Steele & Derven, 2015). Diversity does not inherently lead to innovation (Steele & Derven, 2015). Organizations must establish a culture, which encourages freedom of thought and the exchange of ideas (Auernhammer & Hall, 2014; Steele & Derven, 2015). Organizations and virtual teams benefit from work groups that are diverse. Members with different backgrounds are an impetus for creativity and a source for perspectives, which can help the teams and organizations meet performance goals.

**Transition**

Section 1 of the proposal contains the emergence and ubiquity of VPTs in organizations throughout the world and the importance of trust among team members. The review of the literature supports the focus of PTLs to build trust within VPTs to meet organizational performance goals. The leading component of Section 1 is the background of the problem; followed by identification of the problem statement; purpose statement; nature of the study; interview questions; operational definitions; assumptions, limitations, and delimitations; and significance of the study. Another key element of Section 1 is the review of the professional and academic literature, which contains highlights on the

dynamics of VPTs including an exhaustive analysis of the swift trust theory, which serves as the foundation and conceptual framework for the study.

Section 2 includes the (a) purpose statement, (b) role of the researcher, (c) participants, (d) research method, (e) research design, (f) population and sampling, (g) ethical research, (h) data collection instruments, (i) data collection technique, (j) data organization techniques, (k) data analysis, (l) reliability and validity, and (m) a transition and summary. Section 3 contains the presentation of findings, application to professional practice, implications for social change, recommendations for action, recommendations for further research, reflections, and a conclusion.

Section 2: The Project

Section 2 includes the purpose statement of the study. I also identify the role of the researcher, participants, research method, research design, population and sampling, ethical research, data collection instruments, data collection technique, data organization techniques, data analysis, reliability, and validity. As appropriate, I include peer-reviewed sources to support decisions made for the study.

**Purpose Statement**

The purpose of this qualitative single case study was to explore strategies PTLs and project management office leaders in charitable nonprofit organizations focusing on disaster relief use to effectively develop trust in VPTs. The target population for this study was at least six PTLs and project management office leaders in one charitable nonprofit organization located in the Washington, DC metropolitan area with operations worldwide that use successful strategies to build trust in VPTs. The implications for positive social change include the potential to assist PTLs in nonprofit organizations focusing on disaster relief in building trust within VPTs. Nonprofit organizations with social missions exist to benefit the public in the areas of human services and to address societal problems such as reducing poverty levels (Bin-Nashwan et al., 2020; Ebrahim & Rangan, 2014). When VPT members build trust and work collaboratively resulting in lower costs, the performance of the nonprofit organization may be positively affected, helping provide support relief effort for citizens and communities suffering from a natural disaster. If the populations in affected disaster areas recover successfully, communities may sustain less damage and be able to withstand disaster events that occur in the future.

**Role of the Researcher**

As the researcher in the qualitative study, I was the main data collection

instrument . Due to the active participation of researchers during qualitative studies,

researchers represent instruments (Pezalla et al., 2012). In my role as the researcher, I

conducted interviews, analyzed data, and developed the framework for the study's

findings. Researchers conducting qualitative studies must collect data, leverage data

analysis techniques, and clearly explain the processes used to support the study's findings

(Koch et al., 2014). I was also cognizant of personal biases, which may influence the

results of the study. Researchers should always conduct a self-analysis to identify

personal beliefs, which could affect the integrity of data analysis (Koch et al., 2014). I

contacted the nonprofit organization that was the basis for the data collected during the

study, and I created interview guidelines to provide the necessary rigor during the study.

I also followed basic ethical principles for the study participants consistent with the

Belmont Report because it is essential for qualitative research studies to follow ethical

practices with study participants (Doyle & Buckley, 2017). The ethical treatment of study

participants is one of my primary responsibilities as a researcher.

I had an obligation during the research project as it relates to ethics and the

Belmont Report. The aim of the Belmont Report, issued in 1979, was to promulgate

standards for the rights and ethical treatment of research participants (Miracle, 2016;

National Commission for the Protection of Human Subjects of Biomedical and

Behavioral Research, 1979). The three principles outlined in the Belmont Report are

beneficence, justice, and respect for persons (National Commission for the Protection of

Human Subjects of Biomedical and Behavioral Research, 1979). I conducted the study in a manner consistent with ethical standards. One of the primary considerations for researchers in management research is ethics (Doyle & Buckley, 2017). I treated all the study participates with respect and ensured the safety of all participants during their participation in the research project. I also obtained informed consent, avoided deception, protected the privacy and confidentiality of participants, ensured equitable treatment, and took the necessary precautions for any vulnerable groups (Yin, 2018). Study participants must provide their consent before researchers include individuals in the data gathering process (Yin, 2018).  One of my primary duties as the researcher was building and maintaining the trust of participants during the data collection process.

My perspective during the study results from my personal experiences as a manager responsible for leading a virtual team in the public sector. However, I did not have a relationship with the nonprofit organization selected for participation in the study. I also refrained from using my personal experiences with virtual teams as data points in the study to mitigate bias, even though I acknowledge my professional experiences with a distributed work team provides a context and influenced my frame of reference when analyzing the data from the study. An introspective approach during the entire research effort is essential in qualitative research (Koch et al., 2014). A self-inventory of potential biases mitigated any distortion with the interpretation of data collected during the study.

Establishing protocols during case study research provides a framework for a consistent line of questioning during interviews (Yin, 2018). Interviews were conducted with participants in VPTs within a nonprofit organization. An interview protocol served

as a guide during the collection of data from study participants. As the interviewer, I understood my responsibility to create an atmosphere that is comfortable for the participant. Researchers must create a comfortable environment for participants, which encourage active involvement and engagement (Pezella et al., 2012). The use of interviews is appropriate given the nature of the study. Interviews contain important evidentiary source in case study research (Yin, 2018). My goal was to conduct focused interviews with the participants, which occurred during 1 hour or less.

## Participants

Participants in a study should possess relevant experiences and information. Researchers must determine the eligibility criteria for individuals who will participate in the study in order to successfully answer the research question (DeFeo, 2013; Gordon & Patterson, 2013; Rowley, 2012). My goal was to include participants with relevant experiences and/or knowledge of successfully developing trust within VPTs. Including individuals with relevant perspectives and characteristics is necessary to support and align with the research objectives (Gordon & Patterson, 2013; Rowley, 2012). In qualitative research, researchers must include individuals in the data collection efforts that possess the diversity of backgrounds and views to address the research question (Gordon & Patterson, 2013; Rowley, 2012). All of the individuals included in the study from the nonprofit organization contributed to answering the central research question in the study. Through qualitative studies, researchers gain insight into the experiential knowledge of participants (Cibango, 2013; Koch et al., 2014; Yin, 2018). Eligible

participants for the study had knowledge of or successfully implemented strategies designed to develop trust within VPTs.

Selecting and gaining access, which can happen in different ways, to the right participants is important in research studies (Jean DeFeo, 2013; Rowley, 2012). I recruited study participants from workers in a nonprofit organization that focuses on disaster relief. I identified and gained access to the nonprofit organization for the study through both personal contacts, internet searches, and by contacting the Center for Non-Profit Advancement located in Washington, DC. These efforts allowed for identification and access to appropriate study participants. Once identified, I contacted the organization and sought approval from the appropriate organizational authorities and the individuals who were potential participants and the key resources of information on their experiences during the study.

My aim through the initial personal contacts with the study participants was to engender trust, rapport, a positive working relationship, and confidence. In qualitative research, the researcher must develop rapport with the study participants (Connelly & Pelter, 2016; Hershberger & Kavanaugh, 2017; Ranney et al., 2015). In addition, creating a working and trusting relationship is consistent with the researcher's responsibility to demonstrate care for study participants (Doyle & Buckley, 2017; Gordon & Patterson, 2013). In my role as the researcher, I developed trust with all participants to facilitate effective data collection efforts.

**Research Method and Design**

**Research Method**

I used the qualitative method to explore strategies some PTLs and project management office leaders in large charitable nonprofit organizations focusing on disaster relief use to develop trust in VPTs. This required a deep understanding of the real-life experiences and decisions of PTLs and program management office leaders within a nonprofit organization. Qualitative research is an approach that enables the researcher to focus on feedback from individuals who can provide valuable information concerning the issue under study (Hesse-Biber, 2016; Upjohn et al., 2013). Researchers use qualitative studies to explore the lived experiences of study participants (Boeren, 2017; Florczak, 2019; Steen et al., 2018). The qualitative researcher enables and contributes to the understanding of the truth about a topic (Doyle & Buckley, 2017). Thus, a qualitative method is more appropriate for the study than using a quantitative or mixed method approach.

The objective of quantitative and mixed method studies is to examine relationships among various factors to test an educated assumption. Quantitative research is concerned with the relationship between variables that is verified using data (Boeren, 2017; Florczak, 2019; Steen et al., 2018) to test a hypothesis (Hessie-Biber, 2016). Thus, in quantitative studies, researchers rely on objective measurements to address a problem (Kruth, 2015; Upjohn et al., 2013). Mixed method research represents the convergence of qualitative and quantitative approaches in a single study (Hessie-Biber, 2016). Quantitative methods would not allow for the flexibility necessary in the study for an

experiential exploration of participant experiences. The quantitative component of mixed methods research is a disqualifier for the intended study. A qualitative research effort was the appropriate approach to address the objective of the intended study because it is exploratory toward meaning from participants' experiences (Hessie-Biber, 2016; Koch et al., 2014). The choice of a qualitative research method provided the necessary framework for accomplishing the goals of the study.

**Research Design**

I used a single case study approach for the research project. A case study design enables researchers to obtain a perspective on real-world occurrences within an organization (Kruth, 2015; Yin, 2018). Case studies allow researchers to study a phenomenon that addresses research questions that focus on how events occurred within the context of real life (Kruth, 2015; Yin, 2018). The research question for the study was how to develop trust in VPTs. The qualitative research design aligns to the central research question for the study. There must be harmony between the research approach and the research question (Koch et al., 2014). In addition, single case studies are appropriate when the goal of the study is to contribute to the understanding of an issue that is rooted in a conceptual understanding of a topic (Yin, 2018). The goal of the study was to understand the successful strategies used by PTLs to build trust in virtual teams within nonprofit organizations.

There are several other qualitative research designs: grounded theory, narrative, phenomenological, and ethnography (Hessie-Biber, 2016; Kruth, 2015). In grounded theory research, the objective is to create a theory through explanation of an event or

phenomenon (Kruth, 2015). The narrative approach is typically the telling of a story in a

chronological manner of an individual's life (Kruth, 2015). A phenomenological study is

not concerned with an individual's experience, but on the experience itself (Kruth, 2015).

Ethnography centers on the description of a phenomenon within a cultural group (Kruth,

2015). The creation of a theory is outside the scope of the study, which excluded

grounded theory as a suitable research design. The limits and bounds of the narrative,

phenomenological, and ethnography designs are not conducive with the aim of the study,

which was to understand the experiences of individuals who successfully developed trust

within VPTs. Compatibility exists between a case study design and a research project

when the goal is to identify common themes, patterns, or insights (Kruth, 2015; Yin,

2018). The use of a case study design provided the focus and flexibility necessary to

address the central research question.

　　　During the study, data saturation was another goal. I achieved data saturation

through the inclusion of a sufficient number of study participants and through careful

data analysis. Data saturation occurs when the researcher no longer receives new

information (Cleary et al., 2014). A researcher's approach to data analysis contributes to

the understanding and realization of data saturation during a study (Koch et al., 2014).

The objective of this study was to obtain enough data to understand successful strategies

used to develop trust in VPTs. I reached data saturation when additional findings yielded

no new information on developing trust in VPTs.

## Population and Sampling

Purposive sampling was the primary sampling approach in the study. In purposive sampling, the researcher identifies a target group based on the thrust and focus of the study (Apostolopoulos & Liargovas, 2016; Robinson, 2014). Snowball sampling was a subordinate approach when necessary during the study. Snowball sampling involves the researcher asking study participants to recommend others who meet the criteria for participation in the study (Robinson, 2014).

When identifying a sample, the researcher should establish criteria for including individuals in the study (Robinson, 2014). Creating criteria for study participants establishes the necessary boundaries for the sample (Robinson, 2014). Choosing a defined study enhances the validity of a qualitative study (Robinson, 2014). The sample population for the intended study was PTLs and project management office leaders in a charitable nonprofit organization that possessed experience with building trust in virtual teams. The primary criteria during the purposive sampling include PTLs and project management office leaders with direct experience in successfully building trust in VPTs within the last 5 to 10 years. Including individuals with experiential knowledge on the research topic supports research objectives (Cibango, 2013; Gentles, 2017).

I established a limit on the number of participants included in the study. When the research aim is to study a particular case, the sample size should be small enough to allow for sufficient data analysis (Cleary et al., 2014; Robinson, 2014). The small sample size is relevant in case study research especially when the researcher is attempting to identify best practices (Robinson, 2014). I included one charitable nonprofit organization

that focuses on disaster relief as part of the population with a minimum of six participants. In qualitative studies, six to eight interviewees will yield sufficient data for a study (Cleary et al., 2014; Rowley, 2012). A small number of interview participants with knowledge of the experience under study can provide the qualitative researcher with rich data and help reach data saturation (Cleary et al., 2014). Cleary et. al. (2014) suggested that qualitative researchers choose a sample size, which results in the collection of rich data. The collection of useful and relevant data furthers the researcher's goal of achieving data saturation (Cleary et al., 2014). Data saturation occurs when the researcher begins to receive redundant or no new information during the data gathering process (Cleary et al., 2014). I achieved data saturation when I no longer received new data related to addressing the central research question. The primary criteria during the purposive sampling include PTLs and project management office leaders with direct experience in successfully building trust in VPTs within the last 5 to 10 years. Including individuals with experiential knowledge on the research topic supports research objectives (Cibango, 2013; Gentles, 2017).

The physical setting and environment for the interviews results depended on the physical location of the participant since the interaction with participants occurred via telephonic interviews. The use of phone interviews is an accepted and appropriate approach in qualitative studies (Hershberger & Kavanaugh, 2017; Rosenthal, 2016). Even though the interviews occurred by telephone, I encouraged the participants to answer questions from a location that was comfortable and free from distractions. The use of phone interviews was an appropriate strategy for the study.

**Ethical Research**

Informed consent is an essential aspect of the qualitative research process. Obtaining formal consent from participants is mandatory for qualitative researchers (Doyle & Buckley, 2017; Ngozwana, 2018; Paradis & Varpio, 2018; Unger, 2016). Informed consent is the freedom of individuals to participate or decline participation in a study in which the purpose and goals of the study are explained (Doyle & Buckley, 2017; Yin, 2018). I notified all prospective participants about the objectives of the study and that involvement in the study was voluntary. Before scheduling the interviews with participants, I provided study participants with a written consent form, which contained a description of the goals for the research study project, commitment to privacy, and the rights of participants including the voluntary nature of the request for participation and the right to withdraw from the study.

Study participants always have the right to notify the researcher of their desire to withdraw from a study at any time if they become uncomfortable or no longer desire to assist with data collection efforts (Doyle & Buckley, 2017). I notified all study participants that withdrawal from the study was available at any time for any reason with notification to me by email or telephone. I secured each candidate's permission before any individuals were included as a participant. Study participants must trust the researcher and be cognizant of pertinent information surrounding the research process (Unger, 2016). Each participant also received a sample of the interview questions and received notification of my intent to audio record the interview session.

Qualitative researchers must identify the appropriate participants for a study. One of the challenges for researchers is locating willing participants (Rowley, 2012). Researchers have a choice on whether to use financial or other incentives to encourage participation in a study (Archibald et al., 2019; Condon et al., 2019; Kelly et al., 2017; Robinson, 2014; Stevenson et al., 2018). I did not offer any monetary incentives for participation in the study; however, I informed all study participants that the study results would be accessible upon request.

As the researcher, I also had an ethical duty to protect all research participants. Researchers have a responsibility to make sure participants understand the goals of the research effort upfront ( Robinson, 2014). I carefully explained the objectives of the study with all prospective research participants. Researchers must exercise special care when conducting study projects to minimize any potential harm to participants and to adhere to the highest ethical principles (Doyle & Buckley, 2017). The key elements of research ethics include informed consent, maintaining the confidentiality of participants, and identifying any potential harm to human subjects (Doyle & Buckley, 2017). I discussed the full parameters of the study with potential candidates including the goals of the project in addition to obtaining consent. Additionally, the risks in the study for participants were limited to potential discomfort from talking on the phone for an extended time. I also adhered to the requirements set forth in the *Belmont Report* and conducted the study consistent with the standards of ethics promulgated by the United States Department of Health and Human Services.

Given the potential vulnerability of study participants, qualitative researchers

must protect the confidentiality of all individuals. Protecting the well-being and privacy

of study participants through various methods is paramount in research (Kara &

Pickering, 2017; Ngozwana, 2018). To ensure compliance with ethical principles, I will

maintain the study data on an encrypted thumb drive for up to 5 years and store them in a

locked safe. Following the 5-year period, I will purge the data on the thumb drive. I

understand my duty as a researcher was to obtain the necessary approvals prior to

collecting data for the intended study. The formal process of scrutiny by an ethics review

board on a study proposal refers to procedural ethics (Paradis & Varpio, 2018). Before

conducting any research, I obtained approval from the Walden University Institutional

Review Board (IRB). The Walden IRB approval number is 06-24-19-0431846.

Another responsibility I have as the researcher is to protect the names of

individuals and the participant organization in the proposed study. Protecting the privacy

and confidentiality of study participants through anonymity is another essential concept

in research (Doyle & Buckley, 2017; Ngozwana, 2018; Oye et. al., 2019; Shaw et al.,

2019; Walby & Luscombe, 2018). I protected the privacy and confidentiality of the

nonprofit organization and the study participants by excluding names or other identifying

characteristics in the study. All study participants received a letter designation, such as

Participant A, B, C, and D to preserve confidentiality.

### Data Collection Instruments

I was the primary data collection instrument as the researcher. In qualitative work,

researchers represent the primary instrument for data collection (Cope, 2014; Pezella et

al., 2012). In addition, I recorded the phone interviews. Qualitative interviews need

recording (Rosenthal, 2016). The phone interview recordings occurred through features

available in the conference lines available via FreeConference.com. Data collection

occurs in a rigorous manner in qualitative studies (Ranney et al., 2015). In qualitative

research, data collection is available through multiple sources (Koch et al., 2014). The

data collection strategies include document reviews, interviews, and observation

(Connelly & Pelter, 2016; Ranney et al., 2015; Yin, 2018). I used interviews and

document reviews as the primary means of data collection during the study.

Semistructured interviews allow researchers to probe interviewees through open-ended

questions (Connelly & Pelter, 2016; Doyle & Buckley, 2017; Rowley, 2012). I conducted

semistructured interviews with participants during the study.

I followed a structured process during the study for consistency. The interview

questions I developed for the study focused on successful strategies for developing trust

in virtual teams. The interview questions in qualitative research should aid in answering

the central research question of the study (Ranney et al., 2015; Rowley, 2012). I

developed an interview protocol to facilitate timely and consistent interview approach

with participants. Developing an interview guide is useful when conducting qualitative

interviews (Hershberger & Kavanaugh, 2017). Prior to the interview, I reviewed the

signed participant informed consent form with each individual before initiating the

question and answer session. Beginning the interview with an exercise to put the

participant in a calm manner is helpful during the data gathering process (Connelly &

Pelter, 2016; Ranney et al., 2015). I started the interview with an icebreaker discussion in order to engender trust and rapport.

I ensured the reliability and validity of the study with the use of method triangulation and through the implementation of member checking. Method triangulation involves the use of various sources of data collection to mitigate bias and potential shortfalls of a single data collection technique (Koch et al., 2014; Ranney et al., 2015; Williamson, 2005). The use of member checking helps the researcher validate the accuracy and reliability of data collection (Koch et al., 2014; Rowley, 2012). Member checking includes providing research participants with copies of data analysis for feedback (Koch et al., 2014; Rowley, 2012). I provided an opportunity for interview participants to review and comment on my interpretation and analyses of data collected during the study. The various sources and verification approaches of the data contributed to the integrity of the study.

I followed an interview protocol during the data collection process. The use of a structured interview format allows qualitative researchers to achieve consistency with interview participants (Hershberger & Kavanaugh, 2017). A copy of the interview protocol is included in the Appendix.

**Data Collection Technique**

I conducted semistructured interviews during the study. Interviews remain an acceptable data collection approach in qualitative research (Cleary et al., 2014; Connelly & Peltzer, 2016; Ranney et al., 2015; Rosenthal, 2016; Rowley, 2012). The interviews occurred by phone. The qualitative phone interview is an appropriate data collection

technique (Hershberger & Kavanaugh, 2017; Rosenthal, 2016). Researchers should develop an interview protocol or guide to ensure consistency during interactions with study participants (Hershberger & Kavanaugh, 2017). The protocol I followed during the interviews included beginning the session with an overview of the study project, reviewing the consent form, obtaining permission to record the interview, asking the pre-established questions to the participant with relevant follow-up questions, and explaining the member checking process at the conclusion of the session. Interview transcripts are important in qualitative research (Rosenthal, 2016). Following the phone interviews, I procured transcription services through my account with FreeConference.com

There are several advantages and disadvantages associated with telephone interviews. Telephone interviews remain advantageous for researchers because they can be just as effective in the data collection process as face-to-face interviews (Rosenthal, 2016). Other advantages of telephone interviews include the elimination of geographical barriers associated with accessing participants and the relatively low cost (Hershberger & Kavanaugh, 2017). A disadvantage of phone interviews is the inability of study participants to construct thoughtful answers in real time as compared to an asynchronous approach such as email (Hershberger & Kavanaugh, 2017). Despite the shortcomings, phone interviews served as an acceptable data collection technique during the study.

Participants received a copy of the data analyses for member checking once completed to ensure accuracy. Member checking is an effective way to test the validity of data analysis (Anyan, 2013; Koch et al., 2014; Rosenthal, 2016). An accurate analysis of data is essential for the qualitative researcher (Connelly & Pelter, 2016). The content

from interview transcripts and the researcher's notes provided the source of data in

qualitative studies (Hershberger & Kavanaugh, 2017; Ranney et al., 2015; Rowley,

2012). I continued to analyze the transcripts and my interpretations of the data after the

participants provided feedback on my analyses.

## Data Organization Technique

I utilized an organized system for keeping track of data during the study.

Researchers should undertake data collection in an organized and rigorous manner

(Ranney et al., 2015).  Note taking is helpful and serves as an aid for researcher's

organization efforts during qualitative studies (Ranney et al., 2015). I took notes during

the interviews to capture critical comments and contemporaneous thoughts about the

session. During the interview sessions, I recorded my general impressions of the

discussion such as the flow of the conversation and my overall perceptions of the

interview experience.

In addition to personal notes, I organized data, including documents obtained

from the organization, on an encrypted thumb drive. Using information technology

during qualitative research for data storage and analysis is helpful (Rosenthal, 2016). The

organization of files on the thumb drive should allowed for sufficient tracking of data

during the study.

Data collected from the study will be stored on an encrypted thumb drive for a

period not to exceed 5 years. Protecting the identity of study participants and the

confidentiality of the data is one of the paramount responsibilities for researchers ("A

Debate on Transparency, Accessibility of Data, and Protecting Confidential Sources in

Qualitative Research," 2017; Cox et al., 2019; Hadden et al., 2017; Head, 2018; Hesse et al., 2018; Mauthner, 2018; Ruggiano & Perry, 2017; Yin, 2018). I will delete the files on the thumb drive following the 5-year period. I will maintain all written data collected during the study in a secure locked safe for 5 years. I will shred all written data at the end of the 5-year retention period. I informed study participants that they may have access to the results of the study, if requested. Protecting the confidentiality of study participants is an important responsibility for researchers (Doyle & Buckley, 2017; Shaw et al., 2019; Walby & Luscombe, 2018). Securing and storing data in a qualitative study through all available means is one of the paramount responsibilities of the researcher (Cox et al., 2019; Hadden et al., 2017; Head, 2018; Hesse et al., 2018; Mauthner, 2018; Ruggiano & Perry, 2017; Yin, 2018). Any documents obtained from the organization or interview participants reside electronically on an encrypted thumb drive, in a secure locked safe, or recorded in my secured personal journal. During the retention period, I will have sole access to the data. I will delete or shred all of the data materials as appropriate after 5 years.

## Data Analysis

Researchers use method triangulation in qualitative case studies. Method triangulation occurs when the researcher leverages multiple data sources to explore the phenomenon under study (Cope, 2014; Feder, 2017; Flick et al., 2018; Godfroid et al., 2020; Jentoft & Olsen, 2017). The use of various sources allows the researcher to obtain sufficient data points. Using several techniques assists with validating data analysis (Ranney et al., 2015). The goal of the qualitative researcher is to demonstrate the

integrity of the study (Aubert Bonn & Pinxten, 2019; Garrihy & Watters, 2020; Hardesty et al., 2019; Oye et al., 2019). I used multiple techniques to ensure the integrity of the study, including my notes, the content from interview transcripts, and organizational documentation.

During the data analysis phase of the study, I followed a logical and sequential process. Once the interviews were finished, I reviewed the interview transcripts. Researchers should review transcripts after an interview to compile notes on important ideas (Rowley, 2012). After I reviewed the transcripts, I sent the transcripts and my initial analysis of the interview responses to participants. Member checking of researcher interpretations and conclusions of data represents an acceptable approach for assisting researchers with data analysis (Rowley, 2012). Once the member checking was completed, I used the interview transcripts to continue with a content analysis. In qualitative studies, content analysis represents the overall analytic approach to data by the researcher (Rosenthal, 2016). The content of the interview transcripts served as the basis for the coding process. Coding is critical in qualitative interview research (Ranney et al., 2015). I began the coding process with the establishment of codes, which originated from concepts taken from extant literature. Qualitative researchers use coding to develop and emphasize themes derived from study data (Hershberger & Kavanaugh, 2017; Rowley, 2012). I modified and included additional codes as necessary based upon an analysis of the transcripts. Researchers use the codes to derive themes (Ranney et al., 2015). After completion of the coding, I developed the appropriate themes from the research data.

I used a commercial software product during the analysis phase of the study.
Using a computer program to assist with data analysis is helpful (Ranney et al., 2015;
Rowley, 2012). NVivo is a software program that can help with qualitative data analysis
(Ranney et al., 2015; Rosenthal, 2016). I utilized the NVivo software program for
assistance with coding and the development of themes. The data analysis procedure I
followed began with obtaining the written transcript of the interview. Next, I uploaded
the written transcript to NVivo. NVivo aided me with the coding and development of
themes. Coding is important in qualitative studies (Ranney et al., 2015). Themes emerge
from the coding process (Connelly & Peltzer, 2016; Ranney et al., 2015). In qualitative
studies, researchers code and categorize responses for analysis (Hershberger &
Kavanaugh, 2017). Through content analysis, I reviewed the predominant themes derived
from the interview data to address the central research question.

I compared the thematic emphasis from the data analysis against the extant
literature, the conceptual framework, the interviews, and documentation obtained from
the organization. The development of themes is an important aspect of qualitative studies
(Ranney et al., 2015; Rosenthal, 2016; Rowley, 2012). Qualitative researchers must
explain the context of the case study research in order to enhance the relevancy of the
findings in similar situations (Hyett, Kenny, & Dickson-Swift, 2014). I compared the key
themes and findings from the proposed study with the findings published in relevant
extant literature, new studies published subsequent to my data collection efforts, and the
tenets of the swift trust theory for proper context.

**Reliability and Validity**

**Reliability**

Researchers conducting qualitative studies must demonstrate the use of sound processes and approach to promote the reliability of the study. The qualitative researcher must demonstrate that there was not a reliance upon a superficial analytic approach to the data (Koch et al., 2014).  The researcher must show a penetrating analytic approach, which reflects an understanding of the topic under study (Koch et al., 2014). The employment of sound techniques by the researcher ensures a valid analysis of the data that forms the basis of the conclusions in the study (Anyan, 2013). There is an inextricable connection between the reliability of a qualitative study and the data collection process (Ergene et al., 2016). The core criterion for assessing the qualitative work leads to the junction of the reliability and validity of the study (Cope, 2014). To promote the trustworthiness and reliability of the proposed study, I consistently followed an interview protocol with all study participants. Adhering to an interview protocol ensures consistency and rigor during the data gathering process (Koch et al., 2014; Ranney et al., 2015). Researcher reflexivity during the data collection process relates to the researcher's awareness of how subjective and personal feelings could influence the crucial data collection and analysis process (Darawsheh, 2014; Koch et al., 2014). I also was constantly aware and engaged in self-introspection to mitigate the effect of my own personal biases during the data collection and analysis phases of the study.

**Dependability**

Dependability is an important goal and criteria for researchers when examining the trustworthiness of a qualitative study. Cope (2014) stated that among the criteria for demonstrating the trustworthiness of qualitative studies is dependability. Dependability refers to ability of other researchers to reach similar findings in related studies (Cope, 2014). Reliability exists when different methods result in an overlap of identified findings (Ergene et al., 2016). The use of member checking is one way to enhance the dependability and reliability of data (Cope, 2014; Koch et al., 2014). I employed various approaches to enhance the trustworthiness and dependability of the proposed study including sharing my analysis of data with study participants for comment and feedback.

**Validity**

One of the goals for researchers conducting qualitative studies is to follow consistent and stringent practices during the effort to attain validity. Qualitative researchers must follow rigorous processes to achieve validity in the study (Hyett et al., 2014). Validity means there is truth in the study (Dennis, 2018). In qualitative inquiry, the researcher must explain the derivation of results to realize a valid study (Elo et al., 2014). When explaining the results, triangulation mitigates the disadvantages of using a small sample in qualitative research (Feder, 2017; Flick et al., 2018; Godfroid et al., 2020; Jentoft & Olsen, 2017). The use of multiple data sources increases the validity of the work (Feder, 2017; Flick et al., 2018; Godfroid et al., 2020; Jentoft & Olsen, 2017). I used member checking and data from interview transcripts and organizational documents to demonstrate a probative approach to the data analysis. Reflexivity promotes and is one

of the criteria for validity in qualitative studies (Darawsheh, 2014; Koch et al., 2014). In

addition, I conducted a self-inventory of my feelings during the study to limit the effect

of personal bias. As the researcher, I must always be sensitive to how any personal bias

may affect the interpretation and validity of the study data.

**Credibility**

An accurate description of the experience under study is one of the underpinnings

of credibility in qualitative research (Liao & Hitchcock, 2018). The qualitative

researcher's construction of findings from data using more than one source creates

credibility for the study (Stewart & Gapp, 2017). When explaining the results,

triangulation mitigates the disadvantages of using a small sample in qualitative research

(Feder, 2017; Flick et al., 2018; Godfroid et al., 2020; Jentoft & Olsen, 2017). I obtained

data from interview transcripts and document reviews.  The researcher's notes, member

checking, and rigor in the data collection process demonstrate trustworthiness and

credibility in the study results (Stewart & Gapp, 2017). I supplemented the interview

transcripts with personal notes taken during the interview sessions. Study credibility

results when the researcher describes the engagement with study participants and

provides an opportunity for participants to verify the researcher's findings (Cope, 2014). I

used member checking to enhance the trustworthiness of conclusions derived from the

various data points.

**Confirmability and Data Saturation**

Confirmability results when individuals who are independent, objectively come to

a similar conclusion on the relevance, meaning, and authenticity of the study's findings

(Elo et al., 2014). The qualitative researcher must engage in thorough data gathering and content analysis to improve the likelihood of the study's credibility and confirmability (Elo et al., 2014; Ranney et al., 2015). I used consistent and repeatable processes throughout the study. The researcher has the responsibility to convey the rigor undertaken during a study (Koch et al., 2014). I included a sufficient number of study participants to achieve data saturation. Data saturation occurs when the researcher reaches the point of no new useful information during the data gathering process (Cleary et al., 2014; Koch et al., 2014). I ended the data collection process once I stopped receiving new information.

**Transferability**

The implication of transferability is the possibility of extrapolating or generalizing the findings in the study to other groups or situations (Elo et al., 2014). The researcher should report the study results in a manner, which allows the reader to assess the transferability of the study (Elo et al., 2014). The inability to interpret the transferability of the study's findings in relevant situations may result in ineffective practices by decision-makers (Burchett, Mayhew, Lavis, & Dobrow, 2013). I present the data and findings in a logical and cogent manner to facilitate the transferability of my study's findings. The qualitative researcher must explain the context of the case under study in order to facilitate an understanding of critical elements (Hyett et al., 2014).  Without a broad contextual understanding of a study, readers may misinterpret the results, which inhibit the application and usefulness of the study in similar situations (Hyett et al., 2014). I provide the proper context for the study so readers understand how to interpret the conclusions reached from the data analysis.

**Transition and Summary**

The purpose of this qualitative case study was to explore strategies some PTLs use to develop trust in VPTs. Section 2 of the study included the following components: 1) purpose statement, 2) role of the researcher, 3) participants, 4) research method, 5) research design, 6) population and sampling, 7) ethical research, 8) data collection instruments, 9) data collection technique, 10) data organization techniques, 11) data analysis, 12) reliability and validity, and 13) the summary and transition. In Section 3, I provide the results of the study, applications to professional practice, implications for social change, recommendations for action, recommendations for further research, my reflections, and the conclusion.

Section 3: Application to Professional Practice and Implications for Change

**Introduction**

The purpose of this qualitative single case study was to explore strategies PTLs and project management office leaders in charitable nonprofit organizations focusing on disaster relief use to effectively develop trust in VPTs. From the interviews with PTLs and project management office leaders during the study, I identified four major themes: trust, leadership, communication, and technology. Results from the study confirm how building trusting relationships within VPTs across all levels, among members and leaders, helps leaders to optimize virtual team performance. The study results also revealed that effective communication is necessary in the virtual environment to promote collaboration and collective efforts toward the accomplishment of organizational performance goals. In addition, technology selection and reliability represent key factors in the ability of virtual team member's ability to work together effectively. Section 3 includes a presentation of the study findings, applications to professional practice, implications for social change, recommendations for action, recommendations for further research, my reflections, and a conclusion for the study.

**Presentation of the Findings**

The central research question for this single qualitative case study was "What strategies do PTLs and project management office leaders in charitable nonprofit organizations focusing on disaster relief use to effectively develop trust in VPTs?" To answer this question, I conducted semistructured interviews with six PTLs and project management office leaders in one charitable nonprofit organization located in the

Washington, DC metropolitan area with operations worldwide that used successful

strategies to build trust in VPTs. Each of the interview participants, Participants A, B, C,

D, E, and F, possessed direct experience in successfully building trust in VPTs within the

last 5 to 10 years. The participants were all responsible for leading or overseeing a VPT

in the organization. In addition to the interviews, I performed a review of documentation

from the organization. Four themes emerged from the analysis of the interviews and the

review of organization documentation: trust, leadership, communication, and technology.

**Theme 1: Trust**

The first theme to emerge from the interviews and research questions was trust.

Interview Participants A, B, C, D, E, and F identified the presence and importance of

trust for successful VPT performance. Table 1 includes a summary of the number of

times participants mentioned trust.

**Table 1**

*Participant References to Trust*

| Participant | Trust references | % of total |
| --- | --- | --- |
| A | 3 | 14 |
| B | 9 | 43 |
| C | 2 | 10 |
| D | 3 | 14 |
| E | 1 | 5 |
| F | 3 | 14 |
| Total | 21 | |

Interview Participants A, B, C, D, and F identified the presence and importance of

trust for successful VPT performance. The interview participants indicated that trust

among members within the team enables all group members to work toward the same

goals and objectives. Participant F commented, "For me, trust is very important. It permeates, I think, throughout the entire team." Team members who trust each other are more willing to collaborate toward the accomplishment of organizational and team goals. Participant D explained, "Getting feedback from the team, and really creating a collaborative environment, I think is probably the biggest thing that helps maintain the trust in this kind of virtual environment."

The team members regulate the culture within the virtual group and reject work habits from others that do not conform to the culture. Participant B commented,

When those folks come on, they don't last. They don't last at all. So the culture now is doesn't even allow for folks who don't add to the bond, the foundation, the trust. Anybody who comes in threatens that trust now is, I don't have to say anything. The team itself won't accept that person, won't accept.

The consensus among the participants in response to the research questions was that building strong work relationships through shared experiences and the availability of opportunities for virtual team members to become more familiar with each other was an underpinning of trust. Participant A commented, "Well, trust is something that is built upon communication and relationships." Participant B indicated that "There are, you still, in order to have trust, you still have to maintain an authentic relationship with your people." As Participant B reported, "And so again, relying on each other, knowing that each other's there to help, helps build that trust.  It helps build that connectedness. It helps build that relationship." Trust built on relationships is affective trust. When group members understand expected behaviors, there is an opportunity for the team to create an

enduring structure for success. Participant B explained, "So that they trust, not only in themselves, but they trust in the system, and they trust in each other."

In response to Questions 1, 3, 5, 6, 8, and 10 concerning successful strategies for building trust within VPTs, the participants discussed the various techniques that were centered on maintaining a connection with the virtual team members. Participant D commented, "Strategies for trust are just having consistent check-ins with co-workers and employees." Participant E reported that:

And so occasionally I will have face-to-face meetings with staff members. And sometimes it's not me that necessarily requires that. It may be, I had one particular staff member say, I haven't seen you in several weeks, or that kind of thing. And so they requested that our supervision meeting be in person. And we could arrange that.

Although occasional in-person meetings remain beneficial when team members are not co-located, the quality of the interactions, whether face-to-face or virtually, is another important consideration. Participant C said,

But it's like, if you're doing something that kind of take the edge off of where we are and turn it into a team building situation virtually, think that would kind of help where some folks are as well with the trust in the organization and teams.

A review of an internal organizational policy directive memorandum, which reinforced the responses from interview participants, revealed that virtual workers receive encouragement and have clear guidance on engagement activities in the accomplishment of tasks and meetings to facilitate collaboration leading to trust. For example, the

organization leaders through an internal organizational policy directive memorandum, informed VPTs that they must work as a team and with the highest work standards in order to meet performance goals. Teambuilding and encouragement when VPTs achieve milestones should not be absent from the virtual work environment.

### Relating Findings to Conceptual Framework and Literature on Trust

The conceptual framework for the study is the swift trust theory, first introduced by Meyerson et al. (1996). Several key tenets of swift trust theory, which are relevant to the findings in this study, include three main areas: (a) there is no time for group members to develop shared experiences; (b) in the absence of traditional opportunities to develop relationships, group members presume that trust will exist in the group; and (c) group member perceptions conform to organizational culture or stereotypes, which makes trust easier (Meyerson et al., 1996). Pervasive trust feelings exist in high performing VPTs and serve as an enabling agent for the formation of culture within the group.

Swift trust means that an individual willingly becomes vulnerable to another person (Moldjord & Iversen, 2015; Schilke & Huang, 2018). Schilke and Huang (2018) further suggested that quick trusting decisions in a group environment require accurate judgements on who to trust since inaccurate trusting decisions may lead to exploitation. When extrapolating the principles of swift trust to VPTs, it follows that group members who can develop shared experiences and relationships possess the foundational elements to build trust with each other. The group members are not bound by need to develop trust in the absence of opportunities for relationship building. Based on the findings in this study, virtual teams that have a collaborative environment foster trusting work

relationships. Team members who work closely with each other build opportunities to develop reliability across many situations. Trust results when individuals know they can rely on other team members to accomplish the collective goals.

This study's findings also revealed that the combination of relationships founded on trust and the development and confidence in a work system or processes within the virtual team aligns with the STS theory. STS allows for a synergistic view between social and technical subsystems to meet maximum engagement and performance in a work team (Painter et al., 2016). The presence of trust in the virtual team expands beyond the boundaries of interpersonal relationships among team members to encompass the system within which the team exists.

Affective trust results from the relationships among the members in the group (Webber, 2008). Affective trust helps to promote normative behaviors (Chih et al., 2017). The trust surfaces when team members are comfortable sharing personal experiences (Moldjord & Iversen, 2015; Nienaber et al., 2015). When individuals share experiences and build a sense of connectedness, it becomes easier to rely on each other in a team environment.

The findings from this study reinforced that trust does not exist in a virtual team or any team without a relationship among the team members. There must be opportunities for team members to develop a bond and work relationship with other members. Team members need opportunities to have conversations to build trust. The conversations allow members to learn about each other and identify shared interests. The virtual team leader

and leaders in general must develop authentic relationships with team members.

Authentic relationships engender trust and commitment from team members.

Face-to-face engagements allow trust to build easier in virtual team environments

(Maduka et al., 2018; Tan et al., 2019), so occasional in-person meetings can support

trust building within VPTs. In addition, acknowledging virtual team accomplishments or

wins is important to reinforce sustainable success for the virtual team (Jaakson et al.,

2019). This study provides evidence that even in a virtual environment, there are

opportunities to engage in virtual team building activities to build trust within the team.

The findings may assist VPT leaders with forming and nurturing trust within the team.

**Theme 2: Leadership**

Leadership also emerged as a prominent theme during the study. The participants

cited leadership as a key factor in the development of trust within the VPT. Table 2

identifies the references to leadership from the participants.

**Table 2**

*Participant References to Leadership*

| Participant | Leadership references | % of total |
|---|---|---|
| A | 7 | 25 |
| B | 12 | 43 |
| C | 1 | 4 |
| D | 4 | 14 |
| E | 4 | 14 |
| Total | 28 | |

The leader must hold team members accountable to accomplish organizational

performance objectives according to Participants B, C, and E. A team member who is not

meeting expectations will inhibit the team's ability to meet a performance target or to satisfy the needs of a stakeholder. Participant B reported,

> But those are, from a virtual standpoint, is keeping people accountable. And making sure they have the tools. I would say the other third thing was just the risk involved in the personal information, in the information that now, your institutional information, and client personal information is now in somebody's home. We gave them, we sent everybody a file cabinet with a locked key, we send out guidelines.

Participant C explained, "I think that there are some different strategies that could be put into place to hold people more accountable for the things that they do throughout the day." Participant E said accountability manifests when, "Some staff are required to turn in weekly counseling logs. Now that is—the necessity of that is that we need to be able to track the number of hours that—billable hours, to the vendor for that particular program."

Additionally, virtual team leaders must set clear expectations for performance and the objectives of the team. Team members need to know the rules of engagement with the team and their responsibilities to assist the team meet organizational performance goals. Participant E commented,

> Which strategies do I use? I would say the first one is to kind of be clear in my expectations during this virtual experience, to be real clear about what I expect in terms of a commitment to the agency to work a 40-hour day. To be available between the hours of 8 and 5, unless there's some agreed-upon change in schedule.

Based on the interviews, the consensus view among Participants A and B is that the focus on task-oriented activities must be balanced with concern for the virtual team members. The virtual team leader and leaders in general must also develop authentic relationships with team members. Authentic relationships engender trust and commitment from team members. Leaders must model integrity, which promotes a feeling a trust within team and with the leader. Virtual team leaders must encourage trust within the team and among members. The leader should encourage members to help each other when necessary and rely on each other when there is a need to share information. Leaders also have the responsibility to make sure team members know they are valued. Valued team members have ownership and a stake in the success of the team. Leaders must know and understand how to motivate team members in different ways. The job of the leader is to maximize the potential of team members. Participant A said, "Well, trust is something that is built upon communication and relationships." From Participant B's perspective,

> Because one of the things I always do is make sure that I communicate to folks that are on my team that their life, and their health, and who they are comes first and the work is second. And that's harder to do in a virtual setting. So one of the things that I will do more of than what I have ever done, and that is using the instant messaging feature in our, through teams or through text. Every now and again, just say, you good? How are you doing? What's going on. And the other thing is, I always make sure that my team knows that they can call me whenever, if there is something of significant. They know that I take a personal interest in supporting them as people and not just as workers.

Participants B, C, D, and E unanimously agreed that the virtual team leader must be committed to holding regular communications with team members. Open communication leads to trust. The leader should emphasize the importance of teamwork to build camaraderie. During meetings, team members should be encouraged to share ideas and make recommendations. When team members recognize that their opinions matter, this leads to a stronger commitment to the shared goals. Participant B explained, "It's really about having recurring meetings, recurring team check-ins, recurring individual check-ins. It is using applications that allow us to have, keep track of the to-dos." According to Participant C, "I would say that the weekly goal that would tie into the deliverables, of course, and the communication is key." Participant D indicated, "And kind of in those meetings, just going through what the obstacles are, if there are any challenges." When team members recognize that their opinions matter and the leader is attuned to problems they encounter while working toward the identified goal, the member has greater commitment to the shared goals. The leader should allow team members to be vocal and share their ideas during meetings to foster a sense of belonging to the team. High performing virtual teams trust the individuals responsible for directing and leading team efforts. Trust in the leader leads to members' trust in the work environment.

Further, leaders should be self-aware and understand how their behavior and attitudes affect team performance. Participant A explained, "So, when it comes to leadership, leadership skills and leadership abilities you look for individuals who have a desire to speak additional or speak different or push things forward." In addition, effective leadership in the virtual environment may rotate among individuals based on a

particular task. Participant A commented, "A leader typically doesn't always lead from a vantage point of project team leads. Yeah, you'll have people who will run point on a project but you have to look at it as Who's leading this endeavor?" Leaders often emerge from different circumstances and are not always formally appointed to a position. Team members may designate an informal leader based upon trust with an individual or certain expertise that a member possesses that is relevant to the VPT's activities. Effective VPT leaders allow high performing members to be part of daily operations to the maximum extent possible. The leader can build trust and a shared vision for the team by encouraging team members to lead portions of meetings. The opportunities to lead meetings provides valuable experience for future leaders and builds trust.

An internal organizational policy directive memorandum distributed to virtual workers provided additional evidence of the important role of virtual team leaders. The policy documentation contains the organization's expectations for VPT members, which includes the requirement to work 40 hours per week and to put forth maximum effort. VPT leaders leverage the guidance documentation and verbal communications with virtual members to set objectives, create an environment of accountability, and to promote team effectiveness.

### *Relating Findings to Conceptual Framework and Literature on Trust*

One of the most important roles for the leaders of VPTs is to communicate expectations and establish a culture of accountability within the team. Establishing protocols and trust remain critical to the ability of virtual teams to function (Henderson et al., 2016). Team members rely upon each other to deliver results in support of

organization mission objectives. Among the key factors related to the creation of trust within teams is the perception of the ability and integrity of teammates (Ha et al., 2016; Kuo & Thompson, 2014; Webber, 2008). The data from this study enable additional insights on strategies VPT leaders use to develop trust swiftly, including frequent meetings and interactions with team members. Leaders have a responsibility to encourage trust relationships (Meyer et al., 2017). The team leader is responsible for optimizing the participation of all team members (Derven, 2016). The VPT leader has the ability to serve as the impetus for VPT success.

**Theme 3: Technology**

Technology selections in a virtual environment must simultaneously allow team members to accomplish work products and produce data virtual team leaders need to make decisions. Table 3 reflects the number of times study Participants referenced technology.

**Table 3**

*Participant References to Technology*

| Participant | Technology references | % of total |
|---|---|---|
| A | 2 | 13 |
| B | 4 | 25 |
| C | 3 | 19 |
| D | 2 | 13 |
| E | 1 | 5 |
| F | 4 | 25 |
| Total | 16 | |

Participants A and F agreed that the technology must enhance and assist with decision-making so leaders can pivot resources to meet changes in organizational performance

goals or respond to changes in the environment. Effective use of technology is important for VPTs. Participant A indicated:

> I absolutely think in this regard, you have to use technology. Technology has to be your friend. We have to become savvy at leveraging those tools to stay in touch with each other.

Participant F commented,

> And so, that's—I mean that's how we use it, that it has to be something that's efficient, that's operational that we can communicate back and forth with customers, that it can - we have the various platforms built into it, that we can get the kind of data and information out of it that we want. And, again, that benefits our customers. It's also our funders rely on us to put something in place that would certainly accomplish that goal.

Leveraging technology in VPTs must enable collaboration and allow for easy use by members for collective work efforts towards the project goal according to Participants C and F. Participant C said, "I absolutely think in this regard, you have to use technology. Technology has to be your friend. We have to become savvy at leveraging those tools to stay in touch with each other." Participant F reported, "The other thing I should have said earlier is that hopefully whatever the technology or the platform that we're using, it is user-friendly in terms of the folks that are actually using the application.

The technology mediums must be deployed and have functionalities, which promote rich interactions among members even though they are not in the same location. A review of internal policy documentation from the organization indicates that virtual

workers are encouraged to "remain attentive" and use cameras during virtual meetings. Participant A reinforced this point by explaining:

> That's the whole concept of our team working together virtually but is also the list of norms and the list of expectations. Often times the expectation is everybody's present at the meeting because we want to make sure everybody's time is valued. If there's recordings and or cameras the cameras are on, the recording devices are on, microphones are on. If people are attending the meeting virtually that when they're not speaking, the microphone is muted. We don't want to take or distract away from any of the presenters but we also want to make sure we're providing them with our full attention. That's just regular norm that you would have in any meeting but aspect virtually we really want to make sure that is taking place.

Participants B and C emphasized the benefits and disadvantages of synchronous and asynchronous communication platforms. Participant B noted, "It was clearly much easier when you're in person. You could have those impromptu conversations. You could witness people's body language, people's mood swings, and staying in tune with them." Participant C reported,

> If there's something that you needed from your staff person, you would still have to kind of wait, whether it was via email, and you just don't know when you're going to get the answer. I don't think - that was one of the challenges for my team, and we found a resolution for that, but it was - that was something that is key that I think folks should really think about

Participants A, C, D, and E stated unanimously that one of the challenges with technology is team members may have bandwidth or issues with their cameras. For example, a team member's camera may freeze. Technological issues may negatively affect the ability of team members to fully participate in meetings or accomplish work assignments. Participant A indicated, "There may be a few challenges with the bandwidth of their internet connection weather they're mobile or whether they're in their own home sometimes there are bandwidth issues and that's to be expected." Participant C explained, "And then not having reliable Wi-Fi, so it's always kind of the barriers there." Participant D reported,

> Making sure that the team members have the proper technology that's in their homes without it feeling like they had to – without it being, I don't know, embarrassing thing for them to say, like in the event they didn't have the fastest Internet, or their Internet was always going up and down.

Participant E's response on this issue was, "That has been a constant problem from time to time. Internet systems, because you're in most cases, off the office Internet system, and connecting by way of your own Internet system."

Even the best technology is not useful if virtual members encounter technology challenges and do not understand how to navigate and utilize the features to communicate with other members. Participants D and F both agreed that training and assisting virtual members on the technology available to the virtual team is a necessity. Participant D explained,

So, yeah, just letting people know that we're going to – we're here to work with

them. And just to let us know what they need in order for us to help them through,

through those challenges. And being very open and transparent."

Participant F commented, "Well, again, clearly on the front end, making sure everyone

had the proper training." The organization must have a plan for assisting team members

when technology issues arise. A best practice is to have personnel on-call to troubleshoot

technology issues for the VPT members. A team member experiencing connection delays

or other problems may not be able to effectively communicate and collaborate with other

members, which impedes team performance.

The consensus among Participants D and F is that not only must the VPT have the

right technology, the technology must support the secure transmission and storage of

client data. In order for the organization to function properly and maintain trust with key

stakeholders, including clients, the data entrusted to the organization must remain safe

from unauthorized access and disclosure. Participant D indicated, "To be able to continue

to provide those services without compromising anyone's personally identifiable

information. Especially with all of the uptick in hacking and cyber breaches, and all of

that." Participant F needed to

ensure that we have appropriate protocols, firewalls, all of those things to make

sure that, as we're operating in this space, it is a space that we are very

comfortable with the integrity of this space, and that we're protected, in terms of

our use of the space. And we're also protected in terms of any security breaches

of the space.

Technology considerations must focus on security. The organization's information technology team must be responsible for ensuring the networks and communication mediums of the virtual team remain secure and safe from unauthorized access.

Organizational documentation reviewed during the study contained data that were congruent with the feedback from participant interviews. The organization's internal policy directive memorandum for VPT members demonstrates the criticality of successful technology deployment and implementation. VPT members must "dress appropriately" when using video conferencing platforms, refrain from eating food during virtual meetings, keep their cameras on when conversing with team members in group meetings, and remain attentive so there is no opportunity to multi-task or engage in other distracting activities. Technology, when used properly and consistently within the VPT is beneficial to the organization and members.

### *Relating Findings to Conceptual Framework and Literature on Trust*

The findings from this study demonstrated that the success of the virtual team is not predicated on the mere presence of technology. Ineffective systems for employees lead to dissatisfaction in the team (Eseryel et al., 2020; Kilcullen et al., 2021; Patil, 2020). The ICT available to VPT members must be reliable and used effectively. When virtual teams possess effective technology, there is an ability to foster creativity, a competitive advantage, and encourage team learning (Zuofa & Ochieng, 2017). Technology platforms assist members with goal accomplishment and help to unite work efforts (Adam et al., 2017; Lois et al., 2020; Prasad et al., 2017; Presbitero, 2019). Team members that are able to communicate and collaborate effectively have additional

opportunities to build trusting relationships. The establishment of guidelines and norms

within VPTs on the use of ICT is also important (Darics, 2014; Malhotra et al., 2007).

The creation of rules of engagement for technology use within the organization included

as part of this study allows for virtual work members to have a common understanding on

how to effectively use ICT personally and sets the parameters for information exchanges

with fellow team members.

**Theme 4: Communication**

Communication was another theme identified in the study. Interview participants

emphasized the importance of communication throughout all levels of the team. Table 4

contains the number of Participant references to communication.

**Table 4**

*Participant References to Communication*

| Participant | Communication references | % of total |
| --- | --- | --- |
| A | 3 | 15 |
| B | 5 | 25 |
| C | 3 | 15 |
| D | 6 | 30 |
| E | 3 | 15 |
| Total | 20 | |

Participants A, B, and C each identified that communication with virtual team members

is essential to team success. Conducting meaningful meetings facilitates understanding

and shared goals among virtual team members. The meetings should be conducted

following an organized agenda. A clear and organized meeting will lead to a common

understanding of the goals and objectives of the team. Participant A explained, "Well, its

communication. You have to have effective communication not only with your team but

also with participants on virtual learning and virtual workshops and virtual meetings."

Participant B said, "And make sure that, and talk about those to-dos and make sure that if

there's challenges that we check in. So it's all about communication, communication,

communication after you care." Participant C commented:

> I would say that the weekly goal that would tie into the deliverables, of course,
>
> and the communication is key. The communication, the meetings, whether it's
>
> Teams or Zoom, and weekly tasks that would often need communication between
>
> you and your supervisor staff, or team, rather.
>
> In response to the research questions, Participants D and E identified

communication as an important element of any strategy focused on building trust in the

virtual team. Participant D noted,

> I think they were pretty effective because, at the end of the day it's kind of hard to
>
> micro-manage people virtually. That is something that does show a level of
>
> distrust in people that I'm working with, with the work that we do. So, yeah, I
>
> think just keeping the lines of communication open and being clear about what
>
> the expectations around that performance, around being able to communicate any
>
> issues or barriers that come up, was very effective.

Participant E indicated the following as a strategy for building trust:

> So, again, it is meeting with the entire team, and making sure that you
>
> communicate clearly with the entire team, and in that way, it leaves little room for
>
> miscommunication - someone miscommunicating, or misconstruing what you

actually said. You have the ability to meet in groups - video groups - through Zoom and other platforms.

Knowledge sharing assists the virtual team's efforts to work synergistically to Accomplish organizational performance goals. Participants B and E stated that meeting together allows everyone to hear the same information at the same time and creates opportunities for building trust within the group. In addition, the team meeting is an environment that fosters information sharing and allows team members to share best practices for resolving common problems. Participant B explained, "We have shared folders. So folks can, we have document management systems in place so that people can share data." Participant E said,

> I think, again, having team meetings. Team discussions, team reporting. Sometimes report out, if it's possible, if the information is not confidential, or while it's any kind of a confidence. Then the other team members are also able to make suggestions, provide further clarification, and so there's - you allow the team to kind of work together to address issues, and to clarify, and to have - to develop a common kind of path forward, or at least a common understanding of what the mission is, and that kind of thing. And you can also use it as an opportunity to share what has worked with one team member that other team members may not have considered, even if they aren't having difficulty. It may be that a suggestion from someone else about how they handle certain situations will allow other team members to try that, and it may be successful in terms of cutting their time. Or making them more efficient, I should say.

Although internal virtual team communication is essential, Participants A and E identified that VPTs also need to consider effective communication with outside stakeholders. Participant A commented,

Externally, when we have meetings with external clients, because of the platform that we use we really have to make sure they're comfortable with that platform. So, there are a variety of different platforms that are used for virtual meetings and people have certain preferences as well as their own comfortability. So, the platform that we use is based upon the security settings of our enterprise and what we feel comfortable utilizing for the distribution of information internally and externally.

Participant E explained,

The team members who interface with clients, there have been some difficulty in communicating with clients whose native language is not English. Now that has been somewhat of a problem because you're unable to - in the physical setting, you are able to point to a sign, and they are then allowed to identify their language and can indicate to you which language they speak. Then you are able to engage with the language assistance line, the one that we use, for providing accurate interpretation. Now, in this virtual space, that's a little more difficult. So, first of all, you can't assume just because someone seems to have an accent, that they have an issue, or with communicating. In fact, it can be offensive to make that assumption. So, you kind of have to ask. But the asking can be difficult if they don't understand what you're actually trying to communicate. So, that's been

something we've had to work through. And then we use - we interface with

systems that are outside of our control, such as local government, and those

portals don't always provide us the feedback we need to accurately determine

whether there's a need for assistance.

The organizational documentation reviewed during the study includes the internal policy

directive memorandum for VPT members that leaders use to encourage individuals to

communicate in a manner internally and externally, which contributes to organizational

and team success. Team members must be active participants during virtual meetings so

there are active contributions from participants while on various technology platforms.

Effective communication creates opportunities for the virtual team to flourish and reach

operational performance objectives for the organization.

### *Relating Findings to Conceptual Framework and Literature on Trust*

Clear and effective communication is essential for VPT success based upon the

data from this study. Team members must know the purpose of the group taskings in

order to meet key deliverables and to remain committed (Cordes, 2016a; Derven, 2016).

The objectives must be clear to allow for measurable success (Derven, 2016). A

successful strategy for VPT success and building trust based upon the results of this study

is conducting meetings with all members so everyone understands team goals. Trust

within the team helps to encourage communication, idea exchange, and a culture that

promotes the sharing of different viewpoints (Crisp & Jarvenpaa, 2013; Derven, 2016).

Working in a virtual environment may cause team members to become distracted.

Isolated work environments can result in reduced engagement and awareness among

team members (Prasad et al., 2017). Documenting and communicating the standards for VPT engagement assists members with understanding the quality of communication expected within the team.

**Research Question Results**

One central research question guided this single qualitative case study: What strategies do PTLs and project management office leaders in charitable nonprofit organizations focusing on disaster relief use to effectively develop trust in VPTs? Participants A, B, C, D, and E were unanimous in the belief that building trust in a VPT begins with a strategy around open communication with team members. Participant A stated, "You have to have effective communication not only with your team but also with participants on virtual learning and virtual workshops and virtual meetings." Participant B indicated, "So it's all about communication, communication, communication after you care." Communicating with team members in meetings allows for the team to understand the organization performance goals. According to Participant C, "Daily meetings, which would be our weekly team meetings. What I do is I try to schedule a daily meeting, go over the goals for that week." Participant C also said, "I tried different strategies and I - the one thing that worked was creating the outcome of when - being able to communicate with everyone on a daily basis and being able to deliver to the funders versus not being able to communicate." Participant D explained, "So, yeah, I think just keeping the lines of communication open and being clear about what the expectations around that performance, around being able to communicate any issues or barriers that come up, was

very effective." Participant E reported that the trust building strategy related to communication focuses on

> meeting with the entire team, and making sure that you communicate clearly with the entire team, and in that way, it leaves little room for miscommunication - someone miscommunicating, or misconstruing what you actually said. You have the ability to meet in groups - video groups - through Zoom and other platforms.

Effective communication within the team builds trust among the members. A successful strategy that emerges from the communication within the team is the ability of the leader to build trusting relationships with all members. Participant A commented, "Well, trust is something that is built upon communication and relationships." Participant B explained, "Because one of the things I always do is make sure that I communicate to folks that are on my team that their life, and their health, and who they are comes first and the work is second."

The virtual team leader is responsible for the level of communication and overall performance of the VPT. Successful team performance occurs when there are clear expectations for members, which leads to team cohesiveness. Effective VPT leaders employ a strategy of accountability and clear direction for members. Participant D said, "But, we do have a level of service that we need to be able to provide, and a standard of service to uphold so that we are able to provide the services to the folks that need it." Participant D also stated,

> But just looking at what our planned deliverable were, and with those status reports and those check-in meetings, gauging the progress against those

deliverables to make sure that we were able to still meet all of our requirements.

And recording service delivery, provide all of that on time.

Participant E reported, "Well, so, again, it's the immediate discussion of the expectations. Letting folks know first off, what's expected. Clearly articulating the goals, the objectives, and that kind of thing."

When team members understand the objective, the VPT also needs to develop commitment to the performance target. Promoting a culture of inclusivity and empowerment within the team is a strategy for building trust in virtual environments. Participant B commented,

> Yes, I'm your boss. Yes, I can do your performance evaluations, but we're a team. And so I don't try to treat people like they don't have power. I absolutely give them the ability to have power. Power to make recommendations, power to make change, power to speak up, power to contribute. And when you empower people, and you're transparent with them, it's a little different, I think, for my team, then maybe some of the other teams.

Participant C reported, "So as opposed to dictating, let's put on our thinking hats and think this through, and just being able to get everyone's input, making them feel more part of the solutions."

A VPT that effectively communicates, develops a healthy relationship with the leader, and is committed to the organization's goals requires the tools to collaborate and work efficiently and successfully. Technology mediums represent the foundation of the virtual experience for VPT members. Trust building strategies within virtual teams must

focus on the ICT. The technology must be reliable and available for members to navigate and leverage in the execution of assigned tasks. Participant A said, "So, the platform that we use is based upon the security settings of our enterprise and what we feel comfortable utilizing for the distribution of information internally and externally." Participant B explained, "The biggest strategy was really just making sure the infrastructure was in place." Participant F noted, "The other thing I should have said earlier is that hopefully whatever the technology or the platform that we're using, it is user-friendly in terms of the folks that are actually using the application."

Training VPT members on technology and ensuring the security of data transmitted through and residing in the virtual environment is essential. Participant F reported, "So, it was more so around the training and developing in terms of how to really properly use the technology, and it was certainly benefiting us in the way that we wanted." Participant F also noted leaders must "ensure that we have appropriate protocols, firewalls, all of those things to make sure that, as we're operating in this space, it is a space that we are very comfortable with the integrity of this space." A technology strategy that enables VPT members to utilize the ICT and that creates confidence in the reliability of virtual platforms is an impetus for trust building within team.

**Relating Findings to Available Literature**

The leader must be committed to holding regular communications with team members. The greater the isolation team members experience in a virtual setting, the greater the possibility that the members become disinterested and detached from team goals (Prasad et al., 2017). If members are isolated, managers should focus on having the

workers involved in constant communication to promote connectedness to the

organization and to the team (Prasad et al., 2017; Watanuki & Moraes, 2016). It is

important for virtual leaders to stay connected with team members (Flavian et al., 2019).

The virtual leader's engagement is an important factor in the cohesiveness of the team

(Maduka et al., 2018). The VPT leader serves as a catalyst for team success.

The virtual leader must hold team members accountable in order to accomplish

organizational performance objectives. A team member that is not meeting expectations

will inhibit the team's ability to meet a performance target or to satisfy the needs of a

stakeholder. The leader should communicate goals and provide direction for complex

team tasks (Turesky et al., 2020). However, leadership in distributed work environments

requires both empathetic and task-oriented behaviors (Bartsch et al., 2020; Ben Sedrine et

al., 2020). At the same time, the leader must be emotionally intelligent and be aware of

their emotions and feelings when interacting with team members (Mysirlaki & Paraskeva,

2020). The findings from the study provide additional understanding for VPTs on how to

focus on building relationships with members while providing direction on team goals

through team meetings. In addition, self-awareness is an important characteristic for

virtual leaders given the affect their behavior has on the trust building within the team.

The composition and dynamics of virtual teams increases the likelihood that the

group will have members from different locations or cultures (Derven, 2016; Kramer,

Shuffler, & Feitosa, 2017; Malhotra et al., 2007). The continued growth and opportunities

for virtual teams is enabled by advances in technology (Acharya, 2019; Velez-Calle et al.,

2020). Successful virtual teams use communication technologies that allow members to

stay connected (Gilstrap, 2019). When using various communication mediums in a

virtual context, building trust requires special attention within the virtual team (McAlpine

et al., 2021). As the results from this study show, collaborative technology is necessary in

virtual environments. There must be a clear vision and understanding of the technology

that will be employed in support of the virtual team. Virtual team members should have

the same type of equipment, the right technology for the project, and technology that

allows the leader to monitor work.

Virtual teams rely extensively on technology to communicate (Maduka et al.,

2018). Prasad et al. (2017) argued that the value of the communication medium is not

simply the tool's similarity to traditional face-to-face communication, but the extent to

which team members find the communication useful in achieving team objectives.

Training is also important for all employees, including leaders, who will use on-line

collaboration technology (Korzynski, 2015). The findings from the study support that

technology choices within the virtual team must facilitate the accomplishment of

organizational performance objectives. The team must have the right technology.

Technology choices must ultimately enable the virtual team. Training virtual team

members on the use of technology is another important consideration. Technology

platforms should be user friendly. Effective communication in a virtual context occurs

when team members share an understanding of the medium available for collaboration

(Zamani & Pouloudi, 2021). This study reveals additional insight on the need for

technology that allows for the secure transmission and storage of client data. In order for

the organization to function properly and maintain trust with key stakeholders, including

clients, the data entrusted to the organization must remain safe from unauthorized access and disclosure. The findings may provide organizations and VPT leaders with an enhanced understanding of the key considerations when selecting and deploying technology within a virtual team.

The more isolation team members experience in a virtual setting, the greater the possibility that the members become uninvolved and detached from team goals (Prasad et al., 2017). Isolation refers to how much a team member works by themselves in a location (Prasad et al., 2017). The study findings illuminate the importance of constantly creating opportunities for communication among team members. Virtual teams with high performance communicate effectively (Lippert & Dulewicz, 2018). Virtual teams can communicate through time and distance without a degradation in performance (Parlamis & Dibble, 2019). Communication should be an aspect of assessing a team member's overall performance. If a team member is not willing or committed to fully participating in communication efforts, then that will impede the individual and the team's ability to meet organizational performance objectives. Engaged members participate in knowledge sharing. Inattention to knowledge sharing within teams may influence subject matter experts to leave the team, which may result in schedule delays, the failure of the project, and damage the reputation of the organization (Hosseini, Akhavan, & Abbasi, 2017). The study findings add to the data on communication within virtual teams through the discussion on how communication with external stakeholders that depend on the team for desired services.

**Applications to Professional Practice**

The results highlighted in this study build upon and add to extant literature concerning the role of trust in the success of VPTs. The findings in this study may help PTLs and project management office leaders in charitable nonprofit organizations focusing on disaster relief effectively develop trust in VPTs. The objective of this study was to explore strategies PTLs and project management office leaders in charitable nonprofit organizations focusing on disaster relief use to effectively develop trust in VPTs. The results of the study might enable PTLs responsible for leading VPTs create trust building environments within the team, which contribute to team success towards the accomplishment of organizational performance goals.

Trust is an indispensable dynamic within virtual teams. VPTs with high levels of trust will perform effectively over time (Jaakson et al., 2019). The members of the team rely upon the trust of teammates in the accomplishment of taskings in support of the organization. The existence of trust enables the team to operate effectively (Tan et al., 2019). Team members that trust one another display confidence that other members in the group will follow through on promises, which leads to the establishment of a strong work rapport in the team. Trust is built over a period of time. Team members must be given opportunities to develop trust with each other. One of the successful strategies for building trust is occasional face-to-face meetings. In-person engagements among VPT members allow for trust to grow easier (Maduka et al., 2018). The ability to build relationships with between members is essential. The ability to engage in conversations

creates opportunities to learn about each other and identify shared interests. The trust is

necessary for the team to work together towards the same end goal.

Leadership was another theme, which emerged from the study. The VPT leader

must establish clear goals and accountability within the group while balancing the need to

develop a relational trust with team members. Trust must exist between the virtual leader

and the members (Turesky et al., 2020). The VPT leader also requires the ability to

navigate the behaviors related to task orientation and empathy (Bartsch et al., 2020).

Effective communication is the key for leaders both in terms of defining expectations for

the team and building comradery. The leader should have transparent discussions with

team members, which allows members to develop trust in the leader.

In the distributed work environment leveraging technology is a primary tool for

VPT leaders. In the absence of physical interaction, leaders in virtual environments use

technology mediums to connect with team members (Flavian et al., 2019). Electronic and

information technology facilitates collaboration across all levels within the team. The

findings in this study may provide PTLs and project management office leaders with a

better understanding of the benefits and importance of information technology not just for

communication, but also as a tool for building trust in the VPT.

The continued evolution and enhancements in technology create new

opportunities for organizations to utilize VPTs to accomplish mission objectives.

Technological advances and improvements enable VPTs to function when members are

dispersed throughout a geographical area (Velez-Calle et al., 2020). The existence of

technology alone does not ensure virtual team success. The technology choices for the

team must support the accomplishment of team goals. Team members must understand

how to utilize the functionality of technology to communicate and collaborate with other

members. The successful implementation of technology within the VPT is related to the

success of the team (Tan et al., 2019). Implementing technology also means training

employees on the use of available communication mediums. In addition, as the results

from the study demonstrate, members must have the right infrastructure to support the

technology employed within the team. Unreliable Internet connections or virtual home

networks serve as an impediment to work collaboration within the team. Another obstacle

to VPT trust is not just internal, but external trust in the reliability of technology and

systems to protect the data as it passes through and resides on the technology used by the

team. Cybersecurity continues to emerge as one of the critical issues facing VPTs. The

findings published in this study may offer PTLs and project management office leaders

with new insights on successful technology strategies in support of VPTs.

Communication is another theme, which emerged from the study. VPTs that are

considered high performing groups communicate in an effective manner (Lippert &

Dulewicz, 2018). Constant communication both horizontally and vertically within the

team structure is a necessity in the virtual environment. The establishment of frequent

team meetings or check-ins among the team members is a successful strategy to remain

connected and ensure all teammates work collectively toward the shared vision of

success. The communication technologies available to virtual teams means that

distributed work groups can perform successfully without degrading performance

(Parlamis & Dibble, 2019). The findings from this study also illuminate the importance

of the external communications of the VPTs. VPTs must communicate with external

stakeholders to provide services and to serve as an intermediary for the organization. The

findings from this study may offer VPT leaders and project management office leaders

with a better understanding of the full scope of communication considerations for the

virtual team.

**Implications for Social Change**

The results from this study may contribute to social change by providing PTLs

and project management office leaders in charitable nonprofit organizations focusing on

disaster relief with strategies to effectively develop trust in VPTs. Nonprofit

organizations support charitable projects to improve the social and economic status in

communities around the world (Bin-Nashwan et al., 2020). Nongovernmental

organizations and nonprofits exist to positively affect the world and its inhabitants

(Mahmoud Saleh & Karia, 2020). Given the increasing use of VPTs to accomplish

organizational performance objectives, the PTLs and project office management leaders

might find the strategies and findings in this study beneficial when building trust

relationships within a virtual environment. Trust is a key factor in the effectiveness of

VPT performance (Tan et al., 2019). If VPTs within nonprofit organizations operate at

maximum effectiveness through effective leadership, technology, and communication

that leads to high trust levels in the group, then their humanitarian and public good

missions will have a positive effect on societies and people in communities throughout

the world.

**Recommendations for Action**

The findings and recommendations in this study may apply to any PTL or project management office leader in a charitable nonprofit organization that needs to consider strategies for building trust in VPTs. The adoption of the trust building strategies outlined in the study beginning with the recognition and acknowledgement of the importance of trust in VPTs, will enable the organizations to successfully leverage distributed virtual work teams to accomplish project goals. The findings from this study may also be of interest to VPT members as they navigate the virtual environment and seek trust building connections with teammates.

The results in this study reveal that trust is a central element of highly performing teams leading to effective performance, knowledge sharing, and an anchor to establishing a culture of norms for members of the group. VPT leaders remain responsible for creating opportunities for members to build trusting relationships, maintain constant communication within the group, and for identifying and guiding the team to meet performance targets. The VPT is also reliant upon successful technology choices, which serve as an impetus for collaboration and effective team performance. Team members must receive training on the technology to fully utilize the available functionalities that are necessary to accomplish assigned tasks. In addition, technology must be reliable and secure to protect the data residing within information networks. The communication among team members and external stakeholders must receive priority consideration in order for the VPT to reach the full performance potential in support of organizational

mission imperatives. The following are recommendations leaders can implement to support their organizations based upon the study results:

1. Recognize the value and opportunities VPTs offer to accomplish organizational performance goals when successful trust building strategies exist within the group.

2. Identify and select VPT leaders that are able to balance a task orientation with relationship building with team members.

3. Encourage VPT leaders to focus on providing maximum opportunities for the virtual team to communicate.

4. VPT goals must be tied to the overall goals of the organization, which is the responsibility of the leader.

5. Knowledge sharing and knowledge learning within the VPT lead to effective team performance.

6. The right type of technology mediums must be selected for the VPT to enable members to accomplish task assignments and to collaborate as necessary with other members of the group.

7. VPT members must be trained on the technology selected for the group.

8. Consider whether VPT members have the infrastructure, such as home Internet connections or other local networks, to support the technology that will be leveraged by the group.

9. Data integrity and cybersecurity must be considered when using technology to support virtual teams to ensure trust is fostered both internally and with external partners or clients that provide data to the VPT.

10. VPT communication is important both internally among members and with outside clients the team supports for the organizational mission assignments and projects.

PTLs and project management office leaders in charitable nonprofit organizations may use the results from this study to successfully build trust in VPTs, which might lead to the accomplishment of organizational performance goals. The results from this study may be disseminated through conferences, electronic media, business journals, peer reviewed scholarly journals, and informal information sessions organized by nongovernmental entities. Organization and business leaders may use the findings in this study to enhance existing knowledge to leverage successful trust building strategies within VPTs, which support the performance goals of the organization.

## Recommendations for Further Research

During this study designed to explore strategies PTLs and project management office leaders in charitable nonprofit organizations focusing on disaster relief use to effectively develop trust in VPTs, I recognized that further research is required on the role of technology within virtual teams. Continued technological advancements will enable virtual teams to flourish and have a greater role in organizational strategic plans for meeting performance goals (Velez-Calle et al., 2020). The role and understanding of technology should extend beyond the consideration of a technology platform's

functionality, but also the viability and ability of virtual members' infrastructure at home or in the local community, to support the information technology tool. Future research should also focus on cybersecurity and the methods and software tools an organization should consider to protect the data exchanged within the virtual group and received from clients or other external partners. In addition, research on communication for VPTs should not be relegated to communication among team members. Communication dynamics must include how the virtual team interacts with external stakeholders as part of the efforts associated with completing a project or tasking in support of the organization's community or global initiatives.

A primary limitation of the study was the use of a single nonprofit organization in the eastern region of the United States and the relatively small group of six interview participants. Future research can address this limitation by expanding the scope of nonprofit organizations to other areas of the United States and different countries around the world. Further research can also address the limitations of this study by including a larger population of interview participants and possibly exploring whether the findings in this study from a charitable nonprofit organization are transferable to for-profit organizations.

## Reflections

The objective of this qualitative single case study was to explore strategies PTLs and project management office leaders in charitable nonprofit organizations focusing on disaster relief use to effectively develop trust in VPTs. As I reflect on the Doctor of Business Administration study process, I believed that focusing on VPTs in a nonprofit

organization would contribute positively to social change. Nonprofit organizations survive through charitable donations with the purpose of promulgating projects for the good of the public (Johnson et al., 2020). Although I knew virtual teams were increasing in popularity among all types of organizations, I underestimated the value VPTs would have for businesses. I unexpectedly conducted this study during the COVID-19 pandemic. The COVID-19 pandemic caused lockdowns and a severe economic downturn throughout the world beginning in the year 2020 (Mittal et al., 2021). The COVID-19 pandemic significantly impacted the lives of people in every area of the world (Lloyd & Hicks, 2021). In order to function during the public health crisis, many organizations reassessed their service delivery model. The COVID-19 pandemic caused many organizations to shift to virtual teams to continue operations (Cook et al., 2020; Fritz et al., 2020). As the pandemic persisted throughout the course of this study, I gained a greater appreciation for the importance of virtual teams and how the pandemic may represent a paradigm shift for all organizations, including nonprofits, on the work models employed in the future. As I near the end of this DBA journey, the entire experience was rewarding and challenging. There were moments when I was not positive that I could complete the program. In the end, all of the hard work and personal sacrifices will result in earning the DBA degree. I look forward to using the extensive knowledge and experiences from the DBA program to contribute positively to future researchers, my community, and the world.

## Conclusion

Technology improvements will enable the continued deployment and use of virtual teams (Velez-Calle et al., 2020). When organizations employ virtual teams, trust is an essential element that must exist within the team. Trust is an important factor in the successful performance of VPTs (Tan et al., 2019). Trust building among virtual team members results when they have an opportunity to share experiences and learn about each other. The VPT leader is responsible for creating opportunities for virtual members to build trust. The virtual leader, due to the lack of face-to-face interaction, may have a more influential role on team performance than in traditional in-person work environments (Ben Sedrine et al., 2020). As the findings from this study demonstrate, the leader must develop trust within the team and create trust bonds with team members. Trust is built through constant communication and the identification of clear goals and vision for team performance towards accomplishment of the organizational mission.

The decision on the technology medium is a key consideration for the virtual team. The success of the virtual team is related to the successful implementation of technology (Tan et al., 2019). The results from this study reveal that VPT members must receive training on the technology platform and have access to the necessary infrastructure to utilize the selected technology. Another important factor in successful technology deployment is the security of the data on the technology used by the VPT. Protecting data from unauthorized access and disclosure is related to trust within the team in the organizational system and the trust clients have in the organization's VPT.

Technology also serves as the primary vehicle for communication within the virtual team (Maduka et al., 2018).

The study findings reinforce that communication is essential to team success. High performing virtual teams exhibit high levels of communication (Lippert & Dulewicz, 2018). Effective VPT communication involves internal communication between members and successful interactions with external stakeholders, such as clients of the organization. VPTs that experience frequent and effective communication can serve as a reliable resource for the organization to accomplish mission imperatives across the world.

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Appendix: Interview Protocol

A.  Introduction and purpose of the study.

B.  Review the consent form.

C.  Interview duration.

D.  Review interview process.

E.  Obtain permission to record interview.

F.  Ask interview questions and interject with follow-up questions as applicable.

G.  Conclude interview.

H.  Review process for member checking.

I.   Ask participant if there is any additional information you would like to

    provide.

J.  Thank the individual for their participation.

K.  End interview.