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Leadership Communications Strategies for Enhancing Virtual Team Performance

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This is to certify that the doctoral study by

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2018

Abstract

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Rachel O. Agbi

MS, Mountain State University, 2009

BS, Shepherd University, 2005

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

The fast-growing trend of using virtual teams comes with challenges including the lack of knowledge by some virtual team leaders for managing virtual teams. The purpose of this single case study was to explore the communication strategies that leaders use to manage virtual teams in real time to enhance team performance. The sample was composed of 4 successful virtual team leaders of a multinational accounting firm whose headquarters is in the northeastern region of the United States of America. The conceptual framework that guided this study was Tuckman's small group developmental model. Data consisted of semistructured interviews and the review of archival company documents. The interview protocol, interview transcription, member checking, and methodological triangulation allowed for data reliability and validity. Five themes emerged regarding completion of the 4 stages (comprehension, synthesizing, theorizing, and recontextualizing) of data analysis: time synchronization, face-to-face interaction, continuous training, communication tools and frequency, and leadership training and development. The findings of this study could contribute to social change enhancing communication strategies used in virtual teams, which could result in higher employee satisfaction, which in turn could benefit the organizations and virtual employees, their families, and communities.

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Dedication

I am thankful to the Almighty God for His grace, mercy, and favor through the entire doctoral study process. God was faithful, as always.

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Section 1: Foundation of the Study

Virtual teams extend across global geographical areas allowing organizations the opportunity to hire experts from all over the world (Jang, 2013). Virtual team members and leaders communicate via the use of communication tool or information and communication technologies (ICTs) such as teleconferencing, video conferencing, Skype, discussion forum, email, instant messenger, and more (Barnwell, Nedrick, Rudolph, Sesay, & Wellen, 2014; Bartelt & Dennis, 2014; Lilian, 2014). Virtual communication can be difficult (Lockwood, 2015). Communication is a critical and essential element in the success and performance level of a virtual team (El-Sofany, Alwadani, & Alwadani, 2014).

Background of the Problem

The use of virtual teams has become commonplace with organizations (Fan, Chen, Wang, & Chen, 2014; Yilmaz & Peña, 2015). Organizations employ the use of virtual teams to meet organizations' goals and objectives; this manner of achieving organizational goals and objectives which started as early as in the 1980s, will continue as organizations strive to compete, grow, and meet consumers' needs (Dulebohn & Hoch, 2017; Dumitraşcu & Dumitraşcu, 2015; Hoch & Kozlowski, 2014; Saafein & Shaykhian, 2014). The use of virtual teams by organizations allow such organizations to enjoy several advantages including the ability to hire expertise from all over the world (Barnwell et al., 2014), allowing for an increase in creativity and innovation (Davidekova & Hvorecký, 2017). Organizations make use of communication tools, or ICTs, with its virtual teams to enable easy and quick communication and collaboration across any

distance (Davidekova & Hvorecký, 2017; Lilian, 2014).

This fast-growing trend of making use of virtual teams comes with some challenges including the lack of knowledge by some leaders for managing virtual teams (Pangil & Chan, 2014). Virtual team members and leaders face communication and collaboration challenges (Cordes, 2017). Virtual communication is demanding, difficult, and challenging due to the absence of face-to-face communication, which is better than non-face-to-face communication because of the presence of verbal and para-verbal cues (Lilian, 2014; Lockwood, 2015). Communication is a critical factor in the success of virtual teams (El-Sofany et al., 2014). An effective communication process enhances team performance (Marlow, Lacerenza, & Salas, 2017). The purpose of this study is to explore what communication strategies leaders use to manage virtual teams in real time to enhance team performance.

Problem Statement

Virtual teams span global geographical locations, enabling organizations to draw expertise from all over the globe (Jang, 2013). The U.S. Bureau of Labor Statistics (2016) reported that 24.1% American employees work virtually some or all the time. The general business problem is some leaders lack knowledge for managing virtual teams. The specific business problem is that some leaders lack communication strategies to manage virtual teams in real time to enhance team performance.

Purpose Statement

The purpose of this qualitative single case study was to explore what communication strategies leaders use to manage virtual teams in real time to enhance

team performance. The targeted population was four successful leaders from a multinational accounting firm whose headquarters is in the northeastern region of the United States. The implications for positive social change include the potential to provide virtual team leaders with communication strategies for managing virtual teams in real time to enhance team performance. This study could also result in virtual team members having a better work environment where communication is regular, timely, positive, and precise, which could lead to higher job satisfaction. The enhanced teams' performances, better work environments, and higher job satisfaction could benefit the organization, virtual team leaders, virtual team members, their families, and communities.

Nature of the Study

The chosen research method for this study is qualitative. Using a qualitative research method enables the researcher to study phenomena via the experiences of participants while identifying and exploring themes for answering research questions (Bluhm, Harman, Lee, & Mitchell, 2011). The qualitative research method is optimal for the provision of answers to open-ended questions such as *what*, *why*, and *how* (Frels & Onwuegbuzie, 2013). In contrast, the quantitative method is ideal for the provision of answers to closed-ended questions such as *who*, *where*, *how many*, and *how much*. Researchers use the quantitative method to test hypotheses (Hoare & Hoe, 2013).Employing the mixed method requires the use of both the qualitative and quantitative methods (Frels & Onwuegbuzie, 2013). To explore the communication strategies leaders use to manage virtual teams in real time to enhance team performance, I will not be testing hypotheses and, therefore, the quantitative method is not suitable for

this study, neither is the mixed method because of the quantitative element in the mixed method.

A descriptive case study design was the most appropriate design for this study. Researchers use a case study to obtain an in-depth understanding of phenomena or processes in a single or multiple real-world experience (Yin, 2014). A descriptive case study design met the need of this study in that it enabled an in-depth study of lived experiences with current applicability in actual life (Fusch & Fusch, 2015). Researchers use descriptive case study design to study the lived experiences using open-ended questions such as *how* or *what* questions (Fusch & Fusch, 2015). Before I selected a descriptive case study design, I considered other qualitative designs such as phenomenology, ethnography, grounded theory, and narrative. Researchers use phenomenology designs when they need to focus on the commonality of several people's lived experiences (Moustakas, 1994), which was not the focus for this study because my goal was to explore communication strategies that team leaders use to manage virtual teams in real time to enhance team performance. Researchers use ethnography designs to focus on groups' cultures (Moustakas, 1994), which was not my goal in this study. Furthermore, researchers use grounded theory designs to focus on the development of a theory based on the study findings (Moustakas, 1994), which was not my focus in this study. Researchers use narrative designs to focus on identifying and exploring participants' lived stories (Esin, Fathi, & Squire, 2014), which also was not my aim for this study.

Research Question

The research question that guided my study was as follows: What communication strategies do leaders use to manage virtual teams in real time to enhance team performance?

Interview Questions

1. How do you assess or measure your virtual teams' performance?

2. What performance challenges have you experienced with your virtual teams?

3. What communication strategies, processes, and tools do you use to manage your virtual teams in real time to enhance performance?

4. How do you assess the effectiveness of the communications strategies, processes, and tools that you have implemented to manage your virtual teams in real time to enhance performance?

5. What, if any, barriers did you encounter to implementing the communications strategies, processes, and tools?

6. How did you address the barriers to implementing the communications strategies, processes, and tools for enhancing your virtual teams' performance?

7. What additional information would you like to share about the communication strategies, processes, and tools that you use to manage virtual teams in real time to enhance team performance?

Conceptual Framework

I chose Tuckman's small group developmental model constructed in 1965 by

Bruce Tuckman. The four stages of Tuckman's small group developmental model are (a) forming, (b) storming, (c) norming, and (d) performing. Tuckman and Jensen (1977) later added a fifth stage called adjourning, to the small group developmental model. All teams fall within the developmental stages based on the team's social and task behaviors (Tuckman, 1965). McGrew, Bilotta, and Deeney (1999) later extended the work of Tuckman. McGrew et al. (1999) indicated that groups go through stages of decline once they reach Tuckman's performance stage. Groups go through the decline stages in a reverse Tuckman order that is de-norming, de-storming, and de-forming (McGrew et al., 1999). As applied to this study, Tuckman's small group developmental model holds, such that the stage(s) advanced by the model was evident as I explored the team leaders' experiences regarding the communication strategies for managing virtual teams in real time to enhance team performance.

Operational Definitions

Communication: Communication is the exchange of information (Morgan, Paucar-Caceres, & Wright, 2014).

Communication tool, or information and communication technologies (*ICTs*): These are the tools or means of communication such as video conferencing, Skype, instant messenger, discussion forum, and email (Barnwell et al., 2014; Bartelt & Dennis, 2014).

Communication quality: This is the substance quality of communication (Chang, Hung, & Hsieh, 2014).

Performance: Performance in a group is a measure of satisfaction in terms of apparent member participation, member agreement, apparent decision quality, and the decision-making process toward the positive completion of assignments based on the organization's standards (Bartelt & Dennis, 2014; Chang et al., 2014).

Team trust: This is a situation where team members allow themselves to be susceptible to the actions of other team members, knowing that the other team members will perform actions that are vital to the team regardless of monitoring or controlling ability over the other team members (Breuer, Hüffmeier, & Hertel, 2016).

Traditional team: A traditional team is a group of people who work in close proximity, usually in the same building, and mostly collaborate and the synchronize work process in face-to-face meetings (Krumm, Kanthak, Hartmann, & Hertel, 2016).

Virtual team: A virtual team is a group of geographically dispersed and culturally diverse people with a common goal and heavy reliance on information technology to achieve set goals (Hanebuth, 2015; Lilian, 2014).

<div align="center">**Assumptions, Limitations, and Delimitations**</div>

Assumptions

Assumptions are suppositions that are believed to be true, but these suppositions are not necessarily true or verifiable (Grant, 2014). Assumptions are risky, regardless of whether they are conscious or otherwise (Fan, 2013). I made some assumptions about the process and outcome of this study. I assumed that at least four participants would be available and would have the needed experiences relevant to this study. I assumed that the virtual teams used ICTs to perform their day-to-day tasks. I assumed that participants

would answer the interview questions honestly, clearly, precisely, and without biases. I assumed that participants would allow a recording of the interviews. Meeting the various assumptions was likely because I carefully selected successful participants from organizations with state-of-the-art ICTs.

Limitations

Limitations are potential weaknesses outside the researcher's control that can affect the process and outcome of the study (Connelly, 2013). This study was limited by the fact that participants were from the same organization were all living on the west coast of the United States. The participants' experiences may have been similar and lacked originality. The small sample size was also a limitation in my study. Furthermore, the results arenot transferable to a larger group. Finally, the study is limited because I based it on the self-reported experience and opinions of participants, which could be full of conscious and unconscious biases.

Delimitations

Delimitations are boundaries set by the researcher for the study to focus on answering the research questions (Baxter & Jack, 2008). The study participants consisted of four virtual team leaders of an accounting firm with worldwide locations. The participants were all located in the same facility in the west coast region of the United States. I collected data via semistructured interviews and reviewed communication and performance documents.

Significance of the Study

Contribution to Business Practice

Virtual team leaders encounter many of the same challenges faced by traditional team leaders. Virtual team leaders cannot address those challenges using the same strategies and tactics employed by traditional setting leaders (Saafein & Shaykhian, 2014). Communication is a challenge in the management of virtual teams (El-Sofany et al., 2014). Communication is an important factor in virtual team performance (Saafein & Shaykhian, 2014). The results of this study could help organizational leaders gain new knowledge in communication strategies for managing virtual teams in real time to enhance team performance. The availability of this new knowledge to organizational leaders could potentially influence the communication strategies used with virtual teams which could result in an increase of virtual teams and organizational performance.

Implications for Social Change

Virtual team leaders consider virtual team communication as challenging; when compared to face to face communication, virtual team communication is said to be more demanding (Lockwood, 2015). The wrong communication strategies, process, or tools used in a virtual team could hinder team performance, negatively affect work environment, and as such negatively affect employee job satisfaction, their families, and communities. A virtual team leader needs to exhibit finesse in communication while relaying needed information to team members and enhancing the teams' performance. The implications for positive social change include the potential for virtual team leaders and members to communicate in a manner that positively enhances performance

(Barnwell et al., 2014). The result of this study could bring about a change in communication strategies used in virtual teams and lead to higher employee satisfaction, which could benefit the organizations, virtual employees, their families, and communities. The identification and exploration of the communication strategies leaders use to manage virtual teams in real time to enhance team performance could lead to high performing virtual teams which could result in sustainable businesses and fulfilled employees and enable organizations to grow and develop for the benefit of the organizations, employees, their families, and communities.

A Review of the Professional and Academic Literature

Organizations have increased their use of virtual teams (Charlier et al., 2016; Krumm et al., 2016; Minas, Potter, Dennis, Bartelt, & Bae, 2014). Virtual teams have fast become the norm in the business world (Dulebohn & Hoch, 2017; Fan et al., 2014; Yilmaz, 2016). Managing virtual teams is different from managing a traditional team (Dulebohn & Hoch, 2017; El-Sofany et al., 2014; Ford et al., 2017; Lilian, 2014). Managing virtual teams can be difficult and challenging (Dulebohn & Hoch, 2017; Orhan, 2014). Virtual communication is difficult, exacting, and challenging (Lockwood, 2015). Some leaders lack communication strategies to manage virtual teams in real time to enhance team performance. The purpose of this qualitative descriptive single case study is to explore what communication strategies leaders use to manage virtual teams in real time to enhance team performance.

Google Scholar database and Business Source Complete were the two main sources used to obtain peer-reviewed literature. Other databases included ABI/INFORM,

ProQuest, SAGE journals, and Thoreau. The keywords that I used for the literature search

included *virtual teams*, *virtual teams and traditional teams*, *virtual teams and traditional

teams and origin*, *global teams*, *traditional teams*, *types of virtual teams*, *leadership and

personality and managers*, *virtual team communication*, *communication in virtual teams*,

communication tools in virtual teams, *virtual team leaders*, *trust and virtual teams*, and

virtual team performance. The focus for the literature review was mostly on peer-

reviewed articles that were less than 5 years old from the anticipation date of Walden

University's chief academic officer's (CAO) approval of my study. The literature review

contains 65 peer-reviewed articles, and more than 93.8% of the articles have a

publication date of after 2014 and later.

The literature review is organized thematically based on content and topic of

discussion, and it includes multiple perspectives. The main areas of attention for the

literature review include Tuckman's small group developmental model; teams in general;

virtual teams (forms, advantages, and challenges); communication in virtual teams;

communication tools in virtual teams; trust and communication in virtual teams;

leadership in virtual teams; and virtual team performance.

Tuckman's Small Group Developmental Model

Tuckman's (1965) small group developmental model has four stages: (a) forming,

(b) storming, (c) norming, and (d) performing. Tuckman and Jensen (1977) later added a

fifth stage, c adjourning, to the small group developmental model.

Forming. Forming is the first stage in Tuckman's team theory (Tuckman, 1965).

The forming stage is the stage where team members test the limits as a way to figure out

what is acceptable behaviors and tasks within the group. Team members are in a sort of orientation phase; learning about other team members as well as the job at hand. Members tend to be dependent at this stage, looking up to the team leader or other team members for guidance.

Storming. Storming is the second stage in Tuckman's team theory (Tuckman, 1965). The storming stage is a difficult one for the team; the characteristics of this stage include conflict, resistance to tasks, and high emotional responses to assigned tasks. Some team members or leaders do not survive this stage.

Norming. Norming is the third stage in Tuckman's team theory (Tuckman, 1965). The characteristics of the norming stage include group unity, acceptance of group members and their faults, the formation of new norms to allow for agreement and peace, and the avoidance of conflict. The team becomes a unit in this stage.

Performing. Performing is the fourth stage in Tuckman's team theory (Tuckman, 1965). Some of the characteristics of the performing stage include constructive acts toward the task at hand, a problem-solving mindset, and flexibility and adaptability with the group tasks. High-functioning members, high performers, efficient and effective communication, and appropriate allocation and use of resources characterize the team at this stage. A team at this stage becomes a high-functioning team, a solution to problems.

Adjourning. Adjourning is the fifth stage in Tuckman's team theory (Tuckman & Jensen, 1977). Tuckman and Jensen (1977) extended the work of Tuckman (1965) with this stage. Tuckman and Jensen conceptualized the fifth stage 12 years after Tuckman defined with the initial four stages. The characteristics of the adjourning stage include the

end of the group, a dissolution stage. This stage is the dissolving of the team, which is usually after the accomplishment of the team's mission.

Tuckman claimed that every team experiences these stages of development. All teams fall within the developmental stages based on the teams' social and task behaviors (Tuckman, 1965). McGrew et al. (1999) further extended the work of Tuckman. McGrew et al. (denoted that groups go through stages of decline after attaining Tuckman's performance stage. McGrew et al. (also indicated that groups decline in stages in a reverse Tuckman order; in other words, after attaining the performing stage, groups go through declining stages of de-norming, de-storming, and de-forming (McGrew et al., 1999).

De-norming. De-norming stage typifies old members return to earlier behaviors as experience members reassignment take place, new members not following team standards, new members bringing about new ideas and disruption on the team, and the redefining of roles by new members (McGrew et al., 1999). This stage also typifies experienced team members' reassignment to other high-priority projects (McGrew et al., 1999).

De-storming. De-storming is storming stage played inversely. This stage has characteristics such as gradual uneasiness, the decline in norming behavior, dwindling of group cohesion, increased interpersonal emotions, and resistance and confrontation behavior toward group influence, all of which result in conflicts and separation of membership (McGrew et al., 1999).

De-forming. The de-forming stage exhibits the opposite of what the norming

stage depicts (McGrew et al., 1999). Team members once again belligerently test boundaries, abandoning jobs or tasks that they do not want to do, isolating themselves from the rest of the team, and the rapidly declining in performance (McGrew et al., 1999).

As I explored leadership communication strategies in virtual teams to maximize performance, I expected Tuckman's small group developmental stages to be evident. The goal for every team is to arrive at the performing stage, because this is where the team is most effective, efficient, and productive. The performing stage is the stage where performance is maximum. A respectable knowledge of Tuckman's small group developmental stages andthe decline or decay stages helps leadership understand its team's current stage, and therefore allows leadership to apply the appropriate mediation strategies to enhance or maximize performance (McGrew et al., 1999; Tuckman, 1965; Tuckman & Jensen, 1977).

Teams in General

Teams are created because of the belief that the group is better and has a higher likelihood of success than an individual has (Cordes, 2017). In other words, teams perfors at a better and higher level than any one individual (Cordes, 2017). Certain factors affect the team's expectation of higher performance; factors such as good communication, trust, clear goals, and objectives, good leadership, team cohesion, etc. (Charlier, Stewart, Greco, & Reeves, 2016; Cordes, 2017; De Jong, Dirks, & Gillespie, 2016; Hoch & Dulebohn, 2017).

Virtual Teams

Virtual teams are becoming the custom in today's business world (Dulebohn & Hoch, 2017; Fan et al., 2014; Yilmaz, 2016). Organizational use of virtual teams to meet business goals and objectives is a trend which started as early as in the 1980s, a trend that will continue into the far future as organizations continue to compete, grow, and strive to meet consumers' needs (Dulebohn & Hoch, 2017; Dumitraşcu & Dumitraşcu, 2015). Some attribute the rise in virtual teams in organizations to the advancement in communication and information technology (Chang et al., 2014; Dissanayake, Zhang, & Gu, 2015; Marlow et al., 2017). Others believe that the advancement of communication and information technology is because of the rise in teams in organizations (Barnwell et al., 2014). The common and agreed-upon knowledge regarding virtual teams is that there is a rise in the use of virtual teams by various organizations (Charlier et al., 2016; Foster, Abbey, Callow, Zu, & Wilbon, 2015; Minas et al., 2014). Virtual teams are not going away anytime soon; rather they are here to remain (Ford, Piccolo, & Ford, 2017).

Forms of Virtual Teams

Organizations employ varying forms and degree of virtuality (Orhan, 2014), that is the degree to which team members and leaders employ technology to accomplish its daily objectives (Davidekova & Hvorecký, 2017). The continuous advancement in technology has allowed for creativity in the employment of a form or another of virtuality at the workplace (Liao, 2017).

Exclusively virtual team. The exclusively virtual team is a virtual team without any face-to-face communication (Davidekova & Hvorecký, 2017; Morgan et al., 2014).

All communication takes place via the use of ICTs (Davidekova & Hvorecký, 2017).

      Virtual, partially distributed team. The vPDT team is a virtual team in which some of the team members colocate; the other team members are not colocated but are dispersed all over the world (Eubanks, Palanski, Olabisi, Joinson, & Dove, 2016). Communication takes place via the use of ICTs and face to face (Eubanks et al., 2016).

      Slightly virtual teams. The slightly virtual team is similar to a traditional team with constant face-to-face communication but also works and communicates via the use of ICTs (Wadsworth & Blanchard, 2015). Communication is mostly face to face (Wadsworth & Blanchard, 2015).

Advantages of Virtual Teams

      Some advantages come with operating virtual teams. The advantages that come with operating virtual teams is one of the reasons the organizational use of virtual teams continues to grow at such a rapid pace (Dulebohn & Hoch, 2017). Organizations' continuous use of virtual teams is an expectation that will not decline anytime soon (Ford et al., 2017).

      The use of virtual teams allows organizations to hire expertise from all over the world (Barnwell et al., 2014; Hoch & Kozlowski, 2014). Access to experts, irrespective of their location is a big incentive for organizations to engage in the operation of virtual teams (El-Sofany et al., 2014). Such organizations tend to enjoy increased innovation because of the procurement of expertise from all over the globe (Davidekova & Hvorecký, 2017). Organizations can enjoy the benefit of delivering 24 hours services globally because of the ability to hire globally and have people working round the clock

(Guinalíu & Jordán, 2016). Organizations can increase their sphere of positive influence in the global community via virtualization (Hamersly & Land, 2015). Organizations tend to enjoy better international stand and increased productivity (Dumitraşcu & Dumitraşcu, 2015).

The use of virtual teams by organizations via the use of ICTs enables communication and collaboration across any distance, allowing the ability to easily and quickly reach a wider audience and increase performance via the use of experts regardless of location (Davidekova & Hvorecký, 2017; Lilian, 2014). The organization's focus moves away from the location of living unto the individual skills, expertise, and the ability to perform (Davidekova & Hvorecký, 2017). Communication tool or ICTs enables the transfer and storage of large amount of data, information, and knowledge enabling the preservation, availability, and easy accessibility of knowledge (Davidekova & Hvorecký, 2017).

Organizations with virtual presence tend to also enjoy cultural diversity among team members (Chang et al., 2014). People tend to enjoy working with people from a diverse social-cultural background (Morgan et al., 2014). Diversity in an organization is essential to the organizational growth and the development of the virtual team (Hamersly & Land, 2015). Organizations that want to enjoy international presence and growth must learn to embrace diversity (Long, Doerer, & Stewart, 2015; Schaubroeck & Yu, 2017). Organizations help employees develop cultural competencies (Ford et al., 2017; Lilian, 2014) and cultural adaptation that is allowing changes in accordance with the custom, mannerism, and ways of another culture, take place (Chang et al., 2014). Developing

employees' cultural competencies and adaptation is beneficial to organizations, particularly to those organizations with a global or physical presence in other countries that are culturally different. Organizations with virtual presence tend to enjoy an increase in creativity because of cultural diversity (Dumitraşcu & Dumitraşcu, 2015). Reduced costs are a significant advantage that comes from having virtual teams; cost reduction can emerge from building cost, travel cost, relocation cost, office expenditures, operating cost, etc. (Dulebohn & Hoch, 2017; Dumitraşcu & Dumitraşcu, 2015; Lilian, 2014). Organizations enjoy better operational efficacy (Davidekova & Hvorecký, 2017). Virtuality affords employee flexibility in their work, schedule, time, and location of work; virtuality also affords organizations a higher level of flexibility (Fan et al., 2014; Guinalíu & Jordán, 2016; Lilian, 2014). Virtuality affords employees fewer complications in the reconciliation of work and family life as it enables them to work from home or on vacation (Rafnsdóttir & Stefánsson, 2014). Organizations that operate virtual teams also tend to enjoy a reduction in employee absenteeism and workplace accidents, while enjoining increase in employee productivity and employee retention (Dumitraşcu & Dumitraşcu, 2015). Virtual work enables speech-impaired individuals, individuals with complex communication needs, and disabled individuals to have employment because several of the means of communication such as email and instant messaging, in a virtual setting is ideal for disabled individuals (McNaughton, Rackensperger, Dorn, & Wilson, 2014).

Challenges of Virtual Teams

Virtual teams face greater challenges compared to other forms of teams such as

face-to-face teams (Morgan et al., 2014). Leading a virtual team is challenging; being on a virtual team is also challenging (Orhan, 2014). Virtual team leaders face challenges that are similar to those experienced by traditional teams leaders (Davidekova & Hvorecký, 2017). Virtual team leaders also face challenges that are different to those experienced by traditional team leaders because virtual team leaders have to work through issues of isolation, communication difficulties, difficulties in building trust with and among team members (El-Sofany et al., 2014; Ford et al., 2017; Lilian, 2014). Virtual team leaders face several challenges in supervising and managing virtual teams (Dulebohn & Hoch, 2017).

Virtual team members and leaders face distinct communication and collaboration challenges (Cordes, 2017). Communication or the lack thereof possess a big issue for virtual teams (Dulebohn & Hoch, 2017; Lilian, 2014). Communication among virtual team members occurs mostly via the use of communication tools, or ICTs, which is both positive and negative in that it allows communication to take place but it can also constrain communication (Cordes, 2017). There is the difficulty that comes with the lack of verbal and physical cues in communication (Dumitraşcu & Dumitraşcu, 2015; van der Land, Schouten, Feldberg, Huysman, & van den Hooff, 2015). Computer-mediated communication can lead to a reduction in the sharing of information by team members, incomplete understanding of work process to achieve goals, and in essence, it can lead to failed communication (Cordes, 2017).

Some virtual teams already experience language differences as a challenge (Barnwell et al., 2014; El-Sofany et al., 2014); the constraints of the communication

technology do not make communication easier. It is easy to codify and communicate explicit knowledge such as processes, documents, and data, but it is not easy to codify or communicate tacit knowledge such as feelings, reasoning, and preferences (Davidekova & Hvorecký, 2017). The use of a variety of ICTs and ICT supports such as the telephone may somewhat mitigate these communication difficulties (Davidekova & Hvorecký, 2017). Klitmøller, Schneider, and Jonsen (2015) found that in the presence of language proficiency differences, social categorization occurs in a virtual team when team members make use of verbal media such as a telephone, but it does not occur with the use of written media such as emails. Even after operating virtual teams since the 1980s (Saafein & Shaykhian, 2014) and making use of computer-mediated communication (Dulebohn & Hoch, 2017; Gibbs, Sivunen, & Boyraz, 2017), miscommunication remains a challenge for virtual team leaders and members (Dissanayake et al., 2015).

Development of trust among virtual team members and leaders continues to be a challenge for virtual teams (Dissanayake et al., 2015; Lilian, 2014). Virtual team leaders experience difficulties in building trust and great working relationship with and among employees (Dumitraşcu & Dumitraşcu, 2015). Trust is an important element of a successful team, whether virtual or otherwise (Guinalíu & Jordán, 2016). The unconventionality of virtual teams makes the building of trust within the team quite a challenge (Guinalíu & Jordán, 2016).

Team members' distance apart is a challenge for virtual teams (Barnwell et al., 2014; Hoch & Dulebohn, 2017). Distance apart can have a negative effect on communication. Timely communication can be the difference between a successful

virtual team project and a failed one (Barnwell et al., 2014). The presence of time zone

differences among team members adds difficulties to the already challenging

communication efforts of virtual teams (El-Sofany et al., 2014; Wadsworth & Blanchard,

2015). Communication impediment is a factor for virtual teams with members in

different time zones (Ford et al., 2017). The virtual team leader might not be able to have

a meeting with all members present at the same time as daytime for some team members

might mean night time for other team members (Dumitraşcu & Dumitraşcu, 2015). Time

zone problem on the virtual team can make it difficult to take urgent and timely action on

matters. Time zone issue can make it difficult to have a forum in the face of an urgent

situation that requires a quick response.

Deficient or poor individual (task) virtuality is a major challenge for virtual

employees (Han, Chae, Macko, Park, & Beyerlein, 2017; Orhan, 2014). An employee

that exhibit poor individual virtuality tends to communicate less with other employees

that are non-face-to-face because of the difficulties they experience using communication

and information technology media (Orhan, 2014). Such employees with poor individual

virtuality find it easier to forget about other employees that are non-face-to-face because

of the difficulties such employees have with using communication technologies. The

younger generations in the workplace had no problems engaging or connecting virtually

with other team members; this is attributable to frequent use as well as the ease that the

younger generation feels with the use of ICTs (Snyder, 2015).

Another major challenge that virtual teams face is those of cultural differences or

diversity (Barnwell et al., 2014; Lilian, 2014). Cultural differences, when properly

managed can be a huge positive for the team, bringing out the individual best in the team, but when mismanaged, cultural differences can be the one factor that causes a virtual team to fail (Barnwell et al., 2014). Cultural differences could hinder communication quite a bit; especially in instances where team members are so culturally diverse such that various team members interpret the same message differently (Davidekova & Hvorecký, 2017; Lockwood, 2015; Morgan et al., 2014). There is also the issue of commitment, which can be quite different among virtual team members due to the cultural backgrounds (Morgan et al., 2014). Virtual team leaders experience difficulties in developing employees' cultural competencies (Dumitraşcu & Dumitraşcu, 2015).

Virtual team experience difficulties with conflict management (Dumitraşcu & Dumitraşcu, 2015). Difficulties with conflict management are heightened by cultural diversity and could lead to a dysfunctional team (Davidekova & Hvorecký, 2017). A virtual team leader must properly handle, manage, mitigate, and preferably prevent such conflicts promptly to prevent the development of a dysfunctional team (Davidekova & Hvorecký, 2017).

Communication in Virtual Teams

Communication is a team process that enriches team accomplishments (Marlow et al., 2017). Organizations have team processes that they follow to achieve desired goals and objectives; communication is a process that makes the other organizational processes possible in that communication allows the development, accomplishment, and sustainment of other team processes, all of which enhance team performance (Marlow et al., 2017). Communication is organizations' building blocks for making processes work,

be it collaboration, decision making, etc. (Lilian, 2014).

Non-face-to-face communication is the main form of communication employed in virtual teams (Barnwell et al., 2014; Brotheridge, Neufeld, & Dyck, 2015; Fan et al., 2014). Non-face-to-face forms of communication have grown exponentially over the years as organizations have increased the use of non-face-to-face interaction in its daily business (Orhan, 2014). Virtual communication is difficult, demanding, and challenging; a comparison between virtual communication and face-to-face communication makes the difficulties of virtual communication more obvious (Lockwood, 2015).

Communication is one of the six essential competencies necessary to lead a successful virtual team (El-Sofany et al., 2014). Effective communication involves words, behavior, and context with immediate rich response (Morgan et al., 2014). This type of communication usually occurs in a face-to-face setting where the respondent can view the behavior, tone, as well as the countenance that accompanied the spoken words (Morgan et al., 2014). Face-to-face communication is better than non-face-to-face communication mostly because of the availability of better non-verbal (visual) and para-verbal cues (pitch, tone, and speed), it is less tasking both cognitively and physically, and it allows for social presence and socialization (Lilian, 2014).

Virtual team members tend to communicate via computer-mediated tools such as emails and intranet, which lack expressions of behavior, tone, and countenance (Snyder, 2015). Virtual team members have to be careful due to delay in response and sometimes the lack of response, to avoid the misinterpretation of the messages sent or received (Morgan et al., 2014). Virtual teams have reduced ability to be spontaneous or to access

other team members willy-nilly (Snyder, 2015). Virtual team members experience difficulties feeling engaged with teammates (Snyder, 2015). Video conferencing and teleconferencing can somewhat bridge the gap brought about by the lack of face-to-face communication on virtual teams (Morgan et al., 2014; Schaubroeck & Yu, 2017). Davidekova and Hvorecký (2017) encourage the use of face-to-face meetings during the early stage of tough projects.

Espinosa, Nan, and Carmel (2015) found that temporal distance among team members is not what necessarily impact team performance. Rather, team interactions and behaviors in terms of communication frequency, turn-taking, conveyance and convergence of information are what impact task completion time and quality within a geographically dispersed team (Espinosa, Nan, and Carmel, 2015). According to Morgan et al. (2014), essential elements of an effective virtual team includes regular communication and the communication of clear goals and objectives by both team leader and members. Frequent communication positively affects the conveyance and convergence of information; turn-taking positively impacts convergence of information; information conveyance positively impacts the timeframe for task completion; and information convergence positively impacts task quality (Espinosa et al., 2015). The absence of regular communication could result in confusion, mistakes, misapprehension, and frustration, (Morgan et al., 2014). Virtual team members' subjective perception of distance from one another significantly affected team collaboration (Siebdrat, Hoegl, & Ernst, 2014). Frequent communication and shared identity among virtual team members and leaders allow for perceived proximity, which mediates communication and

relationship quality (O'Leary, Wilson, & Metiu, 2014).

In other words, the assortment of communication technique does not necessarily affect team performance (Morgan et al., 2014); communication frequency, quality, and content are the important elements of effective virtual team communication (Marlow et al., 2017; Lilian, 2014). Morgan et al. (2014) found that the global virtual team achieved above target performance despite its limited range of communication methods. On the other hand, O'Leary Wilson, and Metiu (2014) believes that the use of various communication media as opposed to the use of one specific medium allows for improved communication performance. Ford, Piccolo, and Ford (2017) suggest that virtual team leaders should communicate with virtual team members electronically at a minimum of once a week and physically on hire and after that, annually. O'Leary et al., (2014) also found that the manner of communication with successful virtual teams epitomizes trustworthiness, accessibility, steadfastness, likability, and familiarity.

Contrary to popular findings, Chang et al. (2014) found a negative relationship between high communication and virtual team performance. This negative relationship could be due to communication becoming an annoyance and hindrance to work completion (Chang et al., 2014). Frequent or high-level communication in a virtual team could become over communication, which could become a problem instead of help (Marlow et al., 2017). Frequent or high-level communication in a virtual team could (a) hinder rather than enhance performance (b) lead to cognitive overload due to redundant distributed information and reduced performance (c) result in frustration due to constant interruption to process unneeded information (Marlow et al., 2017). High-level

communication could cause suspicion among team members; members could feel

monitored and could lead to low job satisfaction (Chang et al., 2014).

Constant and incessant communication does not necessarily equate to good

communication quality (Chang et al., 2014). Frequent team communication in a virtual

team does not necessarily enhance or improve team performance (Marlow et al., 2017).

In other words, if communication is clear, straightforward, and understood, it is pointless

to repeat it daily (Chang et al., 2014). However, frequent level of communication is vital

to growth, development, and functioning of a new team (Marlow et al., 2017). At the

beginning stages of a new team, frequent communication helps to build trust among team

members and team leader (Marlow et al., 2017). Communication is not an interruption for

employees with low levels of trust because employees with low levels of trust see

communication as important and essential to teams' success (Chang et al., 2014).

Communication quality is of high importance in enhancing virtual team

performance (Marlow et al., 2017; Schaubroeck & Yu, 2017). Communication quality

that is, the substance quality of communication is key in team communication.

Communication quality shows the clarity, efficiency, totality, fluency, and

appropriateness of communication (González-Romá & Hernández, 2014).

Communication quality is also affected by factors such as team members and leader's (a)

online visibility, (b) ICT know-how, (c) engagement, (d) ICT sound quality and

environmental sound interferences (e) dynamics as a team (Snyder, 2015). The timeliness

of the communication is important when considering communication quality (González-

Romá & Hernández, 2014). If a team leader or member delivers information too early,

such information could be a distraction for team members, likewise, if a team leader or member delivers information too late, such information could be irrelevant at that time and affect performance (Chang et al., 2014; Marlow et al., 2017). High-quality information, irrespective of the frequency of communication is bound to lead to better performance (Marlow et al., 2017). Virtual team information overload that is too much low-value information affects team performance and efficiency in a negative way (Ellwart, Happ, Gurtner, & Rack, 2015). A virtual team leader should guide team communication to ensure balance to afford increase performance, and prevent work-related issues such as stress, burnout, and low performance (Avolio, Sosik, Kahai, & Baker, 2014).

Communication follow-up is another important aspect of communication that ensures communication quality (Marlow et al., 2017). The sender of the initial message ensures closure of the communication loop having ascertained that the intended receiver of the message got the message and interpreted it appropriately (Marlow et al., 2017). The sender of a face-to-face interaction controls the communication because of the availability of non-verbal cues, as the sender can tell if and how the receiver receives the message (Snyder, 2015). On the other hand, the receiver of a non-face-to-face interaction controls the communication because the sender is dependent on the receiver's response to determine if communication has taken place or not (Snyder, 2015).

According to Morgan et al., (2014) a mixed mode of communication can help to mitigate communication misinterpretation. ICTs vary in richness including the decibel level, clarity, visibility, reassessment ability, concurrency, etc., all of which have a heavy

impact on communication via ICTs (Wadsworth & Blanchard, 2015). Snyder (2015) indicated that the simultaneous use of various communication technologies comes with various forms of challenges such as how to prioritize one form of communication over another. Virtual employees tend to multitask with multiple communication devices, such as answering phone calls while on a video conference meeting, to the point of lacking full engagement with any human at most points in time (Snyder, 2015). The improvement in ICTs has allowed for better accessibility and connectivity, which has led to employee information overload and greatly reduced the time for thinking, rumination, creativity, and response and resulting in employee disengagement (Snyder, 2015).

Another way to mitigate communication issues in a virtual setting is to have an online information board that will display team's expectations from team leader and members. Information displayed on the board can include how often each team member is to check emails; team members' expected response timeframe for all forms of communications including emails, texts, calls, and chats (Snyder, 2015). Mitigating potential communication issues in virtual teams should include a clear definition of what silence on emails, postings, texts, etc., means (Schaubroeck & Yu, 2017). Silence could mean agreement, disagreement, neutrality, disengagement, or lack of comprehension, or a team member could assume that an email, post, or text as not directed specifically at him and does not respond (Schaubroeck & Yu, 2017). Swift and effective communication play a pivotal role in the effective management of a virtual team (Dumitraşcu & Dumitraşcu, 2015).

Familiarity among team members ease the communication process and enhance

performance (Han et al., 2017; Schaubroeck & Yu, 2017). It is advantageous and profitable to the organization to keep the same virtual team members together as much as possible (Schaubroeck & Yu, 2017). It is important for virtual team leaders to discourage and prevent the hiding of information and in and out groups within the team (Lilian, 2014). Team members knowledge of one another's' skills, competencies, and expertise can increase task and team cohesion (Xue, Yu, & Hock Hai, 2015). It can be beneficial to add each team members' skills, competencies, and expertise to the online information board allowing team members quick access the information.

Communication Tools in Virtual Teams

Virtual teams communicate mostly through ICTs (Dulebohn & Hoch, 2017; Lilian, 2014). Communication tools affect communication as well as performance. Communication media or tools use in virtual teams includes but are not limited to phone, instant messenger, video conferencing systems, teleconferencing systems, intranet, email, text, chat, discussion forum, (Barnwell et al., 2014; Bartelt & Dennis, 2014; Davidekova & Hvorecký, 2017; Morgan et al., 2014; O'Leary et al., 2014).

Due to the growth, development, and increase use of ICTs, even co-located teams make use of ICTs to communicate that is in addition to the face-to-face communications (Schaubroeck & Yu, 2017). The use of ICTs has become essential in the day-to-day operations at the workplace as the workplace develops more of the culture that Snyder (2015) refers to as digital; a culture in which the use of ICTs permeates the workplace. There are numerous forms of ICTs different levels of richness and synchronization capability (Minas et al., 2014).

There are so many ICTs in the marketplace; organizations need to strategically select the most appropriate, beneficial, and cost-effective ICTs to adopt (Cordes, 2017; Davidekova & Hvorecký, 2017). The use of appropriate ICTs allow for real-time, instants, or within seconds communication among team members, allowing for quick information sharing and collaboration among geographically dispersed team members and leaders (Davidekova & Hvorecký, 2017). Information communication and technologies (ICTs) plays a role in how proximal virtual team members feel to one another (O'Leary et al., 2014).

The use of appropriate communication technology is essential to the success of any virtual team (Pangil & Chan, 2014; Snyder, 2015). Technology can either hinder or foster virtual team communication and performance (Gilson, Maynard, Young, Vartiainen, & Hakonen, 2015). The use of appropriate ICTs by an organization can lead to increase efficacy, profitability, cost-effectiveness, output, and individual, team, and organizational performance (Lilian, 2014; Morley, Cormican, & Folan, 2015). The appropriate ICTs helps to foster the development of trust among team members and team leader (Ford et al., 2017; Pangil & Chan, 2014). The use of appropriate ICTs increases the amount of communication among team members, which is likely to increase personality-based trust among team members, and the tendency to share knowledge (Pangil & Chan, 2014).

Virtual team members favored video conferencing to other ICTs because it is the closest form of the face-to-face available in a virtual environment and it provides an almost comparable level of information quality as face-to-face communication

(Schaubroeck & Yu, 2017; Snyder, 2015). It is important that ICTs is user-friendly as an unfriendly system only creates frustration, low performance, and lack of creativity in and among team members (Davidekova & Hvorecký, 2017). Technology that does not work could bring a virtual team to a complete halt (Ford et al., 2017)

Employees have different levels of individual (task) virtuality (Orhan, 2014). Task virtuality is the degree of synchronization, contact, and communication that an employee needs with non-face-to-face workers to complete their work (Orhan, 2014). A leader cannot assume that his virtual team members have a high level of individual virtuality; the need to provide adequate training and resources on the use of ICTs; training should include instructions on things as simple as the expected file naming convention and how to find information on the intranet (Snyder, 2015).

Trust and Communication in Virtual Teams

Trust is a vital element in building a successful virtual team (Guinalíu & Jordán, 2016). Trust is more difficult to build in virtual teams compared to traditional teams (Breuer et al., 2016; El-Sofany et al., 2014), yet it is more crucial to have in a virtual environment compared to a traditional one (Lilian, 2014; Pozin, Nawi, & Romle, 2016). Some of the difficulties are possibly due to the lack of face-to-face contact; face-to-face contact allows team members' a visual view of one another's activities (Ford et al., 2017). Morgan et al. (2014) found that the global virtual team exhibit a higher level of trust and cooperation compared to other forms of team including face-to-face teams. Good quality communication nurtures trust among team members in ways such as allowing for conflict resolution and proper alignment of member perception and

expectations (Chang et al., 2014). Team trust enhance team communication (Breuer et al., 2016).

Ford et al. (2017) believe that for a virtual team to be successful, team members have to develop trust with one another, the team leader, and the organization; a strong trust foundation is vital to the success of the team. Pangil and Chan (2014) found that the three types of trust personality-based trust, institutionalized-based trust, cognitive-based trust and knowledge sharing behavior significantly influence virtual team effectiveness; personality-based trust, institutionalized-based trust affect knowledge sharing behavior. Topchyan (2015) found that integrity, loyalty, trust, and cooperation has significant impact or forecast knowledge sharing in virtual learning teams. He and Gunter (2015) found that trust influence knowledge sharing when team unity is present. Maintaining or sustaining trust after building it is also challenging for virtual teams (Breuer et al., 2016; Lilian, 2014). A team that starts with a high level of swift trust and continues unto lasting trust is likely to perform better than one that does not exhibit trust one way or another (Ford et al., 2017; Wadsworth & Blanchard, 2015). A leader that is empathic, fair and sensitive to members' individual needs can gain team members trust (Ford et al., 2017; Guinalíu & Jordán, 2016).

Trust has a significant effect on individual and team performance in a virtual setting (Sarker, Ahuja, Sarker, & Kirkeby, 2011). Virtual team leader and members influence one another for higher performance greatly by the level of trust that exists among the team members as well as between the team leader and the team members (Wadsworth & Blanchard, 2015). Effective virtual team leaders build trustworthy

relationships with team members (Ford et al., 2017). A person's high communication in a virtual setting is indicative of high performance if the person is trustworthy; on the other hand, a person's high communication in a virtual setting is indicative of poor performance if the person is not trustworthy (Sarker et al., 2011).

According to El-Sofany et al. (2014) communication and trust are the two most critical factors for virtual teams to excel. Communication and trust go hand-in-hand in virtual teams (Sarker et al., 2011). Virtual teams build trust via communication (Lilian, 2014). Team trust allows for open discussion of ideas and concerns; it allows for great sharing of information (Breuer et al., 2016). In other words, team trust allows for better and open communication (Breuer et al., 2016). Communication via the trust medium has a significant effect on performance (Sarker et al., 2011). Lack of communication or communication standards can result in distrust and unsuccessful communication (Cordes, 2017).

Team trust impact performance in that it gives team members the boldness to take risk; this behavior gives provision to team harmonization and collaboration (Breuer et al., 2016). Team trust positively impacts team performance (Breuer et al., 2016). The use of communication media in virtual teams allows for the documentation and the ability to reprocess information, allowing for some ease in the building of trust among team members and leader (Breuer et al., 2016). Communication media such as email allows for ease of storage as well as sharing of information by forwarding emails with the needed information (Breuer et al., 2016).

Building trust among team members in the early stage of the team is sometimes as

simple as a timely response to emails or requests; little things matter a lot at this stage of the team (Ford et al., 2017). Other ways to build trust among team members starts with the selection and training of appropriate team members; the provision of suitable technology and training as to appropriate use; the clear definition of member and leader roles, tasks, responsibilities, and expectations; and holding team members and leader accountable (Ford et al., 2017). It is important to recognize collective achievement (Ford et al., 2017).

Technology with video conferencing capability is a plus as it allows team members to see other team members and the team leader (Ford et al., 2017). Having a team leader with experience in virtual team leadership, who then receives additional training provided by the organization, helps to build trust among team members (Ford et al., 2017). Organizational trust can also come about by showing cultural consideration for team members; it could be something as simple as recognizing holidays from the team members' locations (Ford et al., 2017). A virtual team leader needs to develop cultural competence (Lilian, 2014).

According to Ford et al. (2017) having, the team leader physically visit with team members on entry and annually helps to build and maintain organizational trust. One of the ways a virtual team leader can achieve effective team communication is by quickly building and maintaining trust relationships with the team members while maintaining sensitivity to the cultural differences (Lilian, 2014). Chang et al. (2014) found a positive relationship between the following pairs, cultural adaptation and communication quality; cultural adaptation and member trust; cultural adaptation and virtual team performance;

and communication quality and interpersonal relationship. It is important for organizations to help employees develop cultural competency (Ford et al., 2017; Lilian, 2014). Selecting the appropriate team members is important to the building of trust and team's success; things to consider in the selection of virtual team members includes but is not limited to prior performances in virtual teams, self-motivation, knowledge, skills, abilities, team players, commitment, and integrity (Ford et al., 2017).

Leadership in Virtual Teams

Leading a virtual team is different from leading a traditional team; leading a virtual team requires more from a leader (Barnwell et al., 2014; Lilian, 2014; Schmidt, 2014). Though virtual team leaders experience many of the same challenges faced by traditional team leaders, virtual team leaders have to tackle those challenges using different strategies and tactics than those employed by traditional setting leaders (Saafein & Shaykhian, 2014). A virtual team leader must be able to communicate effectively and built trust with and among team members (El-Sofany et al., 2014).

A virtual team leader is imperative to the success of a virtual team (Dissanayake et al., 2015; Liao, 2017; Lilian, 2014; Pozin et al., 2016). Leadership is one of the six critical competencies necessary to have a successful virtual team (El-Sofany et al., 2014). Hanebuth (2015) found that the seven critical success elements of a virtual team are transferable to other virtual teams. The top three critical success elements of a virtual team are leadership, the culture of the organization, and ICT (Hanebuth, 2015). Leadership is a major element in teams' success (Eubanks et al., 2016; Liao, 2017). The notion and importance of leadership role in the success of virtual teams cannot be

overstated or over-emphasize.

A virtual team leader that wants to be successful must build trust with team members (Guinalíu & Jordán, 2016). According to Guinalíu and Jordán (2016), the higher the perceived level of a leader's physical attractiveness by team members, the more easily the leader can command team members' trust in the leader. However, transformational leadership style easily mitigates the attractiveness factor; when team members do not perceive a leader as physically attractive, the leader can command team members' trust by exhibiting a high level of transformational leadership style, particularly in the area of empathy and fairness (Guinalíu & Jordán, 2016). Guinalíu and Jordán (2016) found that the leadership style-mitigating factor is not true for transactional leadership style.

It is a leader's responsibility to influence his virtual team positively by guiding the content and flow of team members' communication (Barnwell et al., 2014). A virtual team leader, as well as virtual team members, have the power and ability to make use of one of many influence tactics such as pressure, ambiguity reduction (via the sharing of information, giving of examples, and accountability), legitimating, rational persuasion, personal appeal, and consultation, in influencing one another (Wadsworth & Blanchard, 2015). In other words, the use of screen sharing to clarify request, use of smiley faces in communication, identifying a message as urgent and sending message in subject heading, tracking and storing message trend, electronic polling, etc., are all manners of exerting influence on others in a virtual team; influence is exerted upwardly, laterally, and downwardly (Wadsworth & Blanchard, 2015).

Every team member has a responsibility of ensuring effective team communication within the team, but the virtual team leader has the overall responsibility for setting the communication standard, structure, expectations, and atmosphere within the team (Morgan et al., 2014). A leader should work with the team to set the standard on how and when communication is expected (Eubanks et al., 2016). A leader must communicate regularly with team member via video conference or telephone call (Barnwell et al., 2014). Regular communication can help prevent isolation on a virtual team. A virtual team leader must be able to manage adequately, the needs of the team as a whole as well as the individual need of team members (Barnwell et al., 2014). Computer-mediated communication such as email can discourage critical thinking on the part of team members while encouraging micromanagement on the part of team leaders (Brotheridge et al., 2015). Email is not necessarily user-friendly when it comes to profound discussions as email could unnecessarily extend the discussion over a long period (Schaubroeck & Yu, 2017). Organizational leaders should be conversant with these potential issues and work to have a balance in communication such that a high-performance team emerges.

A virtual team leader needs to be able to provide the team members with well-defined goals (Barnwell et al., 2014). Well-defined goals and instructions are vital to the success of a virtual team. A virtual team leader should also provide team members with their clear individual and collective roles, responsibilities, tasks, and expectations (Ford et al., 2017). A virtual team leader should demonstrate tact in communication while getting information to team members. A virtual team leader should be able to smooth the

progress of communication among team members (Chang et al., 2014).

Virtual team leaders need to have a high level of sensitivity to team members' mindset, be culturally sensitive and competent, have robust social networking skills, be sensitive and acceptant of the virtual team concept (Lilian, 2014). Communication within the organization is one of the elements that shape organizational culture (Snyder, 2015). As a virtual team leader guides the flow of communication within a virtual team, the team leader needs to understand that he and the virtual team members are shaping the culture of the organizational (Snyder, 2015). Plavin-Masterman (2015) found that leadership style and personality influences virtual organizations' culture.

Team collaboration is important and impacts team performance; the goal is to have a high-quality collaboration among team members (Boughzala & de Vreede (2015). Virtual team leaders should encourage collaboration among team members; the more team members collaborate, the more practice and experience they acquire on effectively working with other virtual team members for greater productivity (Cordes, 2017). Collins, Chou, and Warner (2014) found that virtual team members were less willing to collaborate in the absence of good leadership and the right technology. A virtual team leader must provide dynamic motivation, strong and active leadership support, and appropriate ICTs for a successful collaborative effort to take place in a virtual team (Davidekova & Hvorecký, 2017). A successful virtual team leader brings its team member together in a manner that encourages collaboration, friendship, cultural sensitivities and lessens conflicts (Barnwell et al., 2014; Ford et al., 2017). Chang et al. (2014) found a positive relationship between the following pairs, cultural adaptation and

communication quality; cultural adaptation and member trust; cultural adaptation and virtual team performance; and communication quality and interpersonal relationship.

Communication is vital to the success of a virtual team (Ziek & Smulowitz, 2014). A virtual team leader must be able to communicate effectively and built trust with and among team members (El-Sofany et al., 2014). Finally, virtual team leaders and virtual team members should be patient with one another and with the team as a whole; the more practice and experience the team members and leaders gain with one another, the work processes, collaborative processes, the proper use of ICTs, etc., the better and more productive the team becomes (Cordes, 2017).

Virtual Team Performance

Communication is vital to the success of a virtual team (Ziek & Smulowitz, 2014). According to Morgan et al. (2014), the absence of regular and consistent communication within a global virtual team is the main factor in the lack of high level of team performance and cooperation. Leaders and team members must practice consistent, routine communication to enhance team performance (Cordes, 2017; Morgan et al., 2014). Barnwell et al. (2014) found that many factors generalizable into two broad categories, positive and negative, influence virtual team's performance. Team members exhibit influence on one another in a manner that impacts their performance (Sarker et al., 2011). A team that incorporates positivity in its communication experiences increases information sharing and team performance (Yilmaz, 2016). In other words, the use of assent by team members allow other team members to perform more and feel comfortable to share more information that could lead to better performance. Yilmaz

(2016) also noted that negative collaborators tend to produce greater group performance.

Teamwork has a positive effect on team performance (Cordes, 2017). A team with a clear, shared vision is usually able to work successfully towards a common goal (Cordes, 2017; Ziek & Smulowitz, 2014). Virtual team members and leaders need to engage in appropriate training including training on the use of ICTs to enhance performance (Morley et al., 2015). Virtual team leaders should not take it for granted that virtual team members are conversant with the use of the available ICTs (Cordes, 2017; Morley et al., 2015). Every team member and leader should receive training on ICTs onboarding, at intervals determined by the organization, and at the introduction of a new system (Cordes, 2017).

A team leader's social capital and the team members' intellectual capital significantly affect team performance. The team leader's intellectual capital and the team members' social capital does not affect team performance (Dissanayake et al., 2015). Therefore, it is important to align team leaders and members' social and intellectual capital appropriately within the team to influence team's performance in a significant manner (Dissanayake et al., 2015).

Transition

The purpose of this qualitative descriptive single case study is to explore what communication strategies leaders use to manage virtual teams in real time to enhance team performance. Organizations have increased their level of virtuality (Orhan, 2014). It has become common practice for organizations to make use of virtual teams (Dulebohn & Hoch, 2017; Fan et al., 2014; Yilmaz, 2016). In spite of the growth in the use of virtual

teams, some leaders lack communication strategies to manage virtual teams in real time to enhance team performance. The conceptual framework for this study is Tuckman's small group developmental model constructed in 1965 by Bruce Tuckman (Tuckman, 1965). Section 1 also includes a look at the implication of this study results for social change as well as a thorough review of the professional and academic literature.

Section 2 includes information on the purpose of this qualitative descriptive single case study, the role of researcher, participants, research method and design, population and sampling, ethical research, data collection instrument, data collection technique, data organization technique, data analysis, reliability, and validity of the study. Section 3 will include information on the findings, tying of the findings to the conceptual framework, and the research question. There will also be information on the application of the findings to professional practice, the findings implication for social change, recommendations for action, recommendation for further research, and reflections. Section 3 will also conclude the write up on this study.

Section 2: The Project

The purpose of this qualitative single case study was to explore what communication strategies leaders use to manage virtual teams in real time to enhance team performance. A descriptive case study design was appropriate in that its use enables an in-depth study of lived experiences with current applicability in actual life (Fusch & Fusch, 2015). Section 2 is composed of information on the purpose statement, the role of the researcher, participants, research method and design, population and sampling, ethical research, data collection instruments, data collection technique, data organization technique, data analysis, reliability, and validity.

Purpose Statement

The purpose of this qualitative single case study was to explore the communication strategies that leaders use to manage virtual teams in real time to enhance team performance. The targeted population was four successful leaders from a multinational accounting firm whose headquarters are in the northeastern region of the United States. The implications for positive social change include the potential to provide virtual team leaders with communication strategies for managing virtual teams in real time to enhance team performance. This study could also result in virtual team members having a better work environment where communication is regular, timely, positive, and precise, which could lead to higher job satisfaction. The enhanced teams' performances, better work environments, and higher job satisfaction could benefit the organization, virtual team leaders, virtual team members, their families, and their communities.

Role of the Researcher

The researcher is the primary data collection instrument in a qualitative study (Cope, 2014; Yin, 2014). I was the primary data collection instrument for this descriptive case study. I collected data via semistructured interviews of participants (see Appendix A). Researchers use semistructured interviews to obtain information from participants regarding their lived experiences and perceptions (McIntosh & Morse, 2015). The interview questions were open-ended to allow participants the liberty of expressing their experiences in detail and with minimum influence from the researcher (Powell, Hughes-Scholes, Smith, & Sharman, 2014).

The interview questions were rooted in the research question, allowing for congruency between the research question and the interview questions (Castillo-Montoya, 2016). I increased the data quality that I obtained from the interview by ensuring the reliability of the interview questions (Castillo-Montoya, 2016). In other words, the interview questions aligned with the research question, the interview questions were conversational, and the interview questions went through several reviews (Castillo-Montoya, 2016). I conducted FaceTime or phone interviews based on participants' availability and preferences. I observed verbal and nonverbal communication as applicable, optimizing the communication (McIntosh & Morse, 2015).

Qualitative research is open to researcher's bias that could easily influence the result of the study (Roulston & Shelton, 2015); the need to mitigate the possibilities of such biases (Cope, 2014). Yin (2014) emphasized the importance of a researcher discussing and avoiding individual bias when conducting a study. I like and believe in the

idea of virtual teams. I was aware of my predisposition to support the concept of virtual teams. The knowledge of my predisposition enabled me to avoid this personal bias. I knew not to let my personal interest influence the validity and reliability of this study; I knew to express the voice of the participants and not mine in this study (Cope, 2014).

I made use of an interview protocol (see Appendix C). Using the appropriate interview protocol helps to enhance the volume and quality of the information a researcher gathers; the use of interview protocol helps to mitigate bias (Benia, Hauck-Filho, Dillenburg, & Stein, 2015). I completed the protecting human research participants training by the National Institutes of Health Office of Extramural Research and received the research reviewer approval and institutional review board (IRB) approval before proceeding with this study.

I had four prospective study participants. I was not in a working relationship with any of them; however, one of the prospective participants was my brother, who was a professional with a good understanding of the research process. Before data collection took place, I assured participants of confidentiality. I gave each participant an informed consent letter to sign. I treated each participant ethically and with respect; I abided by The Belmont Report of ethical principles and guidelines for the protection of human subjects (U.S. Department of Health and Human Services, 2016).

Participants

Participants were four successful virtual team leaders from a multinational accounting firm. Participants met the following criteria: (a) current employment with organization XYZ; (b) ability to speak the English language; (c) have at least 1 year of

experience as a virtual team leader; (d) have at least 1 year of experience in their current position, which must include the role of virtual team leader; and (e) be a successful virtual team leader based on organization XYZ's standard. To protect participants' identity and ensure confidentiality, I used pseudonyms for the name of the organization (XYZ) and participants (XYZ1 to XYZ4). Researchers use pseudonyms in studies to protect participants' identity (Lunnay, Borlagdan, McNaughton, & Ward, 2015).

I used a purposeful and snowball sampling method to select participants. Purposeful sampling is the intentional selection of study participants based on predetermined criteria and allowing for an in-depth study of the phenomenon of interest (Palinkas et al., 2015). Snowball sampling is a situation where participants recommend other people who meet the participant criteria (Robinson, 2014). Hence, the reason for the selection of a successful virtual team leader XYZ1 from organization XYZ and the request for him to identify other successful virtual team leaders within the organization. The next step was the selection of three other successful virtual team leaders, XYZ2, XYZ3, and XYZ4 from organization XYZ based on virtual team leader XYZ1's recommendation and my selection criteria. Researchers use small sample size in qualitative studies, allowing for an in-depth study of the phenomenon at hand (Robinson, 2014). Yin (2014) recommended the use of multiple sources of evidence in a case study to increase the quality, accuracy, and confidence in the study findings.

I sent prospective participants, via email, a consent form that included the invitation to participate in the study (See Appendix B). Participants understood to ask any questions that they had regarding the study at the time of and throughout the study. I

established a working relationship with participants via email and or phone communication by providing a brief status report on as needed basis. Encouraging the participants to feel free to email or call me with any questions they might have regarding the study is a part of the process of establishing a working relationship with participants. The expression of appreciation to participants for their patience and contribution to the study is vital. It is essential and professional to respond to participants' emails or phone calls within 48 hours of receipt, even if the response is just to let participants know of the intention to get back with them regarding their questions or concerns.

This study involved the conduction of FaceTime or phone interviews, and the review of available archival company documents on communication tools, plans, and or strategies, and performance improvement plans to demonstrate methodological triangulation. This study involved the recording of the interviews as participants agreed to the recording. It is essential to store all documents securely for five years on my password-protected laptop and on a flash drive, which I have stored in a secure cabinet. The secure cabinet likewise houses all the recordings. The plan is to destroy of all raw data related to this study five years after completion of the study.

Research Method and Design

It is important to make use of the appropriate research method and design when conducting a study (Anderson, 2010; Yin, 2014). The chosen research method and design for this study is a qualitative descriptive case study. The below subsections on research method and research design give further explanation and rationale as to the use of a qualitative descriptive case study method and design in this study.

Research Method

Researchers usually use one of three research methods, qualitative, quantitative, and the mixed methods (McCusker & Gunaydin, 2015). Researchers employ the use of qualitative research method to gather information and study phenomena on the experiences and perception of participants (Zhang, 2014). In other words, qualitative research method is ideal for the exploration, finding, and understanding of lived experiences (Moustakas, 1994). Researchers use qualitative research method to answers questions such as what, why, and how (McCusker & Gunaydin, 2015). The focus of this study is to explore what communication strategies leaders use to manage virtual teams in real time to enhance team performance; the qualitative method is the appropriate method for this study.

A quantitative method was not employed in this study because the primary focus of a quantitative study is to test for hypothesis (Hesse-Biber, 2016), which is not the intent of this study. Researchers use quantitative methods to test theories (Park & Park, 2016). The quantitative research method is best for the provision of answers to closed-ended questions such as who, where, how many, and how much (Frels & Onwuegbuzie, 2013).

A mixed study is the use of the qualitative and quantitative method in a study (Annansingh & Howell, 2016). Researchers use mixed method of research to add depth and breadth to a study (Hesse-Biber, 2016). In a mixed method, researchers enjoy the benefits of both a qualitative and quantitative method, allowing for a rich study

(Annansingh & Howell, 2016). I did not utilize the mixed method of research in this study because of the quantitative component which is not appropriate for this study.

Research Design

A descriptive case study design is the chosen and most appropriate for this study. Researchers can choose to conduct descriptive, exploratory, or explanatory case study (Yin, 2014). The case study design is use to answer how, what, or why questions (Yin, 2014). Researchers utilize a case study to gain an understanding of real life event as experienced by or observed in participants in a real world setting (Amerson, 2011) and to identify operational links over time. A descriptive case study design makes provision for an in-depth research of participants' lived experience with contemporary relevance in real life (Fusch & Fusch, 2015). A researcher can choose to look at a single or multiple case study based on the need of the study (Lindstedt & Lombardo, 2016).

I had looked into other qualitative designs such as phenomenology, ethnography, grounded theory, and narrative before I chose the descriptive case study design. Researchers use phenomenology designs when they need to understand the similitude of several people's lived experiences of a common experience or event (Moustakas, 1994), which is not the focus for this study. The goal for this study is to explore communication strategies team leaders' use to manage virtual teams in real time to enhance team performance. Researchers use ethnography designs to focus on group cultures (Morse, 2016), which is not the objective for this study. Researchers use grounded theory designs to give attention to the creation of a theory based on the study findings (Kruth, 2015), which is not the purpose for this study. Researchers use narrative designs to concentrate

on the identification and exploration of participants' lived stories (Barbour, Doshi, & Hernández, 2015), which is not the intent for this study.

Population and Sampling

The target population for this descriptive case study is the virtual team leaders of a multinational accounting firm whose headquarter is in the Northeastern region of the United States of America. I selected participants from a branch office, which is in the Western region of the United States of America by using both purposeful and snowballing sampling technique. I selected the first participant (participant XYZ1) based on the study criteria. Purposeful sampling method involves the selection of participants based on predetermined conditions that enable a researcher to explore the phenomenon of interest as lived and experienced by the study participants (Palinkas et al., 2015). I selected the other three participants (participant XYZ2, XYZ3, and XYZ4) based on the referral of participant XYZ1. Researchers use snowball sampling method of selection to gain access to otherwise hard to reach participants (Waters, 2015).

I carefully selected all participants to ensure proper alignment with the research question, which explores the communication strategies leaders use to manage virtual teams in real time to enhance team performance. I used the following criteria to select participants: (a) participant must have current employment with organization XYZ, (b) participant must be able to speak the English language, (c) participant must have at least one year of experience as a virtual team leader, (d) participant must have at least one year of experience in current position, which must include the role of virtual team leader, and (e) participant must be a successful virtual team leader based on organization XYZ's

standard. The use of criteria in the selection of study participant is essential to having the right participants with needed experience in the study subject (Cleary, Horsfall, & Hayter, 2014). Gender and age were not a factor in this selection of participants. Participants included two adult males and two adult females.

A small sample size is common in qualitative studies (Robinson, 2014). The small sample size enables a researcher to do an in-depth study of a specific phenomenon based on the lived experience of participants (Cleary, Horsfall, & Hayter, 2014). Complementing the small sample size is my review of organization XYZ's archival documents such as communication tools, plans, and or strategies, and performance improvement plans. The use of multiple sources of verification allows for the testing of study validity and, in essence, demonstrates methodological triangulation (Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014).

I conducted FaceTime or phone interviews based on the participants' availability and preference. I created an atmosphere where the participants felt comfortable enough to share freely and truthfully by reminding participants of the confidentiality of the whole process. I reached data saturation through participant interviews, organizational document reviews, and member checking. Data saturation is that state a researcher gets to during a study; the study is replicable and does not have new data or thematic codes that emerge from interviews, document reviews, and or observations (Fusch & Ness, 2015). In other words, when the data is saturated, new data does not yield new information (Morse, Lowery, & Steury, 2014). It is important to achieve data saturation in a qualitative study as data saturation shows rigor (Morse, 2015). Researchers use data

saturation to level the number of participants or interviews (Fusch & Ness, 2015). The aim is to have data that is rich in depth and breadth, resulting in the fullness of credible information that has gone through appropriate rigor and validation process (Fusch & Ness, 2015; Roy, Zvonkovic, Goldberg, Sharp, & LaRossa, 2015).

Ethical Research

The primary goal of research ethics is to ensure that researchers treat participants ethically and respectfully (Parsons, Abbott, McKnight, & Davies, 2015). To ensure the ethical treatment of participants, I abided by the Belmont ethical principles and guidelines for the protection of human subjects (U.S. Department of Health and Human Services 2016) and treated participants ethically and respectfully. I provided participants with an informed consent form via email (see Appendix B). I made participants aware that they can withdraw from the study at any point in time.

I kept participants and their organization confidential by making use of pseudonyms to identify them. It is common for researchers to use pseudonyms in studies to protect participants' identity (Lahman, 2015; Lunnay, 2015). In line with protecting participants' identity and ensuring confidentiality, I have stored all documents securely on a password-protected laptop. I have stored the audiotape recorder, flash drive, and handwritten notes in a secured cabinet. It is important to destroy all raw data related to this study five years after the completion of the study.

I made participants aware via the informed consent form that there is no payment, gift, or reimbursements for participants. However, I will provide participants with a summary of the study results and recommendations that may provide further

communication strategies for managing virtual teams in real time to enhance team performance. I did not interview participants before obtaining Walden University Institutional Review Board's (IRB) approval, approval number 10-06-17-0493301

Data Collection Instruments

I am the researcher. I was the primary data collection instrument for this study as described by Cope (2014) and Yin (2014). The instrument of choice for the gathering of data is semistructured interviews (see Appendix A) and the review of available archival company documents on communication tools, plans, and strategies, as well as performance improvement plans. Researchers make use of interviews as a data collection instrument (Robinson, 2014). The use of a semistructured interview and the review of archival documents as data collection tools are not new to case study research (Yin, 2014).

The semistructured interview instrument has seven open-ended questions (see Appendix A) which are grounded in the research question. The seven open-ended questions are conversational and help participants share their experiences. Interviews help participants to share their experiences freely (McIntosh & Morse, 2015). I will conduct the semistructured interview via Skype or in person. I audio recorded the interviews as participants' agreed to the recordings. I made use of two forms of audio recorders to safeguard against malfunctions of a recorder. I reviewed available archival company documents on communication tools, plans, and or strategies, and performance improvement plans.

I made use of the same interview guide for all participants, allowing for consistency, reliability, and validity of the semistructured interviews (McIntosh & Morse, 2015). I made use of member checking which allows for data validation (Harvey, 2015). Member checking allows participants the opportunity to validate and or clarify researcher's transcript and or data interpretation of the interview (Harvey, 2015). I achieved data reliability and validity via methodological triangulation making use of interview data and archival company document data. Researchers make use of methodological triangulation to achieve data reliability, saturation, and validity (Carter et al., 2014; Fusch & Ness, 2015).

Data Collection Technique

Researchers make use of interview to collect data (Robinson, 2014). I made use of semistructured interviews for data collection using an interview protocol (see Appendix C). I scheduled the interview date and time based on the agreement between participants and myself. I obtained informed consent from each participant via email before interviewing participants (see Appendix B). I conducted the interviews either via FaceTime or phone based on participants' availability and preference. The open-ended question interviews ran between 15 to 30 minutes.

I audio recorded the interview to allow for a reliable and accurate transcribing of the interview. I made use of two forms of recording device to ensure the reliability of recording device. I used NVivo software to transcribe the data. I emailed a summarization of the transcribed and synthesized interview responses to participants for member checking to allow for accuracy, credibility, validity, and appropriate

interpretation of interview data (Cope, 2014; Harvey, 2015). I took notes on nonverbal expressions as well as key information or information that I wished to follow up. I used NVivo software to sort the transcribed and member-checked data into codes and themes.

Researchers use interviews to encourage confidential disclosure of participants' experiences with little or no influence from researchers (Reczek, 2014). In other words, researchers use interviews to allow participants to express themselves freely in their words with minimal influence from researchers. The use of interviews enables researchers to monitor participants' verbal and nonverbal cues during the interview process (Lilian, 2014; Reczek, 2014). Researchers can keep participants from wandering off the subjects; researchers can keep participants focus on the issue at hand (Castillo-Montoya, 2016). A disadvantage of interviews is the possible high financial cost that could result from traveling from place to place to conduct a face-to-face interview (Janghorban, Roudsari, & Taghipour, 2014). The quality of interview data is dependent on the researcher's ability to conduct a proper interview (Yin, 2014). Manually transcribing the interview data could be a monumental task (Zamawe, 2015). The sample size is usually small when interviews are involved (Robinson, 2014). The small sample size allows each participant to have a visible voice, as well as allows the researcher to do an in-depth analysis of the of each participants' contribution (Robinson, 2014).

I reviewed available archival company documents on communication tools, plans, and or strategies, and performance improvement plans to demonstrate methodological triangulation. The review of archival company document could be useful and productive; the review could also turn out to be of no relevance to the issue under study (Yin, 2014).

The researcher bears the responsibility of making sure the archival documents under review are relevant, accurate, and produced under appropriate conditions (Yin, 2014).

I did not do a pilot study, but I participated in expert validation. A pilot study allows for a *review* of the practicability of the method planned for use in the real study, which is usually on a larger scale (Doody & Doody, 2015; Eldridge et al., 2016). It is not my goal to conduct a larger scale study. A researcher uses a pilot case study to develop, assess, and improve the real study questions (Yin, 2014). My committee vetted my research questions based on their knowledge and expertise. This allows for (a) a *review* of the practicability of the method planned for use in the real study, and (b) the development, assessment, and improvement of the real study questions. Most of the times pilot studies are done with a quantitative study (Doody & Doody, 2015) and are sometimes used to generate hypotheses (Bäckryd, Ghafouri, Carlsson, Olausson, & Gerdle, 2015). I did not test for hypotheses in this study.

Data Organization Technique

Data organization is a major key to the smooth flow and management of data in qualitative research (Yin, 2014). Researchers use pseudonyms to disguise participants' identities as a way to achieve and maintain participants' confidentiality (Lahman et al., 2015). One of the ways I stayed organized while keeping the study participants' identities confidential is with the use of alphanumeric codes (XYZ1 to XYY4) to identify participants. I audiotaped each interview; I identified participants by their code name at the beginning of each audiotaping process. I stored each participants' transcribed interview in Microsoft Word document, which I stored in folders by the participants'

code names. I stored the individual participants' folders in a parent folder that I labeled with the code name XYZ.

I coded data and explored for themes with the use of NVivo software. NVivo software is a popular and useful qualitative data management software (Sotiriadou, Brouwers, & Le, 2014). I have stored all documents securely on a password-protected laptop. I have stored the audiotape recorder, flash drive, and handwritten notes in a secured cabinet. I will destroy all raw data related to this study 5 years after the completion of the study.

Data Analysis

Qualitative research generates a large amount of word-based data that can be arduous to analyze manually (Salmona & Kaczynski, 2016). This study will involve the use of Yin's (2014) five steps method of data analysis that is the compiling, disassembling, reassembling, interpreting, and concluding of data. Researchers make use of various forms of qualitative data management software (Sotiriadou et al., 2014). I made use of NVivo, a qualitative data management software (Zamawe, 2015) to organize, code, and analyze my study data. Researchers make use of Nvivo to allows for ease in data organization, coding, formation of themes, and analysis; the manner of organization allowed by Nvivo enables the researcher ease in exhibiting consistency, transparency, and rigor with the word-base data (Houghton, Murphy, Shaw, & Casey, 2015; Sotiriadou et al., 2014).

I first transcribed all interview data including my handwritten notes using Microsoft Word document (or NVivo software). I made use of member checking, the

process of validating transcription and or interpretations with participants (Harvey, 2015) to ensure data accuracy, validity, and saturation. I then imported the transcribed and synthesized data including the updates I obtained during member checking into NVivo software for coding, the formation of themes, and analysis. Analyzing the data imported into the NVivo software take place in four stages, comprehension, synthesizing, theorizing, and recontextualizing (Houghton et al., 2015).

Methodological triangulation is the use of multiple sources of verification to test the validity of the study and to allow for data saturation (Carter et al., 2014; Fusch & Ness, 2015). I made use of methodological triangulation in this study by the use of in-depth participants' interviews, participants' observation during the interviews, and company archival document reviews. I correlated the concepts that emerge out of my analysis with the current literature and Tuckman's small group developmental model.

Reliability and Validity

Reliability

Qualitative research is often condemned for not exhibiting rigor, credibility, transparency, and for being loaded with researcher's bias (Noble & Smith, 2015). Reliability is the degree to which a researcher can replicate a study and obtain similar results (Kihn & Ihantola, 2015). Consistency plays a big part in a study's reliability (Noble & Smith, 2015). A study that is reliable should show dependability (Elo et al., 2014).

Dependability has to do with the thorough documentation of a study's process such that other researchers can easily trace the study (Elo et al., 2014; Kihn & Ihantola,

2015). I made use of an interview protocol (see Appendix C) to allow for consistency and

dependability in the research process. Dependability is also the constancy of data over

time and under various situation (Elo et al., 2014); I gave detailed information on the

criteria used to select participants to allow for easy assessment of transferability (Elo et

al., 2014). I also made use of member checking and methodological triangulation to allow

for a reliable result and saturation of data (Fusch & Ness, 2015).

Validity

Validity is the degree to which the results of a study accurately demonstrate the

data (Kihn & Ihantola, 2015). Researchers can show validity through credibility,

transferability, confirmability, and data saturation (Fusch & Ness, 2015; Kihn & Ihantola,

2015; Noble & Smith, 2015).

The credibility of a study refers to how well the study data reflects the

participants' views as well as answer the research question (Cope, 2014; Elo et al., 2014).

Credibility is established right from data collect (Elo et al., 2014). To ensure credibility,

researchers should make use of appropriate means of data collection (Elo et al., 2014). To

support credibility, I made use of in-depth semistructured interviews as my data

collection instrument. I had participants review a summary of the transcribed, synthesized

interview data for accuracy and confirmation that is I made use of member checking. I

also reviewed archival company documents.

Transferability is the degree to which people can generalize or transfer the study

findings to other settings (Cope, 2014; Kihn & Ihantola, 2015). Cope (2014) deem it

necessary for researchers to provide adequate information on their study so that others

can easily determine the transferability of the findings. I provided detail, and thorough information on the study participants, selection criteria, interview protocol, data collection process, and the study result in an unbiased manner.

Confirmability is the extent to which the researcher can show the study results as a true reflection of the participants' experience (Cope, 2014; Hays, Wood, Dahl, & Kirk-Jenkins, 2016). I have maintained in my study a trail of proofs that links data collection and analysis with the results of the study. Participants had the opportunity to review a summarization of interview transcripts and synthesis. I made use of methodological triangulation and NVivo software for data analysis. I have provided detailed and thorough information on the various sections of the study in an unbiased manner.

Data saturation is the point in a study where no new information emerges from gathering more data on the study (Fusch & Ness, 2015). Researchers observe data saturation as that point at which the study is replicable, and further exploration does not produce new information (Fusch & Ness, 2015). Data saturation is vital to the show of rigor in a qualitative study (Morse, 2015).

Researchers view data saturation in terms of richness and thickness (Fusch & Ness, 2015). Researchers consider data rich when it is of high quality; thick data, on the other hand, is data that is of high quantity (Fusch & Ness, 2015). The goal is to have data that is both rich and thick, resulting in the extensiveness of credible information that has gone through proper rigor and validation process (Fusch & Ness, 2015; Roy, Zvonkovic, Goldberg, Sharp, & LaRossa, 2015). I achieved data saturation by (a) conducting in-depth semistructured interviews with participants, (b) making use of member checking

for interview transcript and synthesis, and (c) making use of methodological triangulation by reviewing archival company documents. These methods should ensure that the data is both rich and thick for this study.

Transition and Summary

The purpose of this qualitative descriptive single case study is to explore what communication strategies leaders use to manage virtual teams in real time to enhance team performance. Participants were four successful virtual team leaders from a multinational accounting firm. I treated participants ethically and respectfully. I conducted FaceTime or phone semistructured interviews based on participants' availability and preference and reviewed available archival company documents on communication tools, plans, and or strategies, and performance improvement plans. I made use of NVivo software to organize, manage, code, and analyze data.

Section 3 will include information on the findings, tying of the findings to the conceptual framework, and the research question. There will also be information on the application of the findings to professional practice, the findings implication for social change, recommendations for action, recommendation for further research, and reflections. Section 3 will also conclude the write up on this study.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative single case study was to explore what communication strategies leaders use to manage virtual teams in real time to enhance team performance. The research question that guided this study was: What communication strategies do leaders use to manage virtual teams in real time to enhance team performance? The conduction of semistructured interviews of four virtual team leaders of a multinational accounting firm whose headquarters is in the northeastern region of the United States to gather data and answer the research question resulted in five main thematic findings. These themes include (a) time synchronization, (b) face-to-face interaction, (c) continuous training, (d) communication tools and frequency, and (e) leadership training and development. The face-to-face theme has two subthemes, building of relationships and cultural competence. The review of archival company records showed correlation with the interview data. An analysis of the findings showed that leadership training and development, the continuous training of virtual team members, and face-to-face interaction of virtual team leaders with the virtual team's members are critical in the successful leading of virtual teams in real time to enhance team performance. The conceptual framework that guided this study was Tuckman's small group developmental model (Tuckman, 1965).

Presentation of the Findings

The research question that guided this study was as follows: What communication strategies do leaders use to manage virtual teams in real time to enhance team

performance? Based on the research question, data analysis of participants' interviews, and archival document reviews, five themes emerged that relate to the communication strategies that leaders use to manage virtual teams in real time to enhance team performance. These themes were (a) time synchronization, (b) face-to-face interaction, (c) continuous training, (d) communication tools and frequency, and (e) leadership training and development. The face-to-face theme has two subthemes, building of relationship and cultural competence.

Emergent Theme 1: Time Synchronization

Some of the difficulties that virtual teams continue to experience are those which comes about as a result of time zone differences among team members (Crayon, Patton, Gyurcsak, & Steigerwald, 2017; Wadsworth & Blanchard, 2015). The greater the time zone differences, the more difficult it is to synchronize communication (Wadsworth & Blanchard, 2015). It becomes almost impossible to have real-time communication (Dumitraşcu & Dumitraşcu, 2015). Organization XYZ is a multinational accounting firm headquartered in the United States (hereafter referred to as the local team) with virtual teams all over the world including Argentina, India, the Philippines, and various locations in the United States. Organization XYZ (the local team) experienced communication difficulties with the India virtual team due to a large time zone difference. Organization XYZ has only one working hour of possible real-time communication daily with the India team; the India team ends the workday an hour after organization XYZ begins the workday. For instance, participants XYZ3 noted the following:

XYZ3: so I don't know what it is, and for us too, cuz we're located in xxx, the time difference between xxx and India is like ridiculous, so it doesn't help that they'll ask me and call at like 10 pm and that's not … Or like midnight and that's not very, that's not reasonable you know... Right, and sometimes they have one question and then because they have one question they will stop their entire work until they get that question answered, but I'm sleeping during that time, right, that they're working. 12 hours later I look in my inbox, "Oh, they have a question." I'll answer it, send it back to them, and then it'll be another 12 hours until they look at it again... So that, you know, it's like very, it's a very delayed response, you know what I mean. So, it's just, I mean this is only with the Indian team mostly, I would say, um cuz the time difference is way too large.

Communicating virtually is difficult in itself, and adding the problem of a time zone difference makes communication more difficult (El-Sofany et al., 2014; Wadsworth & Blanchard, 2015). Having virtual teams with large time zone differences creates difficulties in a number of ways, including the possibility of not being able to have all team members available at the same time for team meetings or quick decisions (Dumitraşcu & Dumitraşcu, 2015). Time zone issues can make it difficult to have a forum and to take timely action on urgent matters. One of organization XYZ's strategy to resolve the time zone issue was to expand its virtual team usage to other areas with favorable time zones. One of the virtual teams that came about due to the expansion was the Argentina team. The Argentina team appears to have quickly moved through the various stages of Tuckman's small group developmental model and was at the time of the

study, at the performing stage. The Indian team, at the time of the study appeared to continue to circle through various stages in no particular order including forming, storming, norming, de-norming, de-storming, and de-forming. Member checking did not yield any additional information for Theme 1. The review of archival document showed efforts of being proactive in communicating with the virtual teams and keeping them involved at every stage of a project but the time difference still has a big impact on overall effectiveness. The larger the time difference, the more difficult it is for the virtual teams to communicate in real time. The findings from Theme 1 aligned with the existing body of knowledge and the conceptual framework (Tuckman's small group developmental model) for this study.

Emergent Theme 2: Face-to-Face Interaction

Building of relationship. Virtual team leaders struggle with building trust and effective working relationship with and among employees (Alsharo, Gregg, & Ramirez, 2017; Collins et al., 2017). The unconventionality of virtual teams makes the building of relationships with virtual team members quite the challenge (Alsharo et al., 2017). A great working relationship among team members allows for greater productivity (Han et al., 2017; Schaubroeck & Yu, 2017). Organization XYZ leadership (that is the local team) struggled with developing a working relationship with the virtual team members. Participants pointed out that the relationship the local team had with the virtual team members were impersonal and remote. Participant XYZ compared the relationship to a relationship between man and robot. One of the responsibilities of a leader is to influence his virtual team members in a positive manner by guiding the content and flow of team

members' communication (Barnwell et al., 2014). It is easier and more feasible to exhibit positive influence on someone with whom one has a relationship than it is to exhibit influence on a robot.

Organization XYZ leadership initiated a face-to-face interaction between the local team and the virtual teams, as a way to address the issue of ineffective building of working relationship between the local team and the virtual team members. Organization XYZ leadership sent members of the local team to the various virtual team sites to work from those sites and with the virtual team members for 3 months. Organization XYZ leadership also brought out to the headquarter site, members of the virtual teams from various sites to work with the local team for about six weeks. Participant XYZ1 noted as follow:

> Then the fact that you are now with the person, they know you, they feel you, they can shake your hands, you have lunch together. It's like you are building that relationship with them, so when you send them work, they are like oh I know this guy, Mr. XYZ1, he is my friend, right, we went hiking together, we went to lunch together. So they can take whatever you give to them more personal and kind of, like they are helping you with work

Familiarity among team members facilitate the communication process and consequently enhance performance (Han et al., 2017; Schaubroeck & Yu, 2017).

Cultural competence. The face-to-face interaction did not only allow the local team to develop a better working relationship with the virtual teams' members, but it also allowed the local team to have a better understanding of the various culture of the virtual

teams' members. The face-to-face interaction also allowed the virtual team's members to have a better understanding of the local team's culture. This enables the development of cultural competency by both the local team members and the virtual teams' members. It is important for organizations to help employees develop cultural competency (Collins et al., 2017; Crayon et al., 2017; Ford et al., 2017; Lilian, 2014). Helping employees develop cultural competency is beneficial to the organizations as a whole. Cultural competence by team members is very important in the management of virtual teams in real time to enhance team performance. Cultural competence affect team in several aspects including conflict, collaboration, trust, relationship, and teamwork. (Collins et al., 2017). Cultural adaptation that is allowing changes in accordance with the custom, mannerism, and ways of another culture, should be encouraged as needed to allow for enhanced performance (Chang et al., 2014).

The face-to-face experience was positive for organization XYZ. Organization XYZ's local team and virtual team members were able to build better working relationships, understand confusing common body languages that were regularly exhibited mostly by the India team members, and better understand the culture of the local and virtual team members. Member checking did not yield any additional information for Theme 2. The review of archival document showed that organization XYZ leadership have strategies in place such as standardized instructions and template, as part of the effort to free up some time for both the local and virtual team members and allow for more time in building professional relationships. The findings from Theme 2 aligned with the existing body of knowledge and the conceptual framework for this study.

Emergent Theme 3: Continuous Training

A virtual team leader cannot assume that the virtual team members know what they are doing or what they are to do. Individuals are at different levels of virtuality; a leader needs to ensure sufficient training on the use of ICTs (Morley et al., 2015). Training should include but not limited to things as plain as the expected file naming convention and how to find information on the intranet (Snyder, 2015). Organization XYZ leadership see training virtual team members as a necessity in the effort to achieve and sustain a high level of performance. The virtual team members are willing to learn, but there are sometimes some challenges relating to virtual team leaders. First, organizational leadership has to ensure that virtual team leaders are in full support of the virtual team process. A virtual team leader is crucial to the success of a virtual team (Dissanayake et al., 2015; Liao, 2017). The virtual team leaders must be willing to take the time to train members and or ensure that members have adequate training to do the job.

Training needs to be structured as well as continuous. Training is easier when there is consistency in virtual team's members. Having to work with different virtual team member makes it a little more difficult for the virtual team members and leader (Schaubroeck & Yu, 2017). Consistency in terms of keeping the same virtual team members together is advantageous to the success of the training process and the whole virtual team process. Virtual team leaders are also more likely to invest time and effort with consistent team members as opposed to other members who are employed for a short duration of time. Participants XYZ2 noted as follows:

XYZ2: if I had one person who was working for me remotely and who always

working for me remotely, that would make things, I think, easier because then I

can build a real relationship with that person and right now as it is, I don't get to

pick who does my work for the most part. So, it is just a random person. So, there

is not really the incentive there to train or spend time with that individual because

I am only going to work with him on this one 10 hour piece of work and I move

on to other accounts.

It is beneficial and profitable to businesses to keep the same virtual team members

together as much as possible (Schaubroeck & Yu, 2017). Every team member and leader

should receive continuous training; training should be available on boarding, at various

intervals based on organizational determination and employees' need, and before and

after the implementation of a new system (Cordes, 2017; Zuofa & Ochieng, 2017).

Continuous training is important for both the team leaders and the team member (Cordes,

2017; Zuofa & Ochieng, 2017). It is also helpful to make written instructions available so

that employees can refer to those instructions as needed. Written step-by-step instructions

in the most basic form are beneficial to employees. Participant XYZ4 indicated that email

instructions are helpful and might be better and more useful to virtual teams than making

phone calls to them. In other words, it is helpful to email instructions that are not

standardized in the most basic step-by-step form to allow virtual team members

something to refer back to as the need arises.

Participant XYZ3indicated that training virtual team members take up to 2 hours

daily; on member checking, participant XYZ3 indicated that training virtual team

members take 1.5 hours or more daily. The review of archival document showed that organization XYZ leadership has several standardized instructions and templates in place for the local team's use with the virtual teams. This allows for efficiency by both the local and virtual teams, consistently high-quality service as confusion is greatly reduced, and better use of time due to the prevention of rework. The findings from theme 3 aligned with the existing body of knowledge and the conceptual framework for this study.

Emergent Theme 4: Communication Tools and Frequency

Tools. Communication tools impact virtual team communication as well as performance (Collins et al., 2017). Virtual teams make use of varied communication media or tools depending on the organization's preferences and need (Davidekova & Hvorecký, 2017; Dixon, 2017; Kramer, Shuffler, & Feitosa, 2017; O'Leary et al., 2014). The use of advance and suitable ICTs enable real-time, immediate, or within seconds communication among virtual team members; enabling rapid information exchange and collaboration among geographically distributed team members and leaders (Collins et al., 2017; Davidekova & Hvorecký, 2017). Participant XYZ1 noted as follow:

I would say the google hangout is highly effective because it is like you are talking to them. The video chats too, that's probably the best one because you can see them, you can see their body language. They could share even personal details. It is like you are working with them onsite, but they are online. So I think the video conference I will put as number 1, the hangout chat is number 2 and the email is number 3.

Organization XYZ makes use of communication media or tools in the form of

video conferencing system, teleconferencing system, phone, emails, and chat. It is common practice for virtual teams to make use of communication tools such as phone, instant messenger, video conferencing systems, teleconferencing systems, intranet, email, text, chat, discussion forum, etc. (Barnwell et al., 2014; Bartelt & Dennis, 2014; Crayon et al., 2017; Dixon, 2017; Kramer et al., 2017). The key is to use the right tools that appropriately meet the needs of the organization. The Indian team does not appear at a moment's notice to readily have available the necessary ICT to communicate with the locale team using video conferencing. The India team appear to have to go through a booking process to secure the space and ICTs needed for video conferencing. The India teams' inability to video conference at a moments' notice makes quick real-time communication that requires video conferencing a little more challenging with the India team.

Frequency. Virtual communication is tough (Lockwood, 2015). One of the ways in which organization XYZ handles this tough mode of communication is via constant communication, as needed on a daily basis with various virtual team members. One of the vital elements of an effective and efficient virtual team is regular communication (Dixon, 2017; Morgan et al., 2014). Frequent communication along with shared identity among virtual team members and leaders allow for perceived propinquity, which mediates communication and relationship quality (O'Leary et al. 2014). Communication frequency along with communication quality and content is crucial to effective virtual team communication (Marlow et al., 2017; Lilian, 2014). Consistent communication is vital to the success of a virtual team (Crayon et al., 2017). Participant XYZ4 noted constant

communication as the likely key to enhanced virtual teams' performance.

According to Chang et al., (2014) there is a negative relationship between high communication and virtual team performance. Organization XYZ has not experienced this negative relationship, rather the regular communication with Argentina virtual team has resulted in an efficient and high performing team. On the other hand, the irregular and delayed communication between the local team and the India virtual team has resulted in some frustration and delayed work output. The local team and the India team communicate on a daily basis, but there is about a day's delay in receiving a response due to the time zone difference. While organization XYZ considers regular communication as key to enhance performance, organization XYZ also sees communication quality as important. Communication quality is vital in enhancing virtual team performance (Marlow et al., 2017; Schaubroeck & Yu, 2017).

Member checking did not yield any additional information for theme 4. The review of archival document showed that organization XYZ leadership has appropriate ICTs in place for use. Organization XYZ leadership support constant and strategic communication between the local team and the virtual teams. XYZ leadership gave some guidelines as to when communication should take place. Communication should take place right from the beginning of a project when planning and goal setting take place, and at various times on a consistent basis throughout the life cycle of the project. The findings from theme four aligned with the existing body of knowledge and the conceptual framework for this study.

Emergent Theme 5: Leadership Training and Development

Organization XYZ's leadership had some difficulties in getting the organization's virtual team leaders to engage and fully buy into the virtual work process. The challenges that came with the process made the concept of virtual teams discouraging for the local team. Participants noted that the local team members were not fully in support of the virtual team concept due to the challenges involved with such teams especially teams that have huge time zones differences compared to the local team.

Virtual team leaders' buy-into the virtual team concept is important to the success of virtual teams (Dissanayake et al., 2015; Liao, 2017; Lilian, 2014; Pozin et al., 2016). It is important that virtual team leaders are supportive of the virtual team concept. The importance of the virtual team leader in a virtual team cannot be overemphasized (Lilian, 2014; Pozin et al., 2016). Organizational leadership bears the responsibility of hiring the right people with the right mindset as the virtual team leaders (Ford et al., 2017). Organizational leadership also bears the responsibility of ensuring that current virtual team leaders receive appropriate training and keep up to date with the strategies needed to enhance team performance (Ford et al., 2017; Morley et al., 2015). Organizational leadership also bears the responsibility of availing the virtual team leader, and members with the appropriate ICTs needed to accomplish their duties (Cordes, 2017; Davidekova & Hvorecký, 2017).

Participants noted that organization XYZ leadership had put things in place such as appropriate training including cultural competence, communication tools, travel to virtual

locations and vice versa, and encouragement of virtual team leaders to embrace the virtual team concept.

Leading a virtual team is not the same as leading a traditional team; it requires more from a leader (Barnwell et al., 2014; Lilian, 2014; Schmidt, 2014). Virtual team leaders need to have a high degree of thoughtfulness to team members' outlook, be culturally sensitive and knowledgeable, have healthy social networking skills, be understanding and acceptant of the virtual team concept (Lilian, 2014). Virtual team leaders need to understand the importance of their role in the success of the virtual team concept. A virtual team leader is vital to the success of a virtual team; such a leader must provide vibrant motivation, strong and active leadership support, and applicable ICTs for an effective collaborative effort to take place in a virtual team (Davidekova & Hvorecký, 2017). An effective virtual team leader brings its team member together in a manner that fosters teamwork, friendship, cultural sensitivities and decreases conflicts (Barnwell et al., 2014; Ford et al., 2017). An experienced virtual team leader, who receives continuous training, provided by the organization, is in a great position to help build trust among team members (Ford et al., 2017; Zuofa & Ochieng, 2017).

Organization XYZ is at various stages of Tuckman's small group developmental model, depending on the virtual team in consideration. Tuckman (1965) believes that every team experiences the stages of the small group developmental model based on the team's social and task behavior. McGrew et al. (1999) indicated that groups decline in stages in a reverse Tuckman order. Ayoko, Konrad, and Boyle (2012) believe that groups do not go through the small group developmental stages in any particular order.

Member checking did not yield any additional information for theme 5. The review of archival document showed that organization XYZ leadership has several things in place to support the virtual team leaders. Things in place include the standardized instructions and templates that the local team's use with the virtual teams, taking away the burden of rework while enabling efficiency, consistency, and high-quality work by both the virtual team leaders and members. The findings from theme 5 aligned with the existing body of knowledge and the conceptual framework for this study.

Applications to Professional Practice

The findings from this study are applicable and significant to professional practice in a several ways. The findings are pertinent to organizational leaders and virtual team leaders. The purpose of this study was to explore what communication strategies leaders use to manage virtual teams in real time to enhance team performance. Leading a virtual team is not the same as leading a traditional team as leading a virtual team necessitates more from a leader (Barnwell et al., 2014; Lilian, 2014; Schmidt, 2014). Virtual team leaders face most of the same challenges experienced by traditional team leaders and more, but virtual team leaders have to combat those challenges using different strategies and tactics than those used by traditional team leaders (Saafein & Shaykhian, 2014).

The finding from this study could potentially avail organizational leaders new knowledge in communication strategies for managing virtual teams in real time to enhance team performance. The availability of this new knowledge could potentially change the way organizational leaders implement, manage, and support virtual teams and virtual team leaders. The availability of this new knowledge to organizational leaders and

virtual team leaders could potentially influence the communication strategies used with virtual teams in real time with the goal of enhancing team performance, which could result in an increase of high performing virtual teams, and enhanced organizational performance.

The findings from this study show that virtual team leaders are essential to the success of any virtual team; this aligns with the literature. The literature indicates that virtual team leaders are imperative to the success of virtual teams (Dissanayake et al., 2015; Liao, 2017; Lilian, 2014; Pozin et al., 2016). Virtual team leaders need to be fully engaged and supportive of the virtual team process. Virtual team leaders need appropriate training to manage a virtual team in real time in a manner that results in enhanced and sustainable team performance. The result of this study could potentially influence the manner of preparation and support organizational leaders avail virtual team leaders.

Findings from this study could potentially encourage organizational leaders and virtual team leaders to reassess the current communication strategies they use in managing virtual teams in real time to enhance team performance. This act of reassessment could bring about major changes in the way businesses communicate and manage virtual teams in real time to enhance team performance. Business practitioners could potentially implement some or all of the communication strategies recommended based on the findings of this study, to manage their virtual teams in real time to enhance team performance

Implications for Social Change

Virtual teams have permeated the business world in a rapid manner (Dulebohn & Hoch, 2017; Fan et al., 2014; Yilmaz & Peña, 2015). It has become the norm for organizations to make use of virtual teams to compete with other organizations and meet consumers' demand (Dulebohn & Hoch, 2017; Dumitraşcu & Dumitraşcu, 2015; Hoch & Kozlowski, 2014; Saafein & Shaykhian, 2014).Organizations seeking global presence needs to make use of virtual teams (Guinalíu & Jordán, 2016). Though virtual teams have grown rapidly, some leaders are ignorant of how to lead such teams to sustain and increase performance (Pangil & Chan, 2014).

The findings of this study in which I explore what communication strategies leaders use to manage virtual teams in real time to enhance team performance, contribute to a positive social change in many ways. The findings from this study add to the existing body of knowledge by providing communication strategies leaders use to manage virtual teams in real time to enhance team performance. The implications for positive social change include the possibility for virtual team leaders and members to communicate in a way that positively enhances performance (Barnwell et al., 2014). The result of this study could result in a change or enhancement in communication strategies used in virtual teams, which could result in higher employee satisfaction, which in turn could benefit the organizations, virtual employees, their families, and communities.

The exploration and identification of the communication strategies leaders use to manage virtual teams in real time to enhance team performance has the possibility of resulting in high performing virtual teams which could bring about sustainable businesses

and satisfied employees, and as such facilitate organizational growth and development

which is beneficial to the organizations, employees, their families, and communities. The

findings from this study could potentially avail organizational leaders and virtual team

members the strategies needed to achieve and sustain high performing virtual teams,

which in turn could benefit the organizations, virtual employees, their families, and

communities. Organizational leaders could implement strategies to include but not

limited to the provision of appropriate, adequate, and continuous training to virtual team

members and leaders; investment in employees' development of cultural competence;

support and investment in relationship building among virtual team members; the

provision of appropriate communication tools; supporting and ensuring adequate and

appropriate preparation for virtual team leaders. The findings from this study could

provide strategies for organizational leaders, virtual team members, and virtual team

leaders to overcome some of the challenges that befall virtual teams.

Recommendations for Action

The use of virtual teams by organizations have been on a high rise since the early

1980s; this rise is expected to continue as virtual teams become the norm as globalization

increases and organizations compete and draw expertise from all over the globe

(Dulebohn & Hoch, 2017; Dumitraşcu & Dumitraşcu, 2015; Hoch & Kozlowski, 2014;

Saafein & Shaykhian, 2014). The findings from this study are beneficial to organizations

and business leaders that use or plan to make use of virtual teams. The results of this

study are also beneficial to virtual team leaders and virtual team members; it is beneficial

to the virtual community as a whole because it could improve communication in virtual

teams in real time to enhance team performance. The findings from this study and the recommendations for action could allow for better communication among virtual team members and leaders, better managed virtual teams, successful virtual teams and organizations.

Based on the findings from this study, I recommendations that organizational leaders ensure that virtual team leaders are engaged and supportive of the virtual team process; appropriately trained initially and intermittently throughout the lifetime of the virtual team; culturally sensitive and culturally competent; adequately prepared to lead virtual teams; and have a thorough understanding of their roles and responsibilities as virtual team leaders. A virtual team leader is imperative to the success of a virtual team (Dissanayake et al., 2015; Liao, 2017). It is vital that the virtual team leader is fully engaged and prepared to carry out the responsibilities of a virtual team leader.

Organizational leaders should ensure the provision of adequate and appropriate ICTs for the use of the virtual team members and leaders. Communication tools have a big impact on communication as well as performance. The use of appropriate ICTs allow for real-time communication among team members; in essence, it allows for quick information sharing and collaboration among geographically dispersed team members and leaders, affecting performance (Davidekova & Hvorecký, 2017).

Organizational leaders should ensure that all members of the virtual team receive initial and continuous training. Training should also take place at the introduction of a new system. Written step-by-step instructions in the most basic form are most beneficial to employees. Employees can always refer to the training later as needed. Appropriate

training including training on the use of ICTs enhances performance (Morley et al.,

2015).

Organizational leadership along with input from the virtual team leaders needs to

establish communication standards and expectations, which includes the frequency and

quality of communication. Organizational leadership, as well as virtual team leaders,

should make sure that all members of the virtual team are aware of the communication

standards and expectations. The essential elements of an effective virtual team include

regular communication and the communication of clear goals and objectives by both

team leader and members (Morgan et al., 2014). Virtual team members and leaders need

to understand that consistent communication is imperative to the success of a virtual team

(Crayon et al., 2017).

Organizational leaders should avail virtual team leaders the opportunity to meet

face-to-face with virtual team members on a regular basis; the face-to-face meeting could

be quarterly, semi-annually, annually, or however often the organization deems fit, but

these face-to-face meetings should not be too far apart. This avail virtual team leaders

and members the opportunity to build trust and better working relationships, as well as

help in the development of cultural competence. The building of trust and better working

relationships and the development of cultural competence allow for the mitigation of

some of the challenges that overtake virtual teams.

Organizational leaders should pay attention to time synchronization between

virtual teams. It is important to do this successfully to enable real-time communication

among virtual team members and leaders, enhancing team performance. Organizational

leaders should consider implementing varied tour of duty to allow for better time synchronization. Organizational leaders could also choose to work more with virtual teams that have comparable time zones.

I will disseminate the results of this study through scholarly journals, business journals, and workplace newsletters. The study participants and immediate family members will receive a summary of the study findings along with recommendations that may provide additional communication strategies for managing virtual teams in real time to enhance team performance. I will also circulate the result of this study through academic and professional seminars, conferences, and training relating to virtual teams and virtual team leaders. Organizations and business leaders could use the results of this study to prepare and equip virtual team leaders with the communication strategies they can use to manage virtual teams in real time to enhance team performance.

Recommendations for Further Research

The purpose of this qualitative single case study was to explore what communication strategies leaders used to manage virtual teams in real time to enhance team performance. Study limitations are potential weaknesses outside the researcher's control that can impact the study process and outcome (Connelly, 2013). There are some limitations in the fact that the participants for the study were four successful virtual team leaders from a multinational accounting firm located on the West Coast of the United States of America.

I recommend the future exploration of other professions. I encourage the future exploration of other geographical settings. I also encourage future exploration with all

team members regardless of whether they are leaders or not. I recommend future exploration based on gender that is male versus female virtual team leaders. I particularly encourage the exploration of the experience of team member without official leadership roles. It might be revealing to look at the result separately and together, that is, look at leadership responses, the responses of those not in an official leadership role, and the responses of both groups. Reviewing the results in this manner may allow for a new and different perspective, and a larger sample size. It might also be beneficial to conduct a mixed study; this might allow the researcher to tap into the benefits of using both the qualitative and quantitative method and a thicker and richer result (Annansingh & Howell, 2016). I recommend a longitudinal study with some startup virtual teams. It might be revealing to follow these organizations for some years while monitoring for a number of things including the different strategies used by each organization at different points in the businesses' life cycle; the strategies that enhanced or did not enhance performance for each organization; and the organizations that make it past five years and maybe 10 years mark thriving. It might be informative to see how the strategies change or do not change over time. It might be informative to compare the strategies used by the organizations that do not make it past the first five years with those that do to see if there is a major difference in strategies.

Communication and trust go together in building a successful virtual team (Guinalíu & Jordán, 2016; Sarker et al., 2011). The absence of communication or communication standards can give rise to distrust and unsuccessful communication (Cordes, 2017). I recommend further study on the relationship between virtual team

communication and trust among virtual team members. It might also be enlightening to see which has more influence on virtual team performance, availability of advance ICTs or regular and consistent communication. It might also be worth taking a closer look at the relationship between different types of leadership style and virtual team performance.

Reflections

Virtual teams are quickly permeating the business world as organizations look for better ways to successfully compete while keeping cost down and employees satisfied (Dulebohn & Hoch, 2017; Dumitraşcu & Dumitraşcu, 2015). It is imperative that business leaders are knowledgeable of the communication strategies leaders use to manage virtual teams in real time to enhance team performance, which is the purpose of this study. The whole virtual team concept was and still is of high interest to me. I see the virtual team concept as a way for organizations to achieve (a) great business successes, (b) outstanding performance, (c) high level of employee commitment and satisfaction, (d) positive influence on the community and much more. I believe the world is yet to see or even conceive in any mind the path to which virtuality will take the business world. I believe there is a lot of potential with virtuality that is yet to unfold.

The DBA Doctoral Study process has allowed me the opportunity to dig deep into the virtual team world. I started the research process aware of my biases which completely favors the virtual team concept. This awareness is one of the things that kept me focused on ensuring that my study was unbiased. I put several things in place to ensure the validity and reliability of the study result.

The DBA Doctoral Study process has been very informative and educational for me. It has allowed me to develop and expand in many ways. I believe the DBA Doctoral Study process allowed me to expand and develop more in the areas of patience, focus, organization, and multitasking.

As the finish line draws closer, I can now say that the DBA Doctoral Study process has been invigorating, fulfilling, as well as worth it. There were bumps along the way, but perseverance, persistent, determination, support from friends and family, and the grace of God allowed me to continue. I find the results of this study encouraging. Virtual teams have come a long way, and it is on the path of continuous improvement. I see the virtual team as the future of highly successful organizations.

Conclusion

The purpose of this qualitative single case study was to explore what communication strategies leaders use to manage virtual teams in real time to enhance team performance. Virtual teams are becoming the norm in today's business world (Dulebohn & Hoch, 2017; Fan et al., 2014). A virtual team leader is essential to the success of a virtual team and need to be rightly equipped with the appropriate knowledge and communication strategies leaders use to manage virtual teams in real time to enhance team performance (Dissanayake et al., 2015; Liao, 2017; Lilian, 2014; Pozin et al., 2016).

It is common knowledge that there is a rise in the use of virtual teams by organizations (Charlier et al., 2016; Foster et al., 2015; Minas et al., 2014). The use of virtual teams is the future for businesses (Ford et al., 2017). The findings from this study could potentially provide organizational leaders with the communication strategies

needed to achieve and sustain high performing virtual teams, which in turn could benefit

the organizations, virtual employees, their families, and the communities

      While virtual team leaders are critical to the success of virtual teams, virtual team

members are also important to the success of virtual teams (Liao, 2017; Pozin et al.,

2016; Schaubroeck & Yu, 2017). Organizational leaders need to invest appropriately in

both virtual team leaders and members to allow for enhanced performance. Appropriate

training for both virtual team leaders and members onboarding and at other intervals

throughout the virtual team's life cycle is important. Time synchronization is also of

utmost importance in the effort towards real-time communication among virtual teams'

members and leaders to enhance team performance. On a final note, virtual teams are

here to stay, and the sooner virtual team leaders learn to make the best use of virtual

teams the better it would be for the organizations, virtual employees, their families, and

the communities.

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Appendix A: Semistructured Interview Questions

Interview Questions

1. How do you assess or measure your virtual teams' performance?

2. What performance challenges have you experienced with your virtual teams?

3. What communication strategies, processes, and tools do you use to manage your virtual teams in real time to enhance performance?

4. How do you assess the effectiveness of the communications strategies, processes, and tools you have implemented to manage your virtual teams in real time to enhance performance?

5. What, if any, barriers did you encounter to implementing the communications strategies, processes, and tools?

6. How did you address the barriers to implementing the communications strategies, processes, and tools for enhancing your virtual teams' performance?

7. What additional information would you like to share about the communication strategies, processes, and tools that you use to manage virtual teams in real time to enhance team performance?

Appendix B: Interview Protocol

Interview Protocol	
What I plan to do	**What I plan to say**
Introduce the interview and set the stage	Hello Mr. XYZ. Thank you so much for agreeing to participate in my doctoral study. My name is XXX. I work with a ABC where I am currently ABCD. I am a doctoral level student at Walden University in the Doctor of Business Administration Program. This research is one of the requirements for my program. Once again, the purpose of my study is to explore what communication strategies leaders use to manage virtual teams in real time to enhance team performance. This interview should take between 30 to 45 minutes. I will ask seven main questions; I may need to ask for clarification on your responses. You have the right to refuse to answer any question. As a reminder, this interview is confidential; your name, the name of your organization, and any other personal identifying information that could lead to you or your organization being identified will not be used anywhere in my paper. As I begin recording, I will refer to you as participant XYZ2. Do you have any questions before we begin? I will begin the interview at this time.
• Begin interview • Watch for non-verbal queues • Paraphrase as needed • Ask follow-up probing questions as needed	1. How do you assess or measure your virtual teams' performance? 2. What performance challenges have you experienced with your virtual teams? 3. What communication strategies, processes, and tools do you use to manage

	your virtual teams in real time to enhance performance?
	4. How do you assess the effectiveness of the communications strategies, processes, and tools you have implemented to manage your virtual teams in real time to enhance performance?
	5. What, if any, barriers did you encounter to implementing the communications strategies, processes, and tools?
	6. How did you address the barriers to implementing the communications strategies, processes, and tools for enhancing your virtual teams' performance?
	7. What additional information would you like to share about the communication strategies, processes, and tools that you use to manage virtual teams in real time to enhance team performance?
Wrap up interview and thank participant. Inform participants of follow-up member checking email	That was the last question. Thank you so much for your time. The next thing is for me to go ahead and transcribe this interview. I will email you a summary of your response to each question. After reviewing the summary, if you would please let me know if I accurately captured what you intended to say. If I did not accurately capture your response, if you would please email me back what you meant to say so that I can update my information. Meanwhile, please email me copies of documents that you are able to share that shows your communication strategies, communication or performance improvement plans, and or any information you considered relevant to my study in regards to the communication strategies you use as a virtual team leader.

	Do you have any questions at this time?
	Please feel free to contact me by phone or email if you later have any questions or concerns.
	Once again, thank you and have a blessed rest of your day.