

Global Virtual Teams

Situational Analysis in according to present context

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<p>Abstract</p> <p>Global virtual teams (GVTs) is also known as distributed teams, are becoming common to organizations to maintain a global presence. A prototype in implementing the new ways of remote teamwork is emerging from the advanced technology and global software development sector in our digital era. Collaboration and communication between team members have also become easier with access to the internet.</p> <p>In this study, the focus is on the present perspectives of global virtual teams based on a qualitative case study. As a result, this study aims to investigate and analyze communication gaps, trust issues, the role of the leader in managing the project in a multi-cultural virtual team, as well as the missing links between the technology and the teams. This research aims to generate a concept and idea that will promote collaboration among the GVTs. GVTs as well as present virtual teams could greatly benefit from those obstacles and missing links.</p> <p>Despite the increasing use of GVTs, few studies have addressed whether or not GVTs are effective. This study is conducted in a multi-cultural environment with varied cultures, which causes challenges related to communication, time zones, collaboration, leadership, trust, and understanding the diversity within the team.</p> <p>GVTs have developed equal opportunities to work with an international team and have faced challenges throughout their collaboration. Currently, GVTs are widely in use due to the pandemic situation, and their role will become increasingly significant shortly as businesses, services, and products compete for existence in this intense environment. In this research, we have explored the importance and barriers to GVTs in the current society and the possibility of GVTs in the future.</p>		
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1 Introduction

The study is based on the situational analysis regarding global virtual teams (GVTs) in the present context. In this digital era, the advances in the technology and global software development sectors have presented prototypes for applying variety of ways to promote virtual teamwork and communication. It have impacted ways of working. In beginning of 2020, a dramatic change occurred due to the COVID-19 pandemic that effected work and study. As a result, it appears to be positively related to virtual working system to operate many companies and academics. For a number of employees and students, this meant mandatory changes in their daily routine.

Advanced technology and good quality internet connections have helped companies, offices, and educational institutions to remain connected. These cost-effective technologies decreased the infrastructure needs and provided quick access to an employee when needed. GVTs has been raised even though geographic difference creates challenges in communication, collaboration, leadership and trust issue . Although evidence reports that if it is managed effectively, it can perform face-to-face communication in their shared goal (Mishra., 2020). It reflects on many of those stunning changes and challenges.

1.1 Background

The appeal of online work exists in many countries, particularly those with highly reliable internet service. Technological development has brought significant changes on business processes and its routines. Many organization has to adopt dynamics to compete and survive in global markets. Over last three decades, multiple organizations have been globally united (Cornett et al. 2018). Most of the academic concur that globalization has advanced which is possible by advance in technology; technology is important factor of globalization (Baldwin, 2016; Montagna, 2017).

In the beginning, virtual team was developed simply to develop combine efforts, working and innovative ideas between global experts to save time as well as travelling for the projects which need to be finished in certain period. However, it advances in presence of online collaboration. It consist of team members working in same space with different identity or countries utilizing common information and communications technologies. (Deloitte, 2018).

According to Dube and Pare (2001), “Virtual teams linked primarily advanced computer and telecommunication” (p. 71).

With the commencement of the deadliest corona virus, the world has witnessed massive transformation in their working culture and practices (RW3 Culture Wizard, 2020). Due to the pandemic, many offices and organizations around the globe shifted to virtual work, as it became the only way to operate without spreading the virus. Whereas some companies had been offering virtual work, it became mandatory amid the pandemic. A recent survey conducted by Enterprise Technology Research (Dreyfuss, 2020), over the next few years, the number of permanent home workers across the globe is predicted to double. As a result, productivity can also grow. ETR conducted survey among 1,200 chief information officers (CIOs) from different countries. According to it, remote work has increased by 34.4% in 2021. 48.6% indicated that productivity had increased during the remote working period, while 28.7% reported a decrease, according to Erik Bradley who is a chief engagement strategist at ETR.

Therefore, while people expect growth in permanent remote work, then they are not expecting doubled from pre-pandemic levels. If that were to happen, there would be ramifications many areas such as real estate, retail, restaurants, or transportation (Dreyfuss, 2020).

It is therefore impossible to reverse the trend of remote working. It supports decentralization in overpopulated cities and generates income in underdeveloped countries and small cities (Pinto, 2018).

Technology has been a key player in all the changes informing and sharing information and knowledge at a long distance. It is aware regarding remotely working despite geographical and cultural challenges. Davidekova and Hvorecky (2017) clarify technological development has made virtual communication vital in daily companies routine. It has been cleared that the effective communication and appropriate information led to successful team creation.

Advances in technology and communication platforms like email, chat sites, and video meetings have been today's necessity in global. If GVTs survive in today by technological advances at least the last three decades, then virtual teams seems to arise in near future also (Pinto, 2018).

Barstow (2021) states that it has been began because of current situation and with intention collaborate with international people. It will continue to grow in order to connect virtually.

Despite of it, some of the challenges remain the same from the past years like leadership, high level of trust, and communication in multicultural environment.

Based on the ETR survey, it appears that this trend was launched by the current Covid-19 situation. While remote work is expected to continue to increase, researchers expect companies to be virtually connected, which can allow them to achieve their projects or goals quickly.

However, even with improvements in many of the key challenges, GVTs continue to face leadership, trust issue and communication processes in multicultural environments (Dreyfuss, 2020).

Global virtual work 2020 report reflects current reality, and challenges faced by people with colleagues from different cultures backgrounds and thoughts (RW3 Culture Wizard, 2020). While analyzing the global virtual team at present conditions, it cannot be neglect the magnitude of the changes. It should find solutions that use virtual tools to lead, manage, collaborate, and create a favorable environment in geographically dispersed teams.

1.2 Motivation for Research

GVT was introduced in my study in 2020 during a cross-cultural management course in second year of a bachelor's degree in international business, and since then it has been motivated in different ways. As part of the course, we participated in the X-Culture project, where we were paired with different international students to work on a project for a client.

In beginning of project, a member of Global Virtual Team, includes dealing with international students with different ideas from different countries that come up with varies ideas but at the same time team member faces different challenges. We usually find it difficult to manage time to conduct meetings due to time differences and with one of the team members we had a language barrier. Other than that, we successfully completed the project assignment. It was not much complicated as each of the team members was friendly and trustworthy. The study was deeply involved in this project which result to research more information concerning virtual teams in the present.

1.3 Research Questions

The objective of the study is to explore problems faced by GVTs in the present era. It addresses different barriers that team members face in GVT. Another important issue of the study is to present challenges and opportunities in GVTs. The questions that guided my research are

- What are the challenges in leadership, trust, communication, collaboration, and multicultural interaction in GVTs in present context ?
- What are the leadership and management challenges in GVTs?
- What can be probably the solution to overcome the challenges face by leadership in GVTs?
- What kind of leadership style for global virtual teams appeals to you personally?

This research is based on qualitative research, which means deeply exploring a certain topic with own way.

1.4 Structure of the thesis

It is based on following aspects:

An introductory describes context of the study and familiarizes the reader with the situational analysis according to the present situation and challenges for GVTs. The reader is introduced to the background of the research with the topics of technology involved, the challenges face at the current phase. The motivation for the research arises from challenges been faced todaystill, as technology has developed greater capabilities. It also consists of research questions with a subtopic on situational analysis.

Literature review and theoretical framework illustrates the research conducted based on qualitative analysis. This section explains the technology currently used and future trends and challenges facing GVTs.

The methodology reports research details and process to address the key research objectives. It also indicates how the research was implemented, including the research approach, techniques, and qualitative analysis.

Results comprise the fourth chapter. Here it reports the findings from the research participants regarding the challenges they faced while working on GVT.

Discussion focuses on the outcome of the research. It summarizes the findings for those research questions and justify them with justified answers. The study completed with a summary of the limitation on GVTs.

2 Literature review

The study focuses on global virtual teams, leadership, communication, trust, as well as multiculturalism in the present scenario. Throughout the study, it plot on the various concepts, objectives, problems, and ideas in these areas, which led to ability to link together a theoretical perspective. Research papers, theses, and website articles were analyzed for the main topic: leadership in GVTs. Three sub-topics were also analyzed: communication in virtual teams, trust among the team members, multiculturalism in GVTs. All these topics helped to define the study of GVTs in both present use and future practices.

As many past research studies have suggested, GVTs major challenges is related to communication complexities to dynamic team interaction (e.g., trust issue, time difference, cultural differences) and, to some extent, technology and environment (Johnston & Rosin, 2011) that arise from the core communications challenge. It brings more ideas and clarity about GVTs.

2.1 Meaning of Global Virtual Teams and X-Culture

Global virtual teams refers to people working together with common goal having different cultures, time zone and backgrounds by communication (Maznevski & Chudoba, 2000). Another definition by Townsend (1998) define virtual teams as “groups of geographically and/or organizationally dispersed coworkers that are assembled using a combination of telecommunications and information technologies to accomplish an organizational task”. Jarvenpaa and Leider (1998) state that a global virtual team to be “a temporary, culturally diverse, geographically dispersed, electronically communicating work group.” It works independently and having boundaries of time, culture, thoughts etc with different ethnic, educational, and functional backgrounds (Kotlarsky& Oshri, 2005).

The development of the internet, multimedia, and advanced software environments has create positive opportunities in organizations and companies to form GVTs. Abarca, Sanchez, and Camacho (2021) mention that, in the digital era,software development sector plays important rolein implementing remote teamwork using ICTs. Many organizations across the globe have benefited by developments in technology and communication which has support their GVTs in working, as well as for adapting their business goals and enhancing their global competitive advantages.

X-culture is part of global virtual teams where teams are made from different countries to work together in project and complete in particular time. It is experiential learning process. According to Kolb (1984), Experiential learning is “learning involves a transaction between the person and the environment”. It approaches all forms of learning, development, ideas,connectivity, and changes. learning describes life, in general, like, solve problems, making decisions, and supporting performance improvement, a development that continues throughout life (Institute of Experiential Learning, 2020). More specifically, experiential learning is learn specific subject and to earn learning process (Kolb, 1984).

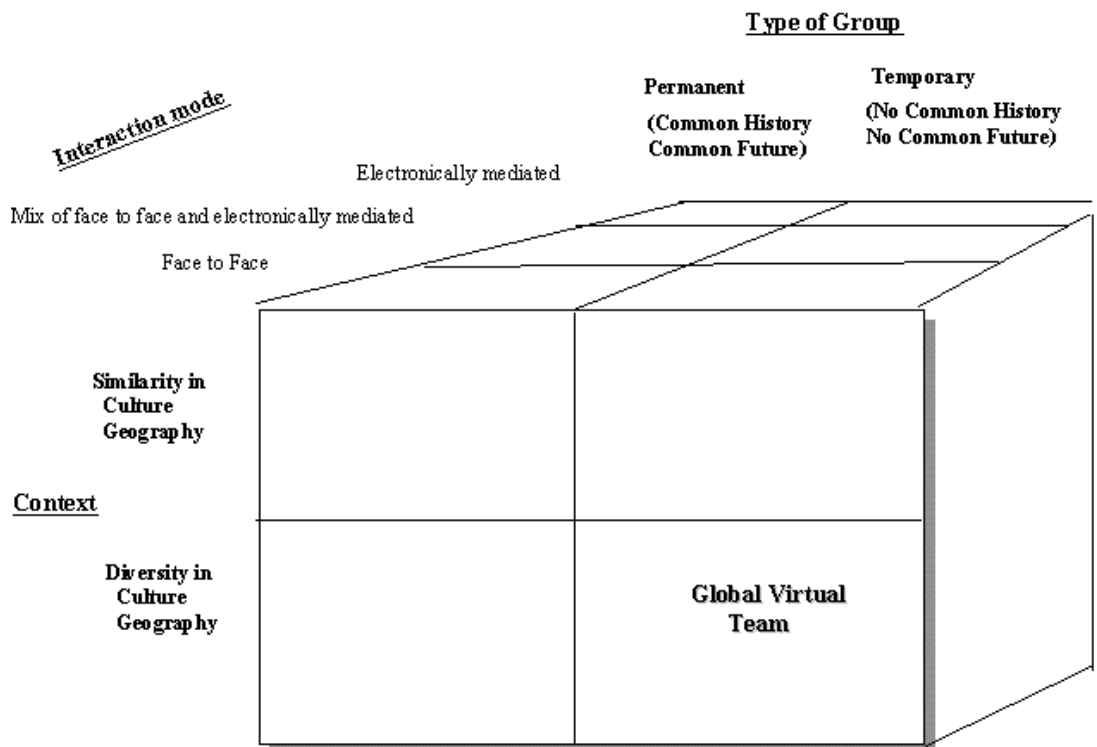


Figure 1. illustrates the components of global virtual team

2.2 Leadership in Global Virtual Teams

It is prime part in improving efficiency and performance of the teams. Many research and study have revealed that leaders make a huge impact on performance, it is grounded as important part to teamwork to compete a project successfully. It functions teams in systematic and effective way.

With the advances in information technology and communication, today's teams are becoming more advance and diverse. Also, it has explored to understanding of dynamics characteristics (Cramton & Webber, 2000).

In GVTs, leadership is also known as E-leadership. Avolio, Kahai, and Dodge (2000) defined E-Leadership as “a social influence process mediated by advanced information technology (AIT) to produce a change in attitudes, feelings, thinking, behavior, and/or performance with individuals, groups and/or organizations”. It should be considered how it connects with leaders to impact both the structure and effect. Also how it influence technology adoption and effects on teams. It is linked with E-leadership, which is interrelated with each other. It means failure in technology will fail E-leadership.

Several extensive studies on leadership in a dispersed team have been produced over the past years. There are two types of leadership concepts: transactional and transformational leadership. Tyssen (2014) remarks transactional leader emphasize more on task-related with rewards. Whereas, Bass (1985) described three kinds of transactional leadership. Rewards concept describes leaders who provide clear vision and rewards. The second category of leadership behavior is managed by exception active. It describes leaders who actively enforce the standards. And the third category, leader do not actively enforce the standard which is called management by exception passive. As a result, leaders pay attention to quality of performance before interfering. Leadership that uses transactional principles encourages followers to pursue their interests.

Transformational leadership is responsible to inspire its followers as well as it is based on effective communication and collaboration. Bass(1985) outlines four behavioral categories of transformational leadership. When a leader inspires devotion and loyalty, exhibits commitment and stresses the need for action which is charismatic. When leaders connect to employee’s emotions, vision, and demonstrate confidence in achieving goals, they are inspirational. The most intellectually stimulating leaders challenge their employees and motivate them to rethink their ideas. It is when leaders recognize talents of employees, treat them as individuals, and develop as well as individually considerate (Purvanova & Bono, 2009).

Barge (1996) mentions that leadership serves as mediation from problems that team members face. In relational management leadership, leader establish inter-personal relations which help create stable work balance and inspiration in a team. Daft (2008) states leaders must guide their teams by providing direction, such as creating a vision and strategy to achieve the goal of the project. It is also referred to as an alignment of the followers, building relationships among the team, and developing personal qualities. Both leadership is compared with each other. But Bass (1997) says that transformational leadership perform better than transactional leadership.

To understand the role of virtual leaders can be understood only when we know how the virtual leader's role differs from that of a traditional leader. On a virtual team, physical interaction is not possible most of the time. Thus, the leadership roles and functions on a virtual team should be improved in order to get good performance and success. Generally, GVT leaders, to enhance their team's effectiveness, should provide all the social and material resources the team members need so the goals of the project can be achieved (Anoye & Kouame, 2018).

2.3 Communication in GVTs

It is significant in different types of interaction. It is medium to operate GVTs continuously to reach its destination. As Tosi and Pilati (2011) note, "Communication is the process by which meaning is exchanged between individuals through a common system of symbols, signs or behavior." Likewise, Dyer(1995) points, "Communication is the route through which collaboration can happen and trust can develop through interactions."

As with the advances in technology, time and distance barriers have simply been minimized. It has allowed access through the world. Today's business reality offers the utilization of virtual communication in work. In addition, professionals participate on a virtual team as per necessity(Dewar, 2006). Virtual teams are influenced by the effectiveness of communication, even within face-to-face interaction, communication is highly important; without it, teams cannot accomplish the tasks set for them (Anoye & Kouame, 2018).

A recent study focused on the importance of efficient communication—that is, sharing and collaboration—on team performance. GVTs are dependent on information and communication technologies (Johnston & Rosin, 2011). GVTs projects are entirely built on effective communication technology.

The evolution of virtual communication systems, such as the telephone, video-conferencing *technology*, instant chat, email, etc. have reduced costs and a dependency on travel for face-to-face meetings. However, it also create many challenges such as delays in sharing information, languages barrier , misinterpretations of written information, and ongoing reliance on the ICTs. It can cause lost in basic information. These problems are worsened if team members are dispersed. This leads to feeling that they are not being shared all the information about the projects.

Different studies describe importance of technology in GVTs, which are reliant on ICTs to achieve together.(Jarvenpaa & Leidner, 1999). It has changed regarding how information can improve operation and important foundations of global operations (Marlow et al, 2018). The rapid changes in technology impact organizations and it's implementation. (Castellano. Et al ,2016)

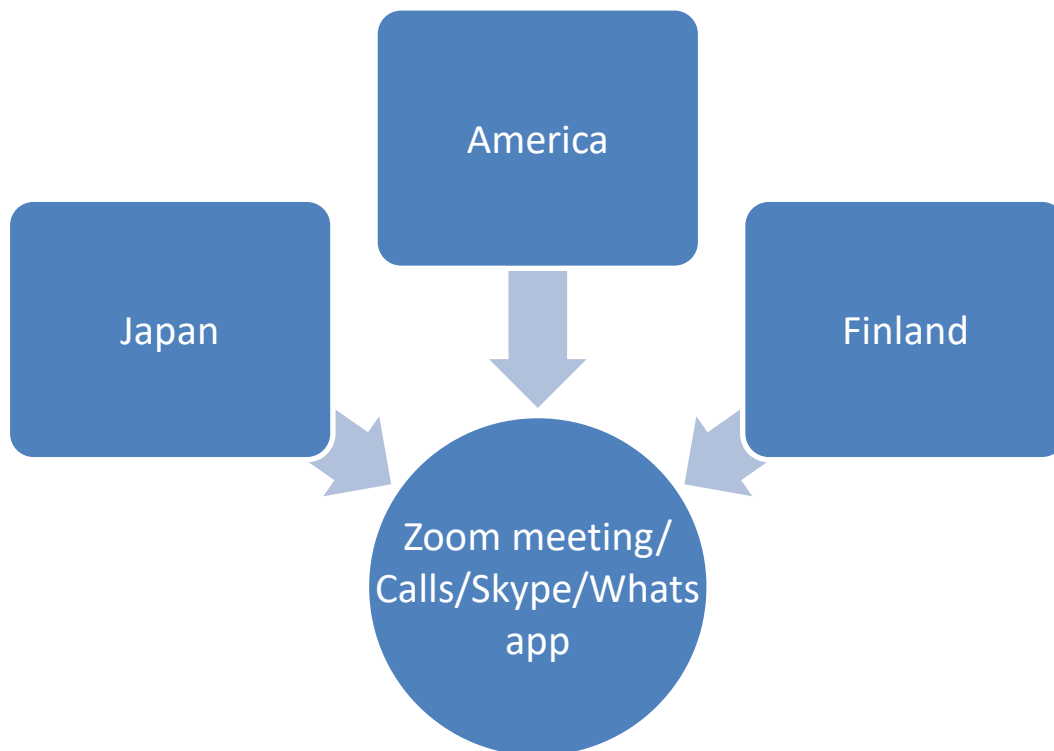


Figure 2. Communication in GVTs

2.4 Trust in GVTs and team Development stages

It helps to manage team in efficient way. As it is honesty or confidence of a person in each other. According to Mogan and Wang (2007), "Trust is the extent to which a person is confident in and willing to act based on, the word actions and decisions of another". During initial stage of team formation, the team leader possesses a responsibility to select members (Dragusha, 2012), That is when the issue of trust comes. Formation of trust in GVTs have increased as per Alsharo (2017) who argues efficient communication is associated with trust. Proper communication establishes trust in team collaboration in virtual teams (Kelly, 2013). Therefore, it is considered as fundamental for creating a good virtual business operation.

Trust refers to believe of a person with each other. Effective knowledge sharing results better performance in task. (Malhotra& Majchrzak, 2004). It helps in problem solving and run team in effective manner.If it is lacked, then it can effect on affect on goal achievement and demotivates team members. Efficiently managed team can produce success of the project (Akgun et al, 2008). As, in the Global virtual team, the risk of mismanagement and misunderstanding is high chances, as the team members are geographically separated.

While forming a GVT, leader is responsible to form team members in choosing person with the skills required for that specific task is the initial stage. That is where trust is required for a virtual team. According to Tuckman's team development model (1965), where teams move through different stages where the teams members develops trust at the same time affecting the evolution to the next stages. Tuckman's model (1965) consists of five stages, the final stage an adjustment to his model later which are described below.

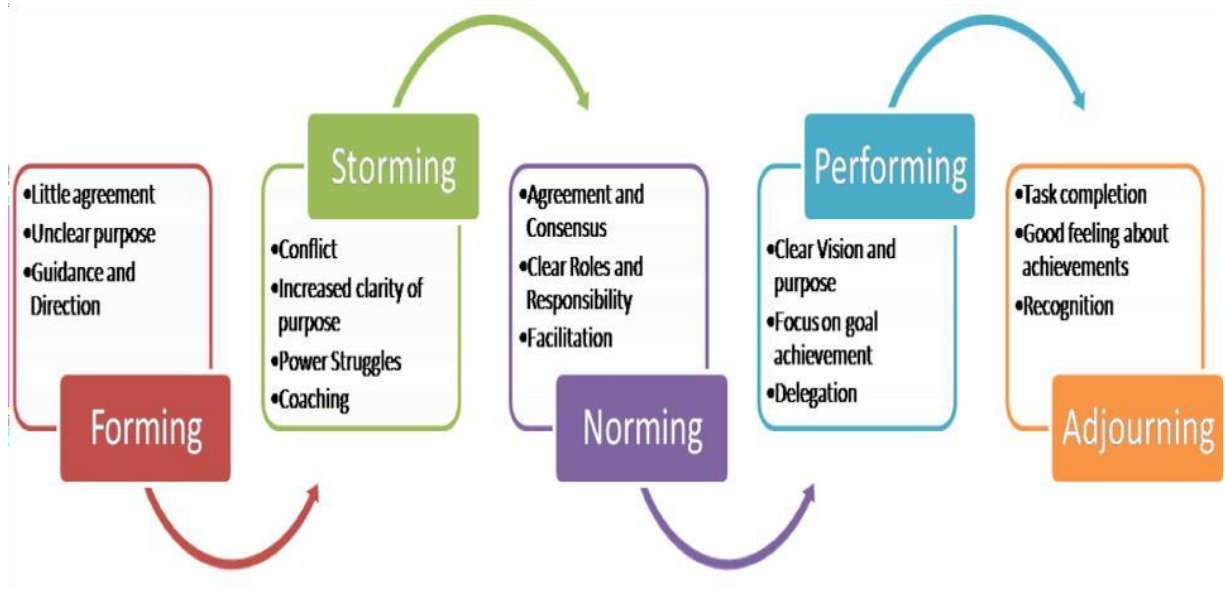


Figure 3. Tuckman's Model of Team Development Stages

Stage one: Forming

During this stage, team members are selected and brought together as one. It is the stage of developing where team members depends on the leader. Hays (2017) remarks "There is only a little agreement on each team's aim, and members are still looking to the leader. There is very little trust among the team members, roles and responsibilities are unclear." . Team members are usually on their best behavior but focused onthemselves, At this stage team members try to understand and trust. According to a model by Jarvenpaa, Knoll, and Leider (1998), it allows team members to demonstrate their abilities and trust. The model figure has been given below.

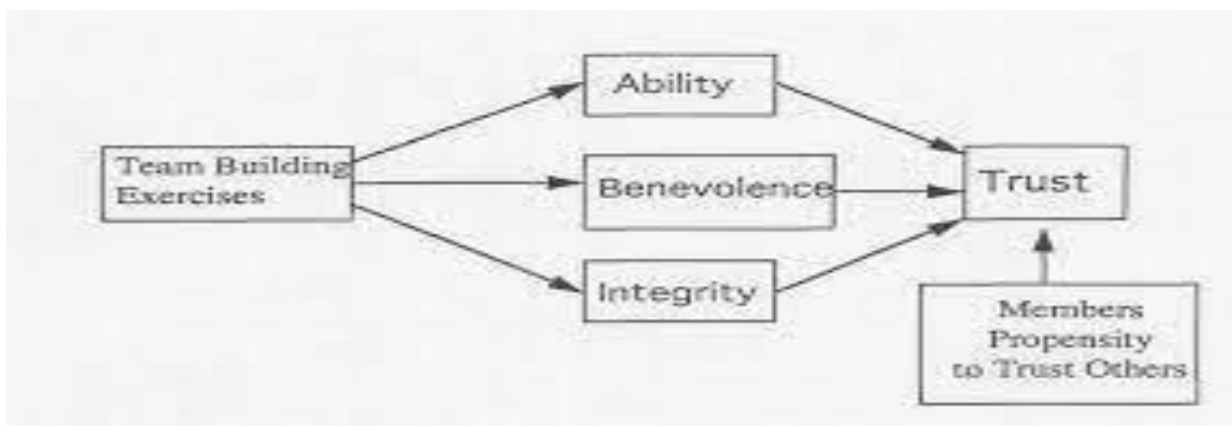


Figure 4. Model: Trust in Global Virtual Team

Stage two: Storming

In this stage, team member are familiar about their roles, responsibilities and duties (Hay,2017).

Storming often starts with disagreement and conflicts about the tactics between the team members on how to carry on with the project like strategy, ideas, etc. At this stage relationship among the members is blurry. leader is important at this stage to clarity to the teammembers on how the project will proceed, continue building trust (Hays, 2017).

Stage three: Norming

After going through all the conflicts and misunderstandings, team members connects in better way with each other to build trust (Jarvenpaa et al, 1998). Norming is all about getting team members to appreciate their colleague's skills and strengths and depend on one another, now they know each other better, the team member will feel more comfortable while working and asking for help in issues and offering constructive feedback. Now they will focus more on the goal of the project with great commitment and unity (Hays, 2017).

Stage four: Performing

During this stage, the team is in flow with the project and performing to its full capacity along with trust for high-performing team. In this stage, work goes together with team's progress. As the team is energetic and motivated and focused on achieving the goal.

Stage four: Adjourning

It is time of celebrating the success of team member. It is end of project where team member leaves the project. It is hard time for team members is they are connected with each other. Likewise, they can work in future project if they wise to.

2.5 Multicultural in Global Virtual Teams

Geertz (1973) defined culture as "a system of inherited conceptions expressed in symbolic forms utilizing which [wo]men communicate, perpetuate and develop their knowledge about and attitudes towards life. " (p .89). Culture relates to expectations and differences found in beliefs, core values, rituals, race, etc. to give a logical reason and describes the difference in humans (Klntmoller & lauring, 2013). Hofstede (2011) defines culture as "The collective programming of the mind which distinguishes the members of one group or society from those of another." (p.3).

Cultural differences has significance impact on a global virtual team's success if it is not handled appropriately and carefully (Fuller et al, 2008). Furthermore, language difference is common challenges in global projects and affect on team communication. Most of the virtual teams operating on a global market include several cultural boundaries (Eisenberg & Mattarelli, 2017). It e m e r g e complexity due to cultural difference. Marlow (2018) highlight cultural challenges to be major constraints in global virtual team's performance.

Virtual teams formed from different countries having verity of culture can effect on team efficiency (Hardin et al, 2007).

As a multi-culture may create distraction on the project goal. It may bring many benefits as well, such as skills, abilities, ideas, etc can be beneficial for the teams to achieve the goal. Like each of the team members can come up with fresher ideas, allowing brainstorming productivity with more efficiency (Matveew & Nelson, 2004). Therefore, it is necessary to be aware regarding culture to improve team performance.(Eisenberg & Mattarelli, 2017).

3 Methodology:

The study expands the present condition of global virtual teams (GVTs) in the present context and dynamics generated by them. It have been operate form the past few decades, with timeit has evolved with advances in ICTs and overcoming the different types of challenges it has faced, and enhancing the functionality of the GVTs, But still, there seems to be something missing. It explores research process in the leadership in global virtual team process build upon the observations and interpretation that the authors have done in previous year. Same as it reports variety of aspects that is importing during the operation of virtual team. It is mainly based on qualitative research that includes interview and zoom meeting.

3.1 Research approach

It follows the three main elements of research, Philosophical assumptions, the designs referred to as procedures, and methods for conducting research, like data collection, data analysis, and implementation (Creswell, 2013).

The qualitative research explains the researcher's view about the nature of research. The research designs referred to strategies, and inquiry types which provide direction in the implementation (Denzin & Lincoln, 2003). Research implementation is implemented in qualitative approach to achieve answer to research questions. The reason for qualitative study indicates active interaction with respondent.

This research approach is explanatory while the research strategy uses a literature survey. This study uses secondary data and qualitative analysis techniques. Data for the survey was collected from international journals, author surveys, and post-questionnaire responses. The literature review was initially arranged to review the concept of global virtual teams, trust in team, and cross-cultural communication while focusing importance of leadership, which should be primarily developed in the team so that the overall success of the organization can be achieved. Using a qualitative, descriptive methodology, this study examines whether there is a difference between the leadership style in global virtual teams that follow Bass and Avolio's (1997) leadership style and the challenges and solutions of leadership.

3.2 Data Collection

This section of the research describes the methods implemented to collect data. It is done by semi-structured interviews, open-ended questionnaire from the researcher survey and post-survey conducted on the global virtual team by JAMK.

It was generated due to interest to find out how the leadership process is the built-in global virtual team more effectively. The researchers choose to focus on aspects of leadership in global virtual teams. Literature review includes findings from previous research. These theories of trust, multi- culture, communication in global virtual teams are closely analyzed how it helps to build an effective leadership style.

It has implemented a qualitative method because it was done by using the open-ended questionnaire instead of quantitative data collection methods. Quantitative data collection focuses on the data analysis based numerical data. And the qualitative focus is on data collection methods like a questionnaire and analyzing data by categorizing, like non-numerical data. The research is conducted in opened ended data collection method that is questionnaire interview and data analysis procedure to find the result of the research questions. An interview is one of the techniques to collect data in qualitative research. Drever (1995) reports "While conducting an interview, a researcher can gather accurate information about the individual attitudes, collect statements and opinions, reveal experiences of the research informants at a high point, understand the informant's motivation, reasoning, meaning about a situation or a phenomenon being studied."

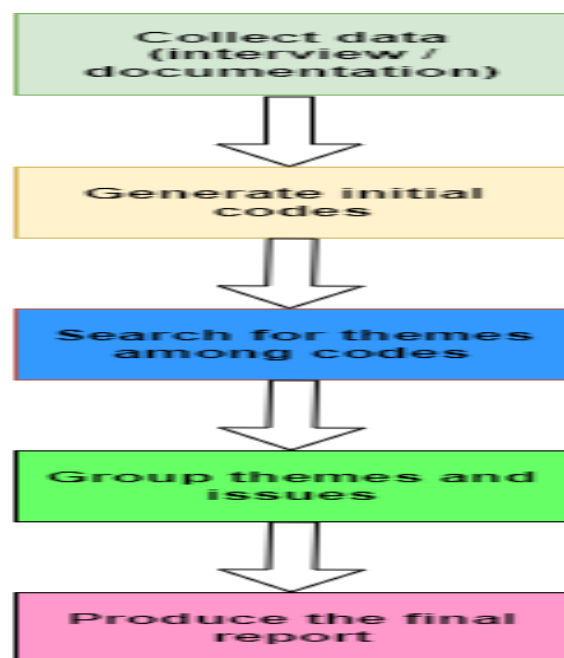
Semi-structured interviews is based on logical sequence of the pre- designed questions which guides the interviewer to cover important topics . In these interviews, the interviewer is free to respond to the previous answer with a spontaneous follow-up question (Wilson, 2014). Open-ended questions are designed to answer long to put their though on question rather than yes or no form. It is formal type of questioning.

Primary data was collected through interviews by using the open-ended questionnaires to the participants and post-survey conducted on the global virtual team by JAMK. It helps to generate the elaborated information with different experiences of the participants.

Interviews were conducted through zoom and google document application. There was a total of ten respondents from different parts of the world the survey conducted by author itself. and there were 17 respondents from the post-survey conducted on the Global virtual team by JAMK. All questions were semi-structured because it allows the authors to collect large numbers of variables from the response of the interviewee. These interviews were audio taped and later transcribed to extract the results from the response of each participant.

3.3 Data Analysis

The methods that were chosen to analyze data are content analysis, which allows data to be sorted briefly by avoiding the possibility of losing the information. It is lengthy as well as difficult process. As study has to go through the recorded interviews which requires a systematic approach details and reviewed literature, while coding, categorizing, and finally grouping themes to analysis patterns (Braun & Clarke, 2006; Gil, 2008). For a better explanation, the figure below illustrates the process followed:



Process of data analysis

Figure 5. Process of data analysis

During the analysis, an inductive approach (Gil, 2008) was followed, which designs the interview guide in accordance with the literature review. A semi-structured interview approach gave rise to themes through creation of a framework of general reference and questions. By designing the data collection based on research knowledge of literature, the study adds additional validity to the results.

The interview was held for around 12 minutes for all 8 questions, and the interview was taken from ten participation from different regions of the world. All the answers were later arranged in an excel sheet and it was analyzed and coded in an excel sheet following the qualitative research method. Some survey questions were picked from a post-survey conducted on a global virtual team by JAMK.

3.4 Research questions

Theoretical framework of study had led to justifies the different methodologies implemented to conducted in the study. Some research questions are as follows.

1. What are leadership and management challenges in global virtual team?
2. What can be probably the solution to overcome the challenges face by leadership in GVTs?
3. What kind of leadership style for global virtual teams appeals to you personally?

4. Results

It presents the results of the interviews conducted in google document application to get their response on X-culture which is part of GVTs,

4.1 Analysis of Interviews

4.1.1 Analysis of leadership style in GVTs

Bass research evaluates that transformational leadership is more productive than transactional leadership style. The survey also shows that the transformational leadership style is more favorable by majority of the participation in virtual teams as compared to other leadership styles. The participants believed that being part of organization where employees are bound by responsibilities and independent work distribution effect on performance. Creativity and ideas were encouraged by the team's members and leader. The graph is shown below (figure 5) further explains that the majority of the survey participants encourage transformational leadership, followed by informal leadership, and only a few believed transactional and formal leadership to be effective.



Figure 6. Leadership style.

The Finnish leadership style has a mixed conceptual, similarly, as leadership itself is not easy or simple. Leadership is often described as characteristic of a person. Ikaheimo from Lappset Group Oy state that "It depends on the company's situation and the person you are leading, that is what makes it (Finnish leadership) difficult to define.", Kaira from SOL Oy state that "Finnish leadership is gradually become less authoritarian. This has been a slow change and lot

remains to be done.”, Vasama from Kemppe Oy also quote that “Finnish organization are known for their low hierarchy and a certain kind of an attitude, not making a huge deal out of things and somewhat ignoring hierarchies. We just get things done.”(Working life 2020, 2020). A recent project on Working life 2020 in leaderships resulted in three narratives of skills, cooperation, and safety (Working life 2020, 2020). This shows that Finnish leaderships are on the transformation stage into transformational leadership. Whereas The survey conducted by the author also states that the majority of the participants favor in transformational leadership style.

4.1.2 Analysis of Challenges and solutions of leadership

Leadership and management challenges in GVTs is derived from management issues. On the other hand solutions to challenges of leadership focus on the management and communication in GVTs after conducting the data analysis from the survey. To start, how the response was gathered, answers by respondents are highlighted. Interviewee 07 mentioned that,

“It’s really challenging task for leader to divide work to each member and management time according to group member. Leader has to be updated about project work and group.”. Other interviewees also expands on setting clear management skills

“Leadership and management challenges in GVTs are managing time, connecting with team member, dividing work and evaluating work of team members. (interviewee 09)”

“Trying to get everyone on same page, Assigning individual task (interviewee 08)”

The survey highlights management responsibilities brings more transparency in team. The graph (figure 6) from the survey below explains that leadership challenges point to managing a virtual team.



Figure 7. challenges face by leadership

The solution to overcome leadership challenges focuses on the communication and proper management of the virtual team. As interviewee 02 mentioned,

“more interactive communication, using more than one method of communication informal/casual gatherings to discuss the project.” (interviewee 02). Other interviewees also add on the codes of **communication** and **management**:

“communication beforehand about the expectations and requirements to each members.” (interviewee 05).

“Solution to challenges can be connecting with each member to discuss matter and complete project effectively and efficiently. There should be trust in each team member and work should be assign to each group member with deadlines and friendly working environment effects on working.” (interviewee 09).

The pie graph shown below explained that the solution on leadership points at communication and proper management of the virtual team.



Figure 8. solution of leadership challenges

The results show that the participants from the survey on various objectives, challenges, problems, and solutions link together on theoretical perspective on leadership in virtual teams follows a low hierarchy for better efficiency of Global virtual teams. Whereas many Finnish organizations are also transformed from the past too to much more human-oriented with a focus on the individual and with better communication following low hierarchy.

5 Discussion

The study is concentrated on leadership, communication in multicultural team and trust issue in global virtual team. It totally agrees on Cascio (2003) who has leadership is indispensable part in virtual team to assemble better performance and active participation. Without good leadership it is not possible to complete project. Even leader should be well trained, skilled and inspired. The virtual team should implement whether transactional or transformational leadership according to nature of project. Anoye & kouame (2018) reports that communication is highly influenced by effective communication and it is true in global virtual team. As it requires good communication among teammates who belongs from disparate culture. Another major challenge in GVTs is trust issue. It enables team to work together and believe on their abilities. Alsharo(2017) reveals that communication and trust are inter-linked with each other. In absence of trust, communication in GVTs cannot be effective and it conclude in distraction in project. On same time, project ends with bad experience to virtual team. It reveals basic points which is needed to GVTs.

5.1 Limitation

The study is qualitative data analysis and due to restricted time period, it cannot take interview to larger group of people. Also, the pandemic condition restricts to meet people. That's why interview was conducted through google document application and zoom. It would be more exciting if it was possible to meet a person who participated in GVTs but it did not happened as expected because of critical situation. It limited study within internet and online survey. The survey designed questions for those who became part of X-culture and ask question according to it to know their response on those questions.

5.2 Recommendations for further research

It was bounded to discovery and focus on finding the key skills need to be effective leadership managing the virtual team. In future studies, there can be many areas in between GVTs. For instance, ways to resolve challenges while managing teams as it is interesting topic. It was proof by data analysis during study. Another topic could be addressing the technological interactions leadership as many participants argue about the communication problems they face.

Transformational leadership style should be followed by global virtual teams to run the team with full potential and efficiency as the author survey and the recent Finnish study suggested that it is the best style to work on leadership.

The study concentrated on findings the basic and technical issues, which occur while working with the leader in leading the virtual team like managing communications issues. Finding a better technique to improve the communication in the virtual team with proper management skills. From this study transformational leadership style, the participant prefers more and think more accurately to apply in global virtual team to be efficient. This study could not find any issues that may hamper the functionality of virtual teams. Next future steps are to find out in future research the other ways, limited knowledge of modeling tools, time constraints, time management, and technology selection.

6. Conclusion

All in all, global virtual team connects people from different countries having different cultures, languages, time zones, behaviors etc. It is necessary to cope with different barriers while working together. Leadership plays vital role in development of project in GVTs. Good leadership led to positive surrounding that motivates teams. On contrast to it, bad leadership leads to bad experience of working with different people from various countries. GVTs is experience of working together to complete a project within certain time. There may arise varieties of challenges but most important part of it is to overcome from it together and move on to its destination. The result of this thesis suggests that people are looking for more transformational leadership where they want more substantial changes in the management. To sum up, in order to succeed in GVT, management with flexible and positive approach are highly encouraged.

On the same way communication and trust are also vital part of it where leadership, communication, and trust are connected with each other. In current situation, the focus should be in formation of good leadership and communication so that it can operate in diplomatic way. It also facilitate people to link with international people having variety of culture, time zone, and language. It is learning experience which teach to work together although having different background.

7 References

2020 *Trends in Global virtual Work*.(2020). Metamorphosis of the Global Workplace

https://cdn2.hubspot.net/hubfs/466336/VTS-ExecutiveBrief-2020-FInal.pdf?_ga=2.192853610.1556005674.1601920431-1783803064.1601920431

Abarca.V. G., Sanchez.P. P., & Camacho.M. A. (2021). Virtual Teams in Times of Pandemic: *Factors that Influence Performance*. <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.624637/full>

Akgun, A.E , Dayan, M. & Benedetto, A.D. (2008). New product development team intelligence: antecedents and consequences. *Information and Management*, 45(4), 221–226.

Alsharo, M., Gregg, D. and Ramirez, R. (2017). Virtual team effectiveness: *The role of knowledge sharing and trust*. *Information & Management*, 54(4), 479-490.

Anoye, A. B., & Kouame, J.S. (2018). *Leadership challenges in virtual team environment*, 7(7), 162-163. <https://www.ijstr.org/final-print/july2018/Leadership-Challenges-In-Virtual-Team-Environment.pdf>.

Avolio, B. J., Kahai, S., & Dodge, G.E. (2000). E-Leadership: Implications for Theory, Research, and Practice. *The Leadership Quarterly*, 11 (4), 615–668.

Baldwin, R. (2016). *The great convergence: Information Technology and the New Globalization*. Cambridge, MA: The Belknap Press of Harvard University Press.

Barge, J. K. (1996). Leadership skills and dialectics of leadership in group decision making, in R.Y. Hirokawa & M.S. Poole(2nd eds.). *Communication and Group Decision making*, 301-342.

Barstow, C. (2021). *4 Reasons why Remote work will Continue After Covid-19*. <https://www.richlandlibrary.com/blog/2021-03-28/four-reasons-why-remote-work-will-continue-after-covid-19>.

Bass, B. M. (1997). Does the transactional–transformational leadership paradigm transcend

organizational and national boundaries? *American Psychologist*, 52 (2), 130.

Bass, B. M. (1985). *Leadership and performance beyond expectations*. Amsterdam University Press.

Braun, V., Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*.3(2), 77-101.

Castellano, S., Davidson, P. & Khelladi, I. (2016). Creativity techniques to enhance knowledge transfer within global virtual teams in the context of knowledge-intensive enterprises. *The Journal of Technology Transfer*, 42(2), 253-266.

Cascio, W. F., & Shurygailo, S. (2003). E-Leadership and virtual teams. *Organizational Dynamics, E-Leadership*, 31 (4), 362–76.

Chamakiotis, P. & Panteli, N. (2010). E-Leadership Styles for global virtual teams. In P.Yong.(1st ed.). *Leadership in the Digital Enterprise: Issues and Challenges*, 143-161.

Cornett, A, P., Karsson, C., & Wallin, T. (2018). *Globalization, international spillover and sectoral changes: implications for regions and industries(new horizons in regional science series)*. Edward Elgar Publishing.

Cramton, C., & Webber, S. (2000). Attribution in distributed work groups, in P. Hinds, & Kiesler, S. (Eds.) *Distributed Work: New research on working across distance using technology*, 191-212.

Creswell, J.W. (2013) *Research Design: Qualitative, Quantitative, and Mixed methods approaches*. (4th eds.), SAGE Publications, Inc., London.

Daft, R. L., (2008). *The leadership experience*. (4th ed.). s.l. :South Western.

Dávideková, M., & Hvorecký, J. (2017). *Collaboration tools for virtual teams in terms of the SECI Model. International journal of engineering pedagogy*, 7(1).

Deloitte. (2018). *The Fourth Industry revolution is here - are you ready?*

<https://www2.deloitte.com/cn/en/pages/consumer-industrial-products/articles/industry-4-0-technology-manufacturing-revolution.html>

Denzin, N.K & Lincoln, Y. S. (2003). *In collecting and interpreting qualitative materials.*(1st ed.). Sage Publications, Inc.

Dewar, T. (2006). Virtual teams—Virtually impossible? *Performance Improvement*, 45(5), 22-25.

Dragusha, C. (2012). *Managing virtual teams - Guidelines to effective leadership.* Saimaa University of Applied Sciences, Bachelor's Thesis.

<https://www.reuters.com/article/us-health-coronavirus-technology/permanently-remote-workers-seen-doubling-in-2021-due-to-pandemic-productivity-survey-idUSKBN2772P0>

Dreyfuss, G. C. (2020). *Permanently remote workers seen doubling in 2021 due to pandemic productivity.*

<https://www.reuters.com/article/us-health-coronavirus-technology/permanently-remote-workers-seen-doubling-in-2021-due-to-pandemic-productivity-survey-idUSKBN2772P0>

Drever, E. (1995) *Using semi-structured Interviews in small-Scale research. A teacher's guide.* Edinburgh: Scottish Council for Research in Education.

Driskell, J. E., Radtke, P. H & Salas, E. (2003). Virtual teams: Effects of technological mediation on team performance. *Group Dynamics: Theory, Research, and Practice*, 7 (4), 297-323.

Dube, L., & Pare, G. (2001). *Global virtual teams.* *Communication of the ACM*. 44(12), 71-73.

Dyer, W.G. (1995). *Team building: Current issues and new alternatives* (3rd ed.), Addison-Wesley, Reading, MA.

Earley, C. P., & Peterson, S. R. (2004). The elusive cultural chameleon: *Cultural intelligence as a new approach to intercultural training for the global manager*, 3(1).

Eisenberg, J. & Mattarelli, E. (2017). Building bridges in global virtual teams: *The role of multicultural brokers in overcoming the negative effects of identity threats on knowledge sharing across subgroups. Journal of international management, 23(4)*, 399-411.

Fuller, M. A., Valacich, J. S., & George, J. F. (2008). Information systems project management: *a process and team approach*. (6th ed.). Upper Saddle River, NJ: Pearson Hall.

Geertz, C. 1973. The interpretation of cultures: *Journal for the scientific study and religion, 13(2)*, 1-89.

Gil, A. C. (2008). Metodos e tecnicas de pesquisa social :*Methods and techniques for social research*. (6th ed.). Sao Paulo, Atlas.

Hardin, A, Fuller, M., & Davison, R. (2007). Efficacy in technology-mediated distributed teams. *Journal of management information systems, 23(3)*,209-235.

Hays, K. (2017). Adapting tuckman's model for global virtual teams.

<https://blog.insynctraining.com/adapting-tuckmans-model-for-global-virtual-teams>.

Hinds, P. J, Liu, L., & Lyon, J. (2011). Putting the global in global work: An intercultural lens on the practice of cross-national collaboration. *The Academy of Management Annals, 5(1)*, 135-188.

Hofstede, G. (2011). Dimensionalizing cultures: *The hofstede model in context. online readings in psychology and culture. 2(1)*, 0-3.

Institute of experiential learning. (2020). *What is Experientail Learning*.

<https://experientiallearninginstitute.org/resources/what-is-experiential-learning/>

Jarvenpaa, S. L., Knoll, K. & Leidner, D. E. (1998). Is anybody out there? Antecedents of trust in global teams. *Journal of Management Information Systems*, 14(4), 29- 64.

http://www.communicationcache.com/uploads/1/0/8/8/10887248/is_anybody_out_there_-_antecedents_of_trust_in_global_virtual_teams.pdf

Jarvenpaa, S. L., & Ives, B. (1994). The global network organization of the future: *Information management opportunities and challenges*. *Management Information Systems*, 10(4), 25-57.

Jarvenpaa, S. L., & Leidner, D. (1999). *Communication and trust in global virtual teams*. *Organization Science*, 10(6), 791-815.

Kelly, N. (2013). *Building trust in communications*. <https://docplayer.net/20597838-Building-trust-in-communications.html>.

Klitmøller, A. & Luring, J. (2013). When global virtual teams share knowledge: *Media richness, cultural difference and language commonality*. *Journal of World Business*, 48(3), 398-406.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*, 1(1), pp. 35.

Kotlarsky, J. & Oshri, I. (2005). Social ties, knowledge sharing and successful collaboration in globally distributed system development projects. *European Journal of Information Systems*, 14(1), 37-48.

Lewkowicz, M., & Wijnhoven, F. (2008). *Misunderstandings in global virtual engineering teams: Definitions, Causes, and guidelines for knowledge sharing and interaction*.

Malhotra, A. & Majchrzak, A. (2004). Enabling knowledge creation in far-flung teams: *Best practices for IT support and knowledge sharing*. *Journal of Knowledge Management*, 8 (4) , 75– 88.

Marlow, S., Lacerenza, C., Paoletti, J., Burke, C. & Salas, E. (2018). Does team communication represent a one-size-fits-all approach?: *A meta-analysis of team communication and performance*. *Organizational Behavior and Human Decision Processes*, 144(1), 145-170.

Matveev, A. & Nelson, P. (2004). Cross cultural communication competence and multicultural team performance perceptions of American and Russian managers. *International Journal of Cross Cultural Management*. 4(2), 253-270.

Maznevski, M.L. & Chudoba, K.M. (2000). Bridging space over time: Global virtual team dynamics and

effectiveness, *Organization Science*. 11(5), 473-492.

Mishra, A. (2020). The Future is here: *Managing virtual teams*. People Matters.

<https://www.peoplesmattersglobal.com/blog/life-at-work/the-future-is-here-managing-virtual-teams-25510>

Montagna, N. (2017). A Review: Baldwin, R. "*The Great convergence: information technology and the new globalization*" (Cambridge: Belknap Press of Harvard University, 2016), 1-4.

https://glocalismjournal.org/wp-content/uploads/2019/08/montagna_gicpi_2017_1.pdf

Morgan, S., & Wang, W.(2007). *A study into user perceptions of information sharing and trust in virtual teams*, 43-44.

Nordstrand,O., Blomqvist,P. (2018).*Global virtual team communication*. pp.8-9

Pinjani, P., Palvia, P. (2013). *Trust and knowledge sharing in diverse global virtual teams*.

https://libres.uncg.edu/ir/uncg/f/P_Palvia_Trust_2013.pdf

Pinto, D .L. (2018). *Global virtual teams*, pp.4-9.

Scott,R.P.C., Wildman,L. J. (2015). Culture , Communication, and Conflict: *A Review of the global virtual team literature*.

https://www.researchgate.net/publication/306276736_Culture_Communication_and_Conflict_A_Review_of_the_Global_Virtual_Team_Literature

Smith,S.M., Ruiz, J. (2020). Challenges and barriers in Virtual teams.

<https://link.springer.com/article/10.1007/s42452-020-2801-5>

Townsend, A. M., DeMarie, S. M. & Hendrickson, A. R. (1998). Virtual Teams: Technology and workplace of the future. *The Academy of Management Perspectives*. 12(3), 17-29.

Tosi, H. & Pilati, M. (2011). *Managing Organizational Behavior : Individuals, Teams, Organization and Management*.(1st eds.). Edwar Elgar Publishing Cheltenham.

Tuckman, B. W. (1965). Developmental sequence in small groups. *Psychological Bulletin*, 63(6), 384–

399.

Tuckman, B. W. & Jensen, M. A. C. (2010). Stages of small-group development revisited. *Group Facilitation: A research & applications journal*

<https://webpace.science.uu.nl/~daeme101/Stages%20of%20Small-Group%20Development%20Revisited.pdf>.

Tyssen, A. K., Wald, A. & Spieth, P. (2014). The challenge of transactional and transformational leadership in projects: *International journal of project management*. 32 (3),365–375.

Working Life 2020.(2020) .*The State and future of finnish leadership*.

[https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160965/The state and future of Finnish leadership HighRes web.pdf](https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160965/The%20state%20and%20future%20of%20Finnish%20leadership%20HighRes%20web.pdf).

Wilson, C. (2014). Semi-structured interviews. *Interview techniques for Ux Practitioners*, 23-41

Appendices

Appendix A. Leadership and management challenges in GVTs

Q 7. What are leadership and management challenge in GVT?								
sn	Responses	themes	Trust	Motivation	communication	Management	time differences	cultural differences
1	GVT is effective only in such case where leadership and management go together an	-				1		
2	Gaining trust from the partners. Motivation and encouragement for the teams memb	-	1	1	1			
3	Poor communication	-			1			
4	Communication challenge, time differences, punctuality, cultural differences etc.	-			1		1	1
5	Motivating team members with different interests, skillsets, and goals.	-		1				
6	Difficulty in dividing work, difficulty in managing time, lack of day to day communica	-			1	1		
7	Its really challenging task for leader to divide work to each member and managing tim	-				1		
8	Trying to get every one on same page,Assigning individual task	-				1		
9	Leadership and management challenges in GVTs are managing time, connecting with	-				1		
10	Managing a project in GVTs is challenging task for leadership and management , like d	-	1			1		

Themes	count
Trust	2
Motivation	2
communication	4
Management	6
time differences	1
cultural differen	1
total	16

Themes	percentatge
Trust	13%
Motivation	13%
communication	25%
Management	38%
time differences	6%
cultural differen	6%
total	100%

Appendix B. Solution to overcome leadership challenges

Q 8. What can be probably solution to overcome its challenges?						
sn	Response	Themes	Relationship	Managing	Better communication	share Problems / Flexible
1	Firstly before participating in global virtual team	-			1	1
2	More interactive communication,using more than	-			1	
3	Maintaining a good relationship with everyone.	-	1			
4	Trusting each member, assigning task to each member	-		1		1
5	Communicating beforehand about the expectations	-			1	
6	It can be solved by Daily communication, trusting	-		1	1	1
7	Probably solution can be managing time as consistently	-		1		
8	Clear division of responsibilities Creating assignments	-		1		
9	Solution to challenges can be connecting with each other	-		1	1	1
10	Positive nature and kind behaviour, daily communication	-	1	1	1	

Themes	count
Relationship	2
Managing	6
Better communication	6
Flexible	4
total	18

Themes	Percentage
Relationship	11%
Managing	33%
Better communication	33%
Flexible	22%
total	100%

Appendix C. Leadership style in GVTs.

Q 5. What kind of leadership style for global virtual teams appeals to you personally?

sn	Responses	code	Code	Themes	code	count
1	flexible, less-opiniated and collaborative	TFL		Formal leadership	FL	1
2	formal leadership style , rather self superior	FL		Informal leadership	IL	3
3	participatory leadership. Recongnize voice of other members	TFL		Transactional leadership	TL	2
4	Co-leadership. Democratic and collaborative	TFL		Transformational leadership	TFL	12
5	Democratic leadership. Takes suggestions and ideas	TFL		Total		18
6	together the course of the project	IL				
7	being tolerate and open mind	TFL				
8	Democratic leadership. Depe nding sometimes even autocratic	TFL	TL			
9	balanced hybrid	IL				
10	responsibility by being active and independent, collaborative approach	TFL				
11	informal	IL				
12	free dom to give opinion	TFL				
13	one who delegates things and observers everyone , military leadership	TL				
14	transformational leadership	TFL				
15	horizontal working	TFL				
16	everyone to account	TFL				
17	Democratic	TFL				

Themes	Percentage
Formal leadership	6%
Informal leadership	17%
Transactional leadership	11%
Transformational leadership	67%
total	100%

Appendix D. Survey Questions.

Q1. Have you been part of global virtual team?

Q2. what is major challenges that you face in global virtual team?

Q3. How can GVTs track the Performance of the project?

Q4. what are leadership and management challenge in GVT?

Q5. What can be probably solution to overcome its challenges?

Q6. What kind of leadership style for global virtual teams appeals to you personally?