

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Management



Master's Thesis

**Challenges of a virtual team: Case study of SAP s.r.o in
the Czech Republic**

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

DIPLOMA THESIS ASSIGNMENT

Bc. Thu Giang Dang

Economics and Management
Economics and Management

Thesis title

Challenges of a virtual team: a case study of SAP s.r.o in the Czech Republic

Objectives of thesis

The main objective of the Diploma thesis is to identify what are the problems and challenges in a virtual team SAP s.r.o which arose from the Covid-19 pandemic and how the issue could be addressed differently.

The partial aims are:

- Define the virtual team and its importance during the current Pandemic.
- Define the terminology and compare a virtual team with a traditional team.
- Investigate and identify the difficulties and challenges in operating a virtual team.
- Strategies in running a virtual team.
- Proposed solutions to any difficulties discovered.

Methodology

This thesis is written into two main parts: theoretical and practical.

- The theoretical part of the thesis will comprise a review and summary of relevant current academic and scientific literature.
- The practical part will be based on an analysis of data gathered firstly from the questionnaires distributed to team members in SAP s.r.o. It will then be compared with feedback from team managers who will be questioned about the findings of the initial analysis.

The result of both will be synthesized in order to identify issues arising, lessons learned, and propose operational changes if appropriate. It is expected that the finding will have both positive and negative facets.

The proposed extent of the thesis

.

Keywords

Virtual team, Covid-19, Teamwork, Virtual management, On-line working

Recommended information sources

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Declaration

I declare that I have worked on my master's thesis titled "Challenges of a virtual team: Case study of SAP s.r.o in the Czech Republic" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the master's thesis, I declare that the thesis does not break any copyrights.

In Prague on 31/03/2024

Thu Giang Dang

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Challenges of a virtual team: Case study of SAP s.r.o in the Czech Republic

Abstract

Nowadays, with the development of communication and digital technologies the increased use of virtual team has becoming more and more popular. Virtual teams have emerged as the standard practice for organisations whose members operate in different geographic locations and depend heavily or exclusively on the use of information communication technology to achieve shared objectives. By allowing a high level of adaptability and responsiveness, virtual work environments reshape the way people work.

The main objective of this Diploma Thesis is to identify what challenges are currently being dealt by the virtual team in SAP Services s.r.o. and some recommendations as well as suggestions will be given out in the end of the Thesis.

The thesis contains of 2 parts: theoretical part and practical part.

The theoretical part will primarily cover all aspects of a virtual team such as: definition, types, characteristics, development, challenges.

The practical part will focus on the analysis of the set of questionnaires distributed among the internal team in SAP Services s.r.o. How they feel about working virtually and how they deal with it. The result of the questionnaire will be analyzed at the end of the thesis along with the recommendations for the improvement of the team.

Keywords: Virtual team, organisational management, team effectiveness, remote working

Výzvy digitálně propojeného týmu: Případová studie společnosti SAP s.r.o. v České republice

Abstrakt

V dnešní době, s rozvojem komunikačních a digitálních technologií, využívání digitálně propojených týmů je čím dál tím více populární. Vzdálené týmy se staly standardní praxí pro organizace, jejichž členové působí v různých geografických lokalitách, a k dosažení společných cílů jsou silně nebo výhradně závislí na využívání informačních komunikačních technologií. Tím, že digitální pracovní prostředí umožňuje vysokou úroveň přizpůsobivosti a rychlost odezvy, mění tak i způsob jakým lidé pracují. Hlavním cílem této diplomové práce je zjistit, jaké výzvy aktuálně řeší digitálně propojený tým ve společnosti SAP Services s.r.o. a v závěru práce budou uvedena některá doporučení a návrhy. Práce se skládá ze 2 částí: teoretické a praktické. Teoretická část bude primárně pokrývat všechny aspekty vzdáleného týmu jako: definice, typy, charakteristiky, vývoj, výzvy.

Praktická část se zaměří na analýzu sady dotazníků distribuovaných mezi pracovníky interního týmu ve společnosti SAP Services s.r.o. Dotazníky mají za cíl zjistit jak pracovníci vnímají práci na dálku a jak se s ní vyrovnávají. Výsledek dotazníků bude na konci práce analyzován spolu s doporučeními pro zlepšení práce týmu.

Klíčová slova: Virtuální tým, organizační management, efektivita týmu, práce na dálku

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1 Introduction

We are currently living in a world where studying and working virtually is the most important part of our life. In the past few years, we have been witnessing the development of digital technologies.

Nowadays, many companies increasingly need to coordinate operations across organisational, cultural, geographic, and temporal borders more than ever in today's knowledge-based, networked economy since organisational structures are becoming flatter. Modern infrastructure and software are readily available, which eliminates the difficulty for businesses to establish virtual work environments. Rapid advancements in communication and information technology have created more dynamic and diversified occupations.

As a result, organisational structures, systems, and processes have evolved to be more adaptable and flexible in response to these changes. The trend towards virtual teams as organisational units has increased as a result of these technological developments.

Virtual teamwork has replaced traditional teamwork in many organisations today. This form of working has been implemented for many years with the aid of communication technologies, and there is currently a wealth of literature on the subject. As a result of technological progress, organisations are increasingly dependent on virtual teams to achieve their goals and objectives. Practically every organisation in the twenty-first century works in some capacity or entirely in virtual environment settings; multinational corporations rely on it the most.

Objectives and Methodology

1.1 Objectives

The main theme of the Diploma thesis is mainly divided into two parts.

The first part is to study and assess the problems and challenges in a virtual team at SAP s.r.o specifically focus on Order to Invoice team whose specialises in finance invoicing within SAP.

By understanding the advantages and disadvantages of the virtual team, managers along with their team members can implement and improve their work more effectively and efficiency in the future where the virtual team has still been heavily utilized within SAP s.r.o.

The partial aims of the thesis will be focusing on:

- Define the virtual team and why its importance during the Pandemic.
- Define the terminology and compare a virtual team with a traditional team.
- Investigate and identify the difficulties and challenges in operating a virtual team.
- Strategies in running a virtual team.
- Proposed solutions to any difficulties discovered.

1.2 Methodology

The thesis is written in two parts:

The first theoretical part includes the research of the related literature review and a summary of relevant current academic as well as scientific literature.

The second part is planned to answer the following questions, which will be used in the interview with the team members within SAP Services Associate, by implementing theme-coding data analysis.

- What are the advantages and disadvantages of a virtual team?
- What challenges does remote work have for employees?
- How can managers and team members improve their work performance while working virtually?

Thus, the result will be synthesised in order to identify issues arising, lessons learned, and proposed operational changes if appropriate. It is expected that the findings will have both positive and negative facets.

2 Literature Review

2.1 A brief history of virtual team:

Although work teams were first utilised in the United States as early as the 1960s, the extensive adoption of teams and quality circles commenced during the Total Quality Management movement of the 1980s. Many businesses adopted self-managing or enabled work teams during the late 1980s and early 1990s. In order to improve operations, decrease working time, and enhance customer satisfaction, line-level staff acquired problem-solving and decision-making duties that were conventionally assigned to management. Midway through the 1990s, an expanding number of corporations, including Texas Instruments, Goodyear, and Motorola, initiated the practice of implementing global human resource practices by implementing the team concept with their foreign affiliates in Asia, Europe, and Latin America (Kirkman et al., 2002).

Nowadays, as a result of advancements in communication technology and ongoing globalisation, virtual teams have experienced significant growth on a global scale (Kirkman et al., 2002). In their comprehensive literature study of virtual teams, Martins et al. (2004) assert that, with few exceptions, all organisational teams possess some degree of virtuality. We have transitioned from collaborating with individuals in close physical proximity to collaborating with individuals across the world with the help of communication technologies (Johnson et al., 2001).

Virtual teams are already popular, and practically everyone is a part of multiple virtual teams at the same time. Working remotely was still being referred to as a "new paradigm shift" in 2016, while the phrase "virtual teams" was first used in 1992. Virtual teams were first created as a way for businesses to take advantage of time zone variations, allowing for 24-hour customer assistance. Virtual teams, on the other hand, were popular in many businesses even before they were a reality. Organizations, predictably, appreciated the concept of lowering travel and relocation expenses while also being able to tap into a worldwide talent pool regardless of their physical location (Mangla, N., 2021).

The majority of managers hold the view that personal contact can only be established through in-person interactions, denying the widespread belief that virtual working is an impossible

reality. Since working remotely is still perceived by lots of people as something unreal and having little benefits because of its strong relationship with technology, despite the number of publications and literature on the subject, it is impossible to dispel the worries that individuals have about it. The word "virtual" first emerged in the late 14th century, with the implication of "influencing through physical virtues or capabilities" Mehtab et al. (2018).

2.2 What is virtual team and why is virtual team important?

2.2.1 What is virtual team?

It was not until the 1990s that the term "virtual" becomes more popular. "Virtual" has the same Latin root as virtue – the quality of goodness and power that is intimately personal. The term "virtual" is also used to describe "virtual corporations", "virtual organization" and "virtual office". The concept of a virtual team brings to mind a different image than one of the people working together in the same organization. Meanwhile, a "team" is defined as a group of people with different expertise who share a dedication to a common purpose, goals and working procedure. Together, they shared responsibility and accountable for each other (Zenun et al.,2007).

Originally, virtual teams were created to promote collaborative invention and innovation among global or regional professionals with limited time to travel for their specialized projects. Today, virtual collaboration has developed to the point where working online is a natural part of working for national organizations and even for some international or regional businesses (Garro-Abarca et al., 2021).

As stated by Zigurs (2003), virtual teams consist of members who are not located at the same location but connect with each other via information technology in order to achieve predetermined objectives. Depending on the means of interaction employed between each individual, the degree of virtuality can be either at its minimum or maximum. A minimal degree of virtuality exists when members are exchanging information in a short period of time. Meanwhile, if there is a delay or disruption in the flow of information, it will lead to a greater degree of virtuality Mehtab et al. (2018).

It is worth mentioning that virtual teams are the combination of people who are spread across many physical locations. This team characteristic has encouraged widespread usage of many

types of computer technologies, allowing members who located in different locations to contribute their individual efforts and inputs (Peters and Manz, 2007).

Many previous studies mostly defined virtual team as a group of people who are located in various parts of the world and collaborate mostly through electronic communication with very limited in-person engagement. Virtual teams frequently comprise multi-functional members who collaborate on projects that are greatly interconnected and share the accountability for the team's results (Malhotra et al., 2007).

Many scholars hold the view that virtual teams are geographically separated groups that coordinate their work primarily using modern electronic devices along with communication technologies (e-mail, video-conferencing, telephone, etc..) (Hertel et al., 2005).

On the other hand, Gould (2006) explains the picture by applying the equation below:

“Virtual teams = teams + electronic links + groupware”

A virtual team is essentially a group of persons brought together at initial stages. The primary responsibility of a leader is to establish integration and cooperation among employees in order to accomplish certain objectives. In order to achieve this objective, it is necessary to have a collaborative approach that incorporates inspiring components such as promoting a common objective setting and cultivating favorable perspectives. The relationship must be established to connect members with one other and with the goal of the team. Upon the establishment of this environment, the primary responsibilities for managers are team accomplishment and achievement executives (Hunsaker & Hunsaker, 2008)

2.2.2 Why do we need virtual team?

The advancement in digital platforms over the past few decades has significantly simplified, increased, and improved the efficiency of distributed work (Hertel et al., 2005). In response to the growing globalisation of workplace operations, many enterprises have implemented virtual teams. These teams utilise communication technologies to collaborate across location-based, time-based, cultural, and boundary lines in order to accomplish shared objectives and produce results for their businesses. In addition, the swift advancement of

new communication technologies, such as web browsing, has expedited this pattern to the extent that nowadays, the majority of big companies utilise virtual teams to varying extents (Hertel et al., 2005). The use of technology is facilitating the establishment of the essential framework to enable the creation of new business structures. Virtual teams are a type of organisational structure that has the potential to greatly transform the workplace by offering businesses a high degree of adaptability and flexibility (Powell et al., 2004).

Virtual teams play a crucial role for corporations that seek to make the most of limited assets across different locations and limitations (Munkvold and Zigers, 2007). However, in today's rapidly changing global market, organisations that possess the ability to swiftly assemble online groups of highly skilled individuals can promptly adapt to evolving business settings. Organisations can gain benefits through the use of these talents (Bergiel et al., 2008). Virtual teams are an important means of inspiration due to their extensive knowledge of new products. Currently, there is less knowledge on how to effectively apply this expertise to produce new services with the exception of open source software (Fuller et al., 2006a).

Virtual teams facilitate the expansion of potential labour markets, grant access to a diverse range of intellectual resources that are available in the global resource marketplace, and enable organisations to respond to market demands with greater responsiveness and adaptability (Algesheimer et al., 2011; Derosa et al., 2004). Virtual teams are utilised for many objectives such as as creating new goods and services, corporate strategy assessments, and client support (Rosen et al., 2006). Researchers have also noted that virtual work offers workers greater adaptability, as virtual team members have more opportunity to complete tasks according to their personal timetable (Derosa et al., 2004). This has additionally improved organisational flexibility and increases their ability to respond to market demands Gressgard (2011).

2.2.3 Characteristics of virtual teams:

Virtual teams are comprised of remote members who collaborate dependently and utilize communication technologies to assist one another in the communicate of information and accomplishing of shared objectives. The three primary attributes of virtual teams were initially identified and outlined at the inception of this idea in the early 2000s (Samul et al., 2020).

One primary characteristic of virtual teams is the remote location of their participants. Virtual teams leverage the collective knowledge and skills of every individual, overcoming barriers related to geographical time and place. In the current era of economic integration, corporations and enterprises are seeking to minimize expenses. Virtual teams provide not only the opportunity to recruit experts who are not physically located in the same place, but also removing the need for travel or relocation expenses (Samul et al., 2020).

Nevertheless, the utilization of virtual teams wouldn't eliminate the benefits of in-person interaction. In fact, with the development of electronic devices an increasing number of advantages are incorporated into employee activities (Samul et al., 2020).

The second characteristic of a virtual team is interdependence. This increases the barriers associated with establishing a shared knowledge of common objectives and work procedures among each team member. Pangil and Chan (2014) in their research found out that successful information exchange is more challenging in online settings compared to a conventional setting.

With regard to the main core value of a virtual team which are location and interconnection of each individual, Schaubroeck and Yu (2017) proposed the following aspects also describe virtual team: skill differentiation, temporal stability, and authority differentiation are key characteristics that define virtual teams.

In terms of dimension-skill differentiation, it describes the level of specialisation exhibited by team members and possibility of individuals replacement within a certain group. Authority distinction is taken by group member's input but also by an individual refers to the process of determining how conclusions are made inside a group not only by the whole group but also by each individual (Samul et al., 2020). It significantly impacts the balance among the everyone within a team. Nevertheless, a team with a long and effective history is more likely to succeed than a team with no communication and connection among its team members (Samul et al., 2020).

The final key feature of a virtual team is the method of collaborating among each individuals using virtual technologies. Since communication is a crucial in a team working remotely, it contributed to facilitates all other activities, connections, organization as well as work completion within a team and therefore helps to increase the effectiveness as well as the productivity of a team (Samul et al., 2020).

The below figure introduced a communication process structure for an online group in order to enhance not only cooperation but also the connection among the members (Figure 1.1).

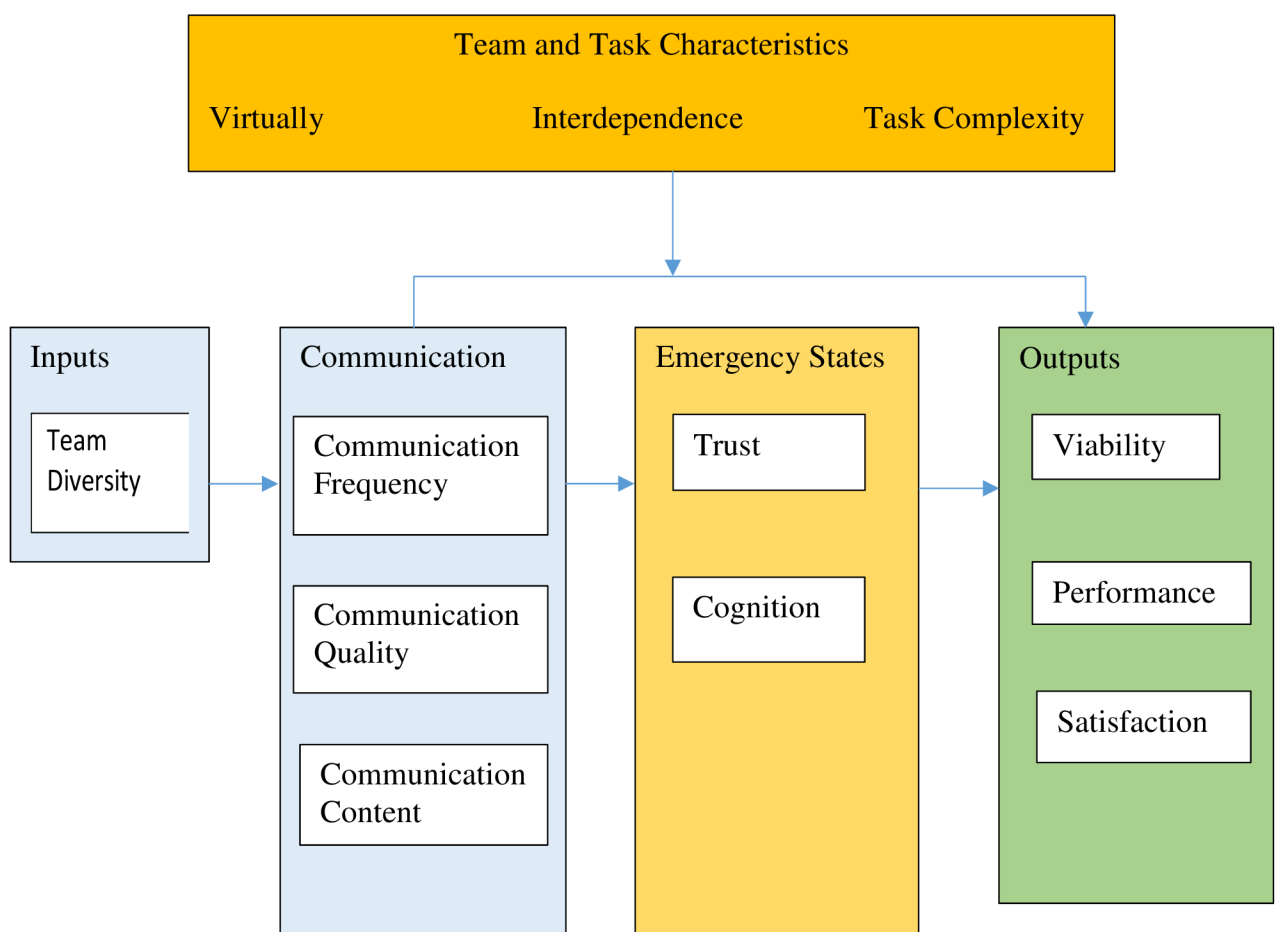


Figure 1 Communication process framework

Source: Marlow et al., 2017

Interdependence significantly impacts the regularity of communication among remote workers as it requires teamwork to complete task. Reduced dependency can decrease the time required to accomplish activities since each person perform their work individually

without seeking guidance from others. Nevertheless, this is not ideal when it comes to challenging tasks which required specialized expertise from other team members in order to find the solution for a particular issue. Besides, task complexity significantly impacts on virtual teams. When it comes to a complex task which required the contributions from the team members in promoting, cooperation, oftentimes this resulting to inventive as well as productive result (Samul et al., 2020).

Marlow et al., (2020) in their research defines input as the team's variety. The selection of variety can be described in several aspects due to the valuable information by bringing up together individuals with varied experiences resulting in diverse viewpoints on a given issue and possibility leading to new and creative ideas that integrate in common knowledge.

From the process framework, we can notice the initial stage of converting inputs to outputs is communication. The authors suggested three factors that should be analyzed due to the extensive nature of communication which includes: Communication frequency, communication quality and communication content. Firstly, communication frequency refers to how often each member of the team interact with their teammates. On the contrary, communication quality refers to the effectiveness of communication in achieving expected results such as exchanging experience, forming connection or sharing individual knowledge within a certain topic. Besides, content of a message might vary significantly based on its delivery scope. Communication content may significantly impact the performance of a virtual team. Software tools frequently employed by virtual teams include functionalities for file and task administration, which enhance the quality of the work while encouraging individual cooperation. Nevertheless, effective communication requires trust among individual and if trust exists between teammates, they will more readily absorb new information and be more determined to reach their objective, especially when it comes to challenges. Finally, outputs may be considered as the team's accomplishment in achieving goals effectively and efficiency, it reflects the team member's satisfaction level in order to maintain the establishment of the new assignments (Samul et al., 2020).

2.2.4 Types of virtual team

In general, we can distinguish various types of "virtual" work based on the number of the participants and the level of interaction between them.

2.2.4.1 Net worked teams:

Networked teams are often characterized by their geographical dispersion and the inclusion of participants who are not part of the organization. Most often, such teams include individuals from diverse functional backgrounds who are assembled to provide their specialized experience and knowledge pertaining to a certain problem or subject matter. Membership is characterized by its dynamic nature, whereby new individuals are included as needed, while old members are withdrawn at the completion of their assigned responsibilities (Juneja, 2015).

A networked team is comprised of individuals who cooperate to accomplish a shared objective or purpose. Membership in such teams is often distributed and flexible. In contrast to a project team, the membership of a networked team is not invariably distinct from that of the other parts of the business, and the deliverable is frequently a suggestion rather than a clearly defined final outcome. Instances of the networked team can frequently be observed in business consulting and technological corporations (Kaboli, Tabari and Kaboli, 2006).

2.2.4.2 Parallel Teams:

Parallel teams are often created by individuals who belong to the same organization. While fulfilling their core assigned function inside the company, they also acquire other parallel responsibilities (Juneja, 2015).

In order to provide suggestions and advices on global processes and systems that consider an international viewpoint, international firms and companies are increasingly utilising virtual parallel teams. Additionally, the task involves working on a temporary basis to create proposals for enhancing a system or procedure. This task is specifically assigned to a certain group of individuals (Kaboli, Tabari and Kaboli, 2006).

2.2.4.3 Project or product development teams:

Project or product-development team undertake initiatives on behalf of users or clients within a certain time frame. Tasks often demonstrate a lack of regularity, and their outcomes are characterized by specificity and measurability. Additionally, the team has power to make decisions (Kaboli, Tabari and Kaboli, 2006).

The project or product development virtual teams consist of specialists in the field gathered from various regions to carry out a well-defined task related to the creation of an innovative item or service, information system, as well as an organisational process. The task involves producing measurable and defined outcomes (Juneja, 2015).

2.2.4.4 Work or production teams:

Engage in consistent and continuous tasks often within a single role as well as membership with well-defined boundaries (Kaboli, Tabari and Kaboli, 2006).

Work, Production, or Functional Teams are created when individuals with the same position collaborate to carry out a specific sort of continuous, daily tasks. Individuals in this group operate autonomously and acquire well-defined responsibilities. Collectively, the efforts of every member contribute to the final solution. A typical instance of this is the practice of hiring firms assembling practical virtual teams for the organisations they represent, which is followed by several companies as a cost-cutting measure for handling their backend human resources tasks (Juneja, 2015).

2.2.4.5 Services teams:

Teams may have either a formal or informal structure, consisting of people and organizations that are essential for seeking input and facilitating service modifications and improvements. A well-known example of a virtual service team may be seen in the form of a customer support center that strategically establishes its operations in several areas worldwide, therefore capitalizing on a "follow the sun" approach (Kaboli, Tabari and Kaboli, 2006).

The foundation of service teams consists of individuals distributed across geographically diverse regions. While each team member operates on their own they collectively execute tasks in an ongoing basis. These teams demonstrate efficiency in both technical and client service roles (Juneja, 2015).

2.2.4.6 Management teams:

Management Teams are comprised of organisation administrators who operate from different locations or nations. The primary purpose of these gatherings is to planned on

tactics and initiatives at the organisational level. These requirements are widely relevant to organisations that operate from different part of the world. It is important to maintain an everyday cooperative atmosphere within an organisation (Juneja, 2015).

2.2.4.7 Action teams:

The term “action teams” is generally understood to mean a team consisting of people that have specialized talents and engage in high-pressure duties with tight time pressure (Klein et al., 2006). These teams usually comprised of exceptionally proficient individuals collaborate to execute an urgent, unforeseeable, and significantly consequential assignments (Ziegert, Knight and Xiao, 2006).

Provide prompt reactions that are initiated usually in emergencies or escalated situations. They have the ability to overcome both physical distance and organisational barriers. In contrast with different group classifications, their primary purpose is to fulfil a particular case which required their immediate action (Kaboli, Tabari and Kaboli, 2006).

2.2.4.8 Offshore ISD Teams:

El-Sheikh et al., (2014) describe Offshore ISD teams an autonomous service provider team that a corporation may engage in outsourced work certain tasks or responsibilities. Many businesses choose to subcontract or offshore segments of their software development endeavours to cost-effective foreign destinations such as India, the Philippines, and other similar locations. The team situated at a cost-effective location is often referred to as the offshore team, responsible for coordinating and collaborating with the onshore teams.

2.2.5 Advantages of virtual teams

Despite the fact that there are a number of factors to take into account as well as various difficulties that the virtual teams could have, virtual teams nevertheless, have a significant amount of potential. This potential may be realized by the implementation of suitable activities and procedures. These technologies driven teams have various benefits which have helped them to gain in popularity and attribute to the following factors:

2.2.5.1 Flexibility:

The virtual team model offers significant benefits, with flexibility being an important aspect that covers multiple dimensions. From the organization's standpoint, they may optimize the use of time and space at their disposal, enabling them to maintain productivity all the time by using electronic communications. This is facilitated by the ability to work on different activities at different times, taking advantage of time and geographical variations (Berry, 2011).

In 2008, Bergiel et al., has also describes one further feature that contributes to increased flexibility is the ability of virtual team members to operate concurrently in various teams, since team membership is no longer restricted by physical location.

2.2.5.2 Cost efficiency:

According to Choi and Cho (2019), the most significant benefit of a virtual team for a business is corresponding to cost savings. Companies often utilize videoconferencing technologies, townhalls organizations, and general meetings where they meet regularly, but it is also typical to hold quarterly meetings in person at one of the company's core sites. Companies might save operational by not establishing or renting physical offices or renting smaller premises due to the remote working capabilities that are often used in virtual teams. This saves money on rental and administrative expenditures expenses such as: gas, electricity, and water...., as well as on all the payments that are related to travelling.

2.2.5.3 Acquire highly skilled employees:

Virtual teams enable firms to expand their talent pool by seeking individuals from diverse geographical locations, transcending the limitations imposed by national boundaries. This initiative facilitates the collaboration of international professionals and specialists to collectively participate in the project. The presence of diverse perspectives and the resources contributed by team members have the potential to develop creativity and improve problem-solving abilities (Taras, 2019).

It also offers the opportunity to engage a diverse group of highly specialized professionals, experts, and consultants who hold varying backgrounds, education, experience, and skills.

This arrangement eliminates the need for these individuals to physically relocate to a different geographical location (Simpson, 2017).

2.2.5.4 Enhance creativity and diversity in sharing information.

Due to the varied and diversified nature, virtual teams offer much more potential and productivity in comparison to conventional teams that are constrained by time and place. The presence of diversity within virtual teams encourages the development of creativity and innovation among its members (Bergiel et al., 2008).

2.2.5.5 Encourage equal opportunities:

According to Bergiel et al. (2008), the development of virtual teams provides an alternative for those who have limitations in travel or are reluctant to move due to parental responsibilities or physical limitations. Not only the virtual teams play a significant role in this process since they contribute to the performance management of workers largely by evaluating their productivity rather than other factors but also the use of online platforms for doing business creates a culture that facilitates the cultivation of equality and equity among workers.

2.2.6 Disadvantages of virtual teams:

2.2.6.1 Establishing trust at a distance:

Nydegger et al. (2010) effectively defined the initial obstacles faced by virtual teams, highlighting that the primary challenges arise from their distributed nature and lack of physical co-location. These challenges show up in various forms, including difficulties in relational communication and trust, as well as negative impacts on productivity and work quality.

2.2.6.2 Time zone differences:

One significant problem that arises when looking at virtual teams is the need to operate across multiple time zones. The act of operating in various time zones may provide challenges in the realm of communication, as it often restricts the available window for interaction to a little duration. Consequently, this limitation can give rise to delays in the execution of various activities and a breakdown of deadlines. The greater the number of time zones traversed, the smaller the overlapping time window for communication becomes.

Consequently, when individuals operate from opposite part of the planet, this time window becomes almost non-existent. The presence of discrepancies in working schedules and potential instances of delays may lead to disagreements between team members and dissatisfaction among them (Bergiel et al., 2008).

2.2.6.3 Lack of non-verbal communication:

The emergence of these different environmental attributes increases the significance of effective communication and cooperation in ensuring the success of a team. In addition, virtual teams have a relative disadvantage in comparison to traditional teams. In traditional team settings, team members have the ability to notice their fellow team members. They also have the possibility to pay attention to participants of meetings or individuals engaging in discussions regarding projects and the collective improvement of the group. Nevertheless, virtual teams do not have the capability to use these sorts of visual signals thus may leads to the occurrence of failures and misinterpretations in communication which is considered to be a danger for virtual teams (Wielkie, 2008).

Additionally, Curseu et al., (2008) described the use of technology creates difficulties in connection to the establishment of effective communication, cohesiveness, trust, conflict management, coordination, team identity, and overall team performance. A more sophisticated perspective on the use of technology has revealed distinct obstacles related to the functioning of virtual teams, primarily stemming from communication issues.

2.2.6.4 Challenge in the use of technology:

Finally, a common factor identified as contributing to inefficient communication was the insufficient alignment between the technology used and the communication demands of the activity (Dennis, 2008).

2.3 What is traditional team?

According to existing definitions, a team is frequently interpreted as a distinct type of group dynamics. Furthermore, it is commonly said that an effective team may be characterized as a collective of individuals who engage in substantial interconnections with the purpose of achieving shared goals. (Thomas, Jaques, Adams, & Kihneman-Wooten, 2008).

On the other hand, other scholars concentrate on the distinctiveness of team conduct in comparison to other categories of groupings. Teams may be characterized as organized groups of individuals that collaborate towards specific, clearly defined objectives, necessitating coordinated interactions to accomplish designated duties. (Forsyth, 2010).

A further definition of traditional team is given by Wesner (2018), who describes traditional teams are frequently characterized as specialized groups that possess a greater sense of ownership and commitment, and therefore encouraging the development of a collective identity within the team as a whole. It is consisting of a collective of individuals organized in a specific way, collaborating to achieve specified shared objectives via aligned interaction.

Traditional teams are not required to exist only in online platform to use digital technologies that enhance communication channels among team members. Team members of the traditional team often collaborate in a shared physical setting, using various technological devices such as mobile phones, wireless personal digital assistants, and laptop computers to facilitate the exchange of information among themselves (Arnison and Miller, 2002). They utilize technology as a means to facilitate in-person collaboration, primarily applying it for task such as delivering presentations, working on projects, and exchanging documents among team members.

This explanation highlights a fundamental characteristic of teams, which is the cooperative work of its members in a shared task for which they all share accountability (Stratone and Vătămănescu, 2019).

2.4 Virtual team versus traditional team:

According to Bell et al. (2002), traditional teams are characterized by their close connection to one another and the ability to interact face-to-face while working in the same physical location. In contrast, virtual teams are physically separated and rely on a variety of technologies, such as electronic mail, videoconferencing, telephones, and groupware (hardware and software applications designed to facilitate group work), for communication and information exchange. Virtual teams are characterized by increased complexity when compared to face-to-face teams due to their ability to exceed boundaries related to time, distance (geography), and organization. Additionally, virtual teams rely on electronic

technological tools to facilitate communication and collaboration, thus making geographical separation and communication media key factors for comparison.

In a contrary, Kayworth and Leidner (2002) claimed that team members possess intrinsic cultural biases that might influence their perception of transmitted information, potentially resulting in misunderstandings confusion, or inaccuracies.

This section studies the comparisons between face-to-face and virtual teams in terms of their styles, performance, satisfaction, trust, cohesiveness, and conflicts.

2.4.1 Styles:

According to a research study by Brason, Clausen and Sung (2008), the researchers discovered that teams that engaged in face-to-face interactions had an increased capacity for self-actualization, resulting in a more receptive environment for the generation of creative and inventive ideas. In addition, it was noted that teams that interacted in person had better scores in terms of using a humanistic encouraging approach, characterized by individuals providing constructive support and assistance to one another. Additionally, the members had elevated scores in the affiliative style, indicating a significant level of dedication and commitment to the collective.

In contrast, Hambley et al., (2007), found out that virtual teams exhibited a greater tendency to passive/defensive-dependent, avoidance, or aggressive/defensive-power oriented dimensions, resulting in worse decision-making outcomes.

2.4.2 Performance:

Research conducted by Staples and Jhao (2006) investigated the impact of cultural diversity on team effectiveness in a sample of seventy-nine teams, comparing their performance in face-to-face and virtual settings. The examiners observed that the performance of virtual diverse groups outperformed the results of face-to-face diverse teams. Purvanova and Bono (2009) discovered a positive relationship between the behaviours of transformational leaders and performance in virtual teams, as compared to face-to-face teams. In a study conducted by Hambley et al. (2007), it was shown that individuals who communicated using

multimedia achieved greater levels of task performance compared to those who used simpler media.

2.4.3 Satisfaction:

According to the study conducted by Staples et al. (2006), it was shown that virtual teams tended to have lower levels of satisfaction, mostly attributed to the varied composition of these teams. The level of satisfaction about the quality of team collaboration was higher among members of face-to-face teams compared to virtual teams. In terms of work-process satisfaction, it was found that face-to-face teams exhibited higher levels of satisfaction compared to virtual teams. There were no statistically significant differences seen between the two kinds of teams in terms of job output satisfaction. Both teams expressed a modest level of satisfaction with the outcomes of their labour.

2.4.4 Trust:

Hill et al., (2009) performed a study that examined the impact of communication medium (in person versus online) and connect (cooperative versus competitive) on reliability and cooperation among online co-workers. The researchers also discovered that a cooperative environment encouraged greater amounts of trust and collaborative behaviours, despite the communication channel used at the first encounter. In a competitive environment, a personal encounter at the beginning of a professional connection has more significance in building trust and encouraging cooperative behaviours.

2.4.5 Cohesion:

In a study conducted by Hambley et al. (2007), it was observed that the average ratings for team cohesiveness were greater in face-to-face and videoconference teams compared to chat teams. However, the difference in scores between face-to-face and videoconference teams was not found to be statistically significant. The study conducted by Staples et al. (2006) examined the phenomenon of reduced cohesiveness among virtual teams.

2.4.6 Conflict:

Wakefield, Leidner and Garrison (2008) have shown that virtual teams, because of their distributed and varied arrangements, they often encounter a higher frequency and wider range of conflicts in comparison to teams that are physically based in the same place.

Another study executed by Liu, Luo, and Wei (30), the researchers examined the dynamics of 20 teams consisting of four members each, comparing face-to-face teams with virtual teams. The sample size included a total of 160 subjects from the United States and China. The findings indicated that virtual teams experienced a higher level of conflict compared to face-to-face teams. This can be attributed to the diverse nature of the teams, leading to various conflict management behaviours in global virtual teams, including teamwork, competition, and avoidance.

2.5 E- Leadership practices in virtual team:

2.5.1 What is E-leadership and what are its skills:

Leadership is an act of social engagement and communication within each individual and their teams that supports the achievement of objective via people and is based on mutual impact between managers and their employees (Savolainen, 2014). Similarly, Yukl (2010) stated that leadership is a multifaceted process that aims to achieve the objectives of a company. The transformation of leadership is closely linked to the evolving setting of the technology-driven economy as this new setting provides leader with unique expertise needs in their day-to-day responsibilities (Savolainen, 2014).

E-leadership for Savolainem (2014) is the practice of using interpersonal influence along with the support of modern information technology to bring about changes in behaviours, concepts, and business. Whereas Mackenzie (2010) defined the notion of e-leadership as managers who primarily employ the use of technology as a main tool of communication.

Virtual leadership may be described as the act of managing a group that exists in a non-physical form. This entails managing work teams who are geographically dispersed and primarily rely on electronic interaction and coordination methods. Virtual leaders may be described as "boundary managers" who effectively motivate individuals to develop self-management skills, although being physically distant. Virtual leaders should prioritize their engagement with the physical surrounding. Effective virtual leaders require the ability to overcome obstacles related to time, geographical distance, and cultural differences in order to enact positive changes inside both local and global organizations, even in situations where direct oversight and interpersonal engagement are unfeasible. The development and maintenance of high-performance groups across varied borders need for the development of

new abilities. The author's takeaway is that the virtual leader should rely on coaching as instead of monitoring (Kerfoot, 2010).

Leaders of all teams, whether they are distributed or located together are involved in innovative problem-solving, have many obligations that they must fulfil. These tasks involve formulating a clear vision for the team and effectively conveying this goal via their virtual collaboration. Some of the groups were analysed had difficulties at first due to their absence of a shared set of guidelines or approach. Without established communication rules, co-workers relied on the prevailing behaviours in the community they were from. This frequently resulted in each team member speaking in their own manner, so failing to sufficiently share knowledge with the rest of the group. The outcome manifested as an inadequate level of unity and challenges in combining the efforts of diverse team members (Malhotra et al., 2007).

Kerfoot (2010) provided a definition of virtual leadership as the act of managing a group of corporation that exists in a non-physical form. This refers to the management of work teams that are geographically dispersed and primarily rely on electronic interaction and cooperation. Virtual leaders serve as "boundary managers" who motivate individuals remotely to cultivate their self-management abilities. Virtual leaders must prioritise their engagement with the environment.

According to Shriberg (2009), virtual leadership, which was formerly seen as necessary mainly for large multinational corporations, has now become indispensable for practically every firm aiming to achieve growth and expansion. The organisation may effectively utilise virtual leadership and virtual cooperation without the requirement for offices in distant countries or towns. Virtual leaders must establish strong technological and human support mechanisms capable of maintaining the team's cohesiveness. Leading a group of individuals dispersed throughout various countries, with various time zones and cultural backgrounds, requires delicate effort.

For Kerfoot (2010) defines e-leadership as the management of distributed work inside a corporation that operates without a physical presence. In this context, members interact and collaborate with each other via electronic means. Virtual leaders must possess the capacity

to motivate individuals from remote locations and cultivate self-directed attributes in their workforce. Virtual leaders must possess the capacity to navigate cultural, local time-based, and geographical obstacles in order to effectively manage and adapt to new developments in situations where direct management and supervision are unfeasible. In order to sustain the exceptional performance of the group across different borders, it is necessary to acquire new skills and capabilities. The author finished off with a statement states that virtual leaders should rely on mentoring rather than monitoring.

While the majority of the authors value communication through information technology devices. Hunsaker and Hunsaker (2008), stated that e-leadership extends beyond the context of virtual communication. The two primary objectives of e-leadership are administration of performance and strengthening teams (Hunsaker and Hunsaker, 2008). According to the authors, to achieve the best results in virtual teams, online managers should clearly define objectives and strategies, provide guidance for all tasks assigned to each coworker, and establish not only regular meeting practices but also standard procedures so as to all the members can follow.

Similarly, Malhotra et al., (2007) asserts that members of highly effective virtual teams, who actively participate in creative problem-solving, are distinguished from others. E-leaders dedicate their time coaching, enforcing their employees, established rules, and acknowledging and rewarding individual members as well as the team as a whole. In order to build a successful virtual team, e-leaders must provide avenues for developing trust among team members and motivate them by offering appreciation for their achievements. E-leaders dedicate their time coaching team members, enforcing regulations, and identifying and rewarding both individuals and the team as a whole.

2.5.2 Trust in e-leadership:

2.5.2.1 Role and definition of trust in E-leadership within an Organisation:

Trust has been increasingly important in organizations during the previous decade. Establishing trust has increasingly been acknowledged as one of the primary responsibilities of a manager (Yukl, 2010). Managers facilitate the development of a trustworthy working environment. Trust is not also an intangible asset but also a talent that leaders possess. From the past, research of trust on e-leadership, it is not widely acknowledged when

viewed from that point of view (Savolainen, 2011a; Savolainen & Lopez-Fresno, 2013). In the context of significant corporate transformations, trust is often questioned and evaluated in the workplace. Trust interpersonal connections may therefore become a crucial intellectual human asset in such environments. Trust is frequently assumed to be secure until it breaches (Savolainen, 2011a; Savolainen & Lopez-Fresno, 2013). Trust may provide individuals with the potential to get access to valuable information, as well as economic and relational resources within organizations. Over time, these established ties develop into human intellectual wealth, it also plays a crucial role in creating an advantage in competition (Savolainen, 2011a).

2.5.2.2 Trust between a manager and their employees in E-leadership:

Trust is a vital connection and emotional connection in the collaboration between a manager and their employees. Regarding e-relationships, the crucial factor that significantly impacts everyday work is the level of engagement within a day-to-day work (Savolainen, 2014). Lewicki et.al. (2006) highlight the importance of trust as a basis for productive cooperation and furthermore, the various variables that influence integrated actions. The writers also go over a fresh perspective on interactions claiming that they are complex and multi-dimensional. It is important for members of the organization to learn how to trust and be trusted, as well as when to manage or monitor others in interactions.

2.5.2.3 Establishing and maintaining interpersonal trust in E-leadership:

Relationships within a virtual team rely on trust to function. Through various means of communication, managers earn the trust of their employees. An interactive setting contains several aspects that contribute to the overall experience. Interaction is impacted by both the technological equipment being used and the specific circumstances, including the connection between people and the subject being discussed. Approximately 80% of individuals primarily utilise digital communication devices, such as computers and mobile phones, for their work-related duties in e-manager interaction and workplace trust development. Email remains the most crucial tool in communication within a virtual team (Savolainen et al., 2014).

Sivunen (2007) and Savolainen et al. (2014) state that factors other than the technical specifications of a device can influence communication quality and the choice of a

communication device. The regularity, processes, and standards of engagement are also considered essential within a virtual team. An inadequate communication can result not only in a decline in trust but also decrease the level of trust between employees (Savolainen, et al., 2014).

2.5.3 Leadership skills:

2.5.3.1 Preparation:

The initial phase of the virtual team lifespan requires detailed planning. During the planning process, leaders often engage in a series of inquiries, including concerns regarding the purpose, objectives, and methods, which allows them to reflect, analyse, and assess the suitability of their transition towards virtuality. The first step of establishing a team is to clearly establish and identify the overall purpose of the team, as well as determine the right amount of "virtuality" needed to accomplish multiple goals.

These decisions are often influenced by strategic indicators for instance: mergers, increased market reach, cost savings, marketplace adaptability and so on (Hertel et al., 2005). Therefore, leaders in virtual teams must utilise their superior decision-making abilities throughout the setup phase in order to successfully manage the difficulties that come with transitioning to a virtual environment, all while prioritising the collective interests of their corporations and their members (Mukherjee et al., 2023). Besides, Hertel (2005) additionally pointed out an important responsibilities for leadership include the selection of essential persons, the creation of a set of tasks, the establishment of an acceptable reward system as well as the selection of relevant technologies.

2.5.3.2 Launch:

The second phase is known as "launch", primarily focuses on developing relationship-building skills (Hertel et al., 2005). Therefore, the current concept of literature on virtual team administration suggests that all virtual team members should engage in personal communication at the present time.

At this phase, virtual teams are regularly utilised to carry out significant and complex organisational responsibilities, including managing collaborations, executing bargaining

procedures, monitoring revenue management, together with introducing new products (Rapp et al., 2010). Usually, during this stage, the virtual team leaders are expected to clarify project-related procedures in order to establish a common understanding among virtual team members to ensure effective and efficient performance in the future, as well as create an atmosphere of unity within the team (Hertel et al., 2005).

2.5.3.3 Performance management:

During the performance management phase of a virtual team, the primary difficulties and concerns become more prominent compared to the initial stages. This requires management skills that include both social and behavioural facets. At this phase, it primarily requires efficient management communication inside the virtual team, encouraging each individual motivation in order to have an effective management within the group (Mukherjee et al., 2023).

There are three types of management at this phase which includes: firstly, the directive leadership, where the manager supervises the team using digital devices; secondly, the delegative leadership, where the manager encourages each individual by delegating them several of the manager's responsibilities; as well as shared management, which occurs in self-managing teams (Hertel et al., 2005).

Shared management is one of the important parts of self-managing teams. In such situations, regulating communication among each individual and resolving conflicts could be the primary struggle. Besides that, one important aspect is that management's behavioral qualities may have a significant impact on maintaining inspiration, reliability, team belonging, and satisfaction at this phase. The necessary managerial initiatives consist primarily of utilising social and behavioural capabilities in order to evaluate effectiveness, actively building and maintaining interactions within the team, as well as monitoring behaviour and performance (Mukherjee et al., 2023).

Sivunen (2006) discovered that managers who define mutual objectives as well as accomplishment criteria within the team also contribute to developing of a team identity. A collective team identity allows VT members to enhance comprehension, improve team efficiency, and achieve outstanding results.

2.5.3.4 Training and team development:

The following phase for the virtual team entails the instruction and enhancement of team members. A virtual team manager must address these issues by creating an educational session that are tailored to the goals as well as objectives of the whole team (Hertel et al., 2005). Furthermore, the leader should also evaluate the efficacy of the trainings as well as recognise the effective use of such session programmes. Rosen et al. (2006) conducted a research about the human resource leader and discovered that more than 60 percent of the corporations in the study did not offer specialised training session for virtual team workers. Due to that, the role of the virtual team leader becomes more complex due to such a situation. Aside from gaining the support of superiors for such programmes, the virtual team leader must also recognise the specific needs and expectations of virtual team members in relation to online educational training sessions (Mukherjee et al., 2023).

2.5.3.5 Disbanding:

Hertel et al.(2005), highlighted that the breakdown of virtual teams and reunion of team members is a crucial topic that has been overlooked in several studies. Since the virtual teams exist for a brief period and team members are frequently reformed based on business needs. Therefore, it is crucial to maintain a good relationship between the team members once the collaboration is finished.

2.6 How performance is managed in virtual team?

2.6.1 Effective virtual team:

The potential benefits of virtual teams including the ability to leverage resources and expertise from different locations, saving cost of travelling (Dulebohna and Hoch, 2017). Virtual teams offer its advantages for both executive board members as well as and their team workers by eliminating the need to travel for conference meetings. In order to have the best performance of the virtual team, organizations must ensure the proper functioning of the technology communication and offer development programmes to help their team members properly carry out their job obligations (Samul et al., 2020).

There are many different kinds of groups that may be found in corporation. According to Robbins (2005), the most prevalent types of teams are: problem-solving teams, self-managed work teams, cross-functional teams, and virtual teams.

Problem-solving teams are among the most often implemented teams. A typical problem-solving team has 5-12 individuals from the field who gather for a short period of time to work together on enhancing job efficiency through enhancements in quality, decreasing travel expenses as well as implementing modifications to the labour procedure framework. While their authorization for carrying out their ideas is infrequent, their opinions and feedbacks are highly valuable in reaching the goal of identifying new approaches that benefits the entire company (Samul et al., 2020).

Meanwhile, self-managed teams comprise of members who collaborate closely on specific objectives plan while carrying the majority of the duties which is associated with their leaders by strategize, assign obligations, supervise progress and implement appropriate measures and examine the execution of every team member (Samul et al., 2020).

Cross-functional teams are made up of individuals from various departments that are organized at the same career level but hold different fields of expertise. These teams collaborate to accomplish a common task by utilizing the knowledge and perspective of one another within the fields and by utilizing this organizational framework, members of diverse teams are able to collaborate on complicated task, exchange information from different fields in order to propose a new approach to accomplish a goal (Samul et al., 2020).

In contrast to teams that depend on face-to-face communication with each other, virtual teams employ computerised technology to establish connections among individual placed in various work location with the shared goal of accomplishing a particular task (Samul et al., 2020).

Robbins (2005) has shown that there are four distinct categories that attempt to recognize the primary indicators of team efficiency which include: context factor, composition factor, processes factor and work structure structure.

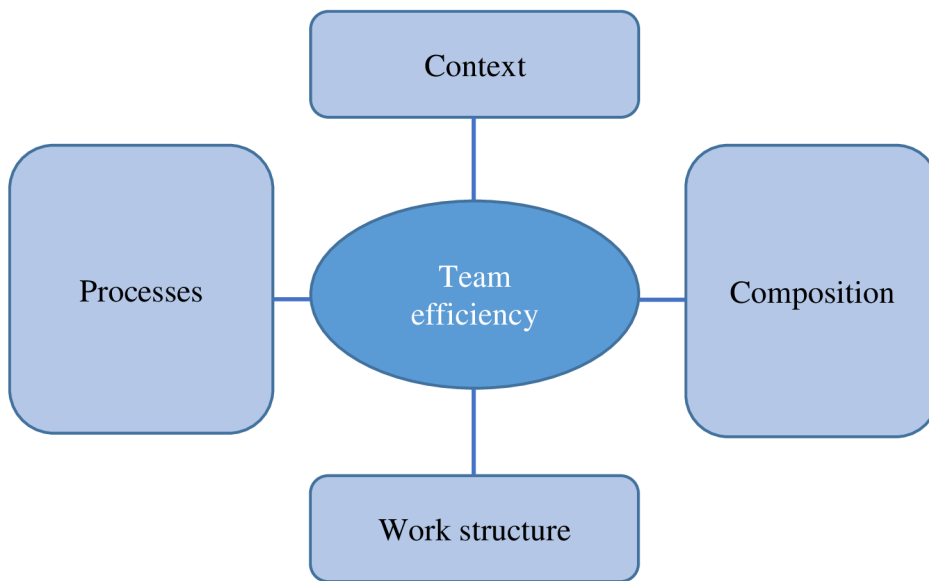


Figure 2 Factors that influence the team efficiency

Source: Robbins, 2005

The effectiveness of a team is determined by context structure such as resource suitability, management and organisation, trust between coworkers and the achievement reward as well as assessment system. Meanwhile, composition of a team implies to the competencies of its members. Knowledge in technical field, ability to solve problems and make decision are the minimum three competency areas needed for a success team. Besides, work structure includes factors that inspire and engage people, including variety of skills range, occupation identity, project relevance and evaluation. In order to build an effective team efficiency, process factors play an important role in enhanced collaboration (Samul et al., 2020).

2.6.2 Virtual team performance models:

Researcher Aritz et al., (2017) emphasises the significance of discovering the most important elements that contribute to improve virtual team performance. The input-process-output model delivers a valuable foundation framework for identifying the primary inputs, phases of team, operations, facilitators and relevant outputs for assessing the success of virtual team. According to this framework (Ilgen et al., 2005), the phases and process factors of a team are influenced by the input elements. These elements, in turn, affect the team results and serve as a facilitator among inputs and outputs

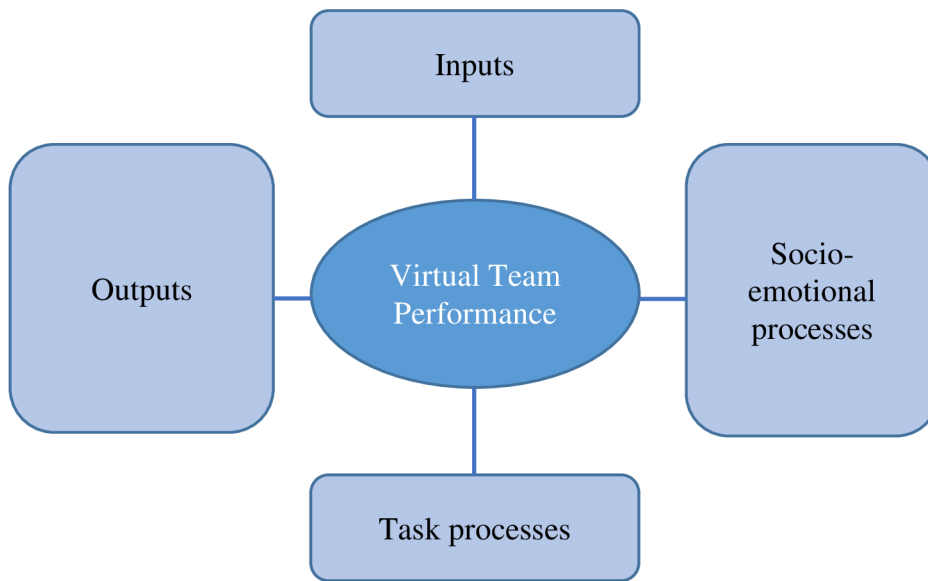


Figure 3 Components of virtual performance

Source: Robbins, 2005

In their study, Powell et al. (2004) identified primary components that contribute to the performance of virtual teams: inputs, socio-emotional processes, task processes, and outputs. The inputs correspond to design, culture, technical skill and training in the context of team development as stated by Van Ryssen and Godar (2000). Extensive research has been devoted to studying the operation and interaction as facilitators of the input-output relationship. However, some of the discoveries regarding the transition are still scarce (Gilson et al., 2015).

As suggested by Powell et al. (2004), the efficacy of virtual reality initiatives is positively influenced by socio-emotional process. Task performance of virtual team is significantly influenced by task processes, including collaboration, interaction and task-technology structure.

2.6.3 Team performance and individual characteristics

When examining the impact of personality characteristics on virtual teamwork, past research indicates that being open to new experiences is a greater connection to a desire for virtual team that is destructive compared to conventional working team. On the other hand, extraversion is more linked to a preference for virtual team in comparison to working alone

(Luse et al., 2013).

Moreover, it has been proposed that the cultural intelligence of colleagues within the team could impact the structure and procedures of the collaboration (Ang et al., 2007). Nevertheless, Li et al. (2013), defined culture intelligence as how well a person is able to collaborate, engage as well as communicate with people from various backgrounds, which consists of the following elements: cognitive (aware and understanding of culture norms and distinctions), motivational (fascinated and has the ability to adapt to culture differences) and behavioural (Earley and Ang, 2003).

2.7 The need to run an effective virtual team:

The factors that impact the performance of virtual teams remain ambiguous, according to a review of the relevant literature (Ale Ebrahim et al., 2009d). An important obstacle faced by virtual teams is the need to establish effective interaction among all members of the geographically dispersed teams (Anderson et al., 2007).

In a research study of 54 effective collaborative virtual groups, Malhotra and Majchrzak (2004) had found out that job's demand and interconnections, duties and obligations, as well as the knowledge of each person had an advantageous impact on the outcome of the team's performance. In the following year 2005, Hertel et al. had performed an assessment with the participants of employees as well as their managers. The research demonstrated that the qualities associated with assignment, collaboration and had strong dependability.

In 2005, Shachaf and Hara (2005) has outlined four facets of effective virtual team leadership

- (1) Communication: In addition to ensuring tasks are made clear, the manager get involved in consistent and offers on-going feedbacks.

- (2) Understanding: The manager pays close attention to the member's timetable, value and their point of view, thus build the relationships with their employees at a personal level.

- (3) Clarity of responsibilities: The manager establishes clear and specific responsibilities for their employees, provide guidance and support for their team members.

- (4) Leadership mindset: The manager presents an assertiveness attitude, show their concern for team members at the individual levels and maintains a consistent approach throughout the duration of the project.

An effective virtual team is firstly a team with a group of people with an expertise in a certain field. The essence of virtual teams maybe summarised in four words: people, purpose, links and times

People: Organise and manage small groups of people of all types and levels, ranging from executive to teams within the parent organisation of a local educational institution.

Purpose: Keeps teams connected, allowing them to concentrate on their duties – work is developing from aims to achievements

Link: Refer to the numerous platforms, exchanges and linkages that form the linked framework within a team as it grows over a period of time. The primary distinction between a traditional team and an online team rest in the basic features and diversity of their connection (Lipnack and Stamps, 2000)

On the other hands, Malhotra (2007) in their research has discovered that there are six ways to run an effective virtual team

(1) Utilize communication technologies in order to build trust between team members:

Teams working remotely require explicit standards that outline the specific ways in which electronic communication will be utilised. Besides, providing an equal amount of work in a geographically dispersed additionally developed trust

(2) Assure that the team's variety is recognised, valued and utilised: This is important because virtual teams are made up of people who represent a wide range of interests, roles, groups and backgrounds.

(3) Coordination of weekly meetings: In order to keep everything clear for every team member as well as to maintain engagement, enthusiasm, and cohesion in each meeting.

(4) Utilize technology to track the performance of the team: Virtual team leaders can analyse both synchronous and asynchronous communication patterns to identify team members who are engaged in team activities and those who require additional assistance or motivation to engage further.

(5) Improve the team's and its members' visibility to the general population. Although team development does necessitate an internal concentration, virtual team leaders must also be mindful of the concerns and interests of numerous outside parties

(6) Make sure the participation of individuals in virtual organisation is beneficial. The most successful virtual team allow that every member has the chance to develop their skills, offer their help and a sense of belonging to the team.

3 Practical Part

3.1 Background of the selected company and team:

The company I have selected for my research is SAP Services s.r.o, a German multinational software company with a branch located in Prague, Czech Republic. The company's primary focus is on developing enterprise software for the purpose of managing corporate operations and customer relations. The corporation is the main provider of enterprise resource planning software on a global scale. The corporation offers applications that target to small enterprises, midsize companies, and major corporations. The organisation also provides database softwares and business technology in along with enterprise resource planning software (SAP.com s.r.o, 2020).

The research team I have picked for my thesis topic is the Order to Invoice team within SAP Services s.r.o. The Order to Invoice team facilitates the procedures for Software Licence, support contracts, and invoices, beginning with the receipt of a signed contract. The Order-to-Invoice process ensures that once a contract is finalised, the clients' order is completed and they are invoiced accordingly.

The primary daily responsibility of the Order to Invoice teams include:

- Manage SAP's revenue and cashflow, as well as take the lead in implementing new business models.
- Administration of SAP Software and maintain contracts.
- Manage billing cycle for company's new business contract.
- Review sale opportunities to verify contracts and quotes, ensuirng they are all accurate and complete.
- Assist cash collections team in resolving complex billing issue and customer dispute
- Support of monthly/quarterly financial closing cycle.
- Colaborate closely and cross-functionally with other teams and departments.

(SAP.com s.r.o, 2020)

3.2 Design of questionnaire:

The survey comprises a total of 28 inquiries, comprising 24 closed-ended questions, 2 semi-closed ended questions, and 2 open – ended questions. The answers of the survey were designed into many formats, including multiple choice options, Likert scale, tick box options, short text, and long text options.

The questionnaire was divided into five primary sections.

The first part of the survey was dedicated to collecting demographic data, which comprised fundamental particulars about the participants, including their gender, age, present occupation, frequency of virtual team collaboration, and prior experience engaging in virtual team work.

The second part of the survey focused on the benefits of the virtual team. This section explores the participants' perspectives on different benefits of a virtual team in terms of geographical distribution, access to a diverse talent pool, cost effectiveness, and their level of satisfaction with work-life balance when working remotely.

Conversely, the third part of the survey concentrated on the downsides of virtual teams in several aspects, including communication difficulties, trust-building, misinterpretations, obstacles encountered by the participants, feelings of isolation, distraction and misinterpretations of communication within a virtual team.

The last part of the survey examines ways to enhance productivity. The questions provided several suggestions, including creating a distraction-free home office, properly prioritising tasks, setting daily goals, taking regular breaks, and maintaining communication with teammates. At the end of the survey, the participants were asked to give their preference for different environmental settings.

3.3 Data and sample

In order to obtain the data sample, individuals who are part of the virtual team inside the Order to Invoice team at SAP s.r.o services were chosen. Forty-four participants both part-

time and full-times employees, included with 2 managers within the Order to Invoice team was selected.

The completed questionnaire was subsequently distributed to the participants via email in order to gather the necessary data. A total of 50 inquiries were distributed, of which 44 responses were received. The following table summarises the demographic characteristics of the respondents.

Table 1: Demographic information

Details	Number of participants	Percentage
Gender	44	<ul style="list-style-type: none"> • Male 18 • Female 26
Designation	44	<ul style="list-style-type: none"> • Managers 2 • Employees 42
Age	44	<ul style="list-style-type: none"> • 20 – 30 years 27 • 31 – 40 years 11 • 41 – 50 years 6
Years of experience working in virtual team	44	<ul style="list-style-type: none"> • 1-5 years 28 • 6-10 years 16 • Over 10 years -
Years of experience in current virtual team	44	<ul style="list-style-type: none"> • 1 – 5 years 30 • 6 – 10 years. 14 • Over 10 years -

(Source: Own creation – data collected from survey, 2024)

The research includes a total of forty-four individuals who are employed at SAP Services s.r.o. Some participants work part-time while others work full-time. The average age is 29.5 years. Out of the 44 individuals, there are two team managers that are accountable for different areas, specifically the European regions and the Asia regions. Their total work experience was approximately ten years, with an average of over six years of experience in SAP. In addition to their professional expertise, both of them hold a minimum of four years of industry experience.

3.4 Data Analysis: Survey

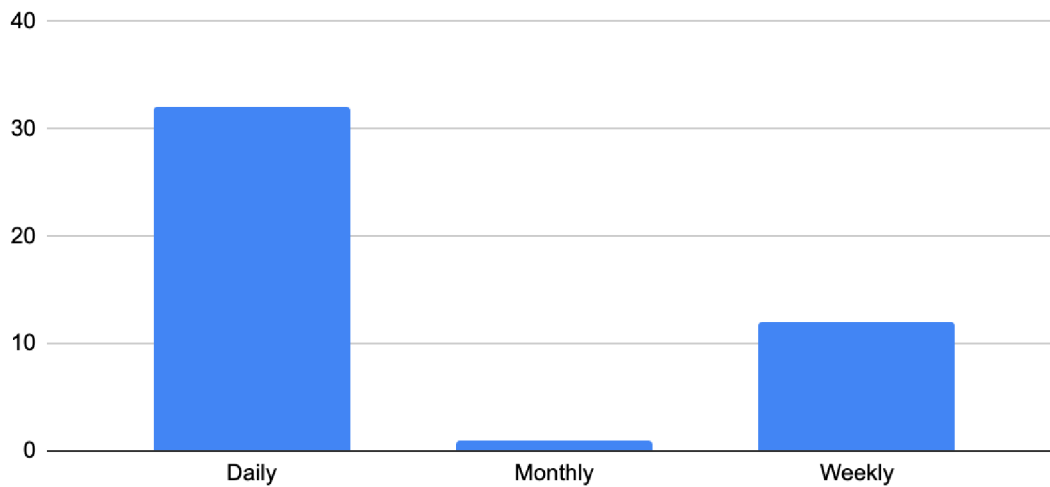


Figure 4: Distribution level of engagement in a virtual team

Source: own creation (data from survey, 2024)

The survey yielded a total of 44 respondents. The first figure illustrates that 70.5% of the participants are involved in daily collaboration with a virtual team, indicating that the majority of respondents engage in virtual team work on a daily basis. Additionally, 27.3% of the participants engage in virtual team work on a weekly basis, which is not a part of their daily routine. Only 1% of the respondents reported working with virtual platforms on a monthly basis, showing a relatively low level of participation in monthly activities.

3.4.1 Advantages of a virtual team:

3.4.1.1 Flexibility of a virtual team

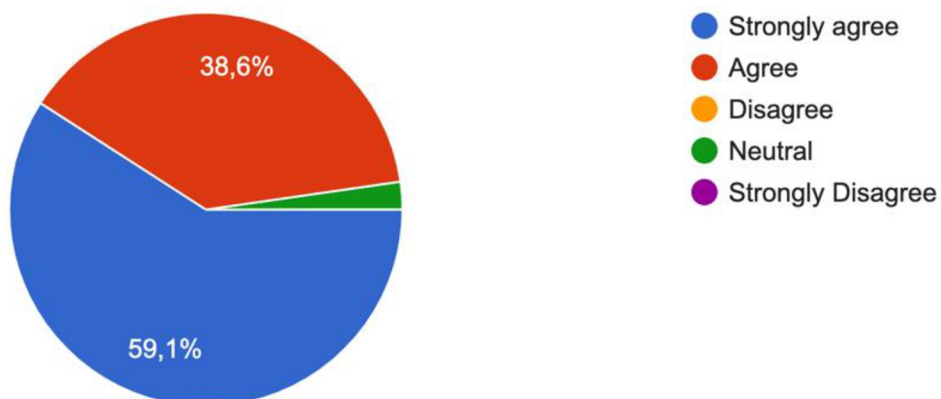


Figure 5: Distribution level of the flexibility in a virtual team

Source: own creation (data from survey, 2024)

The figure above illustrates the respondents' agreement on the question: "In your opinion, does the use of virtual teams improve flexibility in terms of geographical distribution and working schedules?". 59.1% of participants strongly believe that virtual teams provide flexibility in terms of geographical dispersion and working schedules. This indicates that they are extremely satisfied with the flexibility to manage their own work schedule in an online environment. 38.6% of participants agree with the statement, indicating their acknowledgement of the advantages of a virtual team. Merely 1% of the respondents expressed neither agreement nor disagreement with this statement. This suggests that a minority of respondents may be uncertain about the effects of the virtual team. There is no response indicating their dissatisfaction with the statement.

3.4.1.2 Accessibility to talent pools regardless of the location:

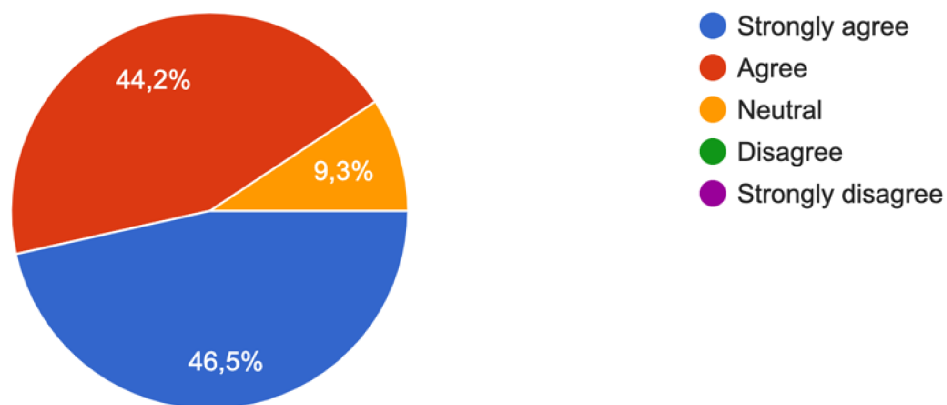


Figure 6: Distribution level of the accessibility in a virtual team

Source: Own creation (data from survey, 2024)

The figure above illustrates the responses toward the statement: „In your opinion, do virtual teams provide access to a diverse talent pool, regardless of geography?“. 46.5% of the participants express a strong agreement that virtual teams enable companies to broaden their talent pool by recruiting workers from different geographical regions, thereby overcoming the constraints imposed by national borders. Moreover, 44.2% of respondents concur, indicating that a considerable proportion of participants recognise the adaptability that virtual teams offer. A neutral proportion of 9.3% of the respondents express no disagreement or agreement with the given statement. No participant expresses disagreement towards the

statement that virtual teams improve flexibility in terms of geographical distribution and work schedules, as indicated by the absence of any respondents who express disagreement with the statement.

3.4.1.3 Cost-saving:

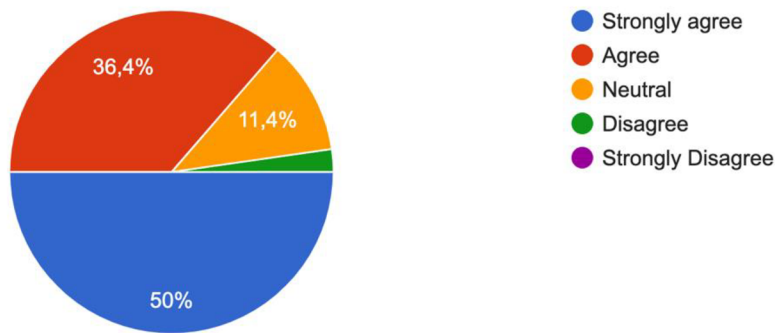


Figure 7: Distribution level of the cost efficiency in a virtual team

Source: own process (data from survey, 2024)

The figure shown depicts the replies to the question, "In your perspective, do virtual teams reduce expenses associated with office space and utilities?". Half of the participants strongly agree that virtual teams save expenses related to office spaces and utilities which indicate a positive outlook in this regard. Slightly fewer respondents 36.4% agree to the statement as true than those 50% who strongly accept it. Nonetheless, a considerable proportion of the participants maintain a favourable stance regarding the subject. A neutral proportion of 11.4% of the respondents express no agreement or disagreement with the given statement. This indicates that a proportion of the participants are uncertain or hold contradictory views. Just 1% of the participants expressed dissent towards the statement. While this proportion may appear insignificant, it nevertheless signifies a segment of respondents who maintain the contrasting standpoint.

3.4.1.4 Technological resources:

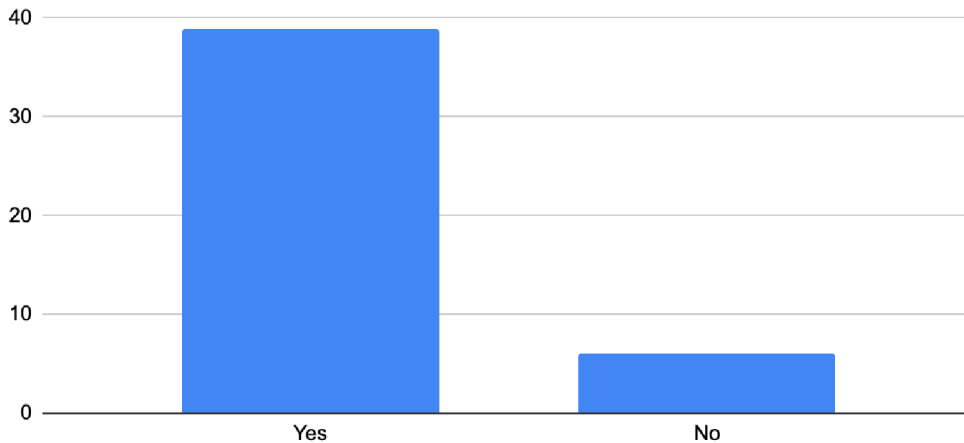


Figure 8 Distribution level of sufficient access to the technology while working remotely

Source: own process (data from survey, 2024)

The chart depicts answers to the question "Do you have sufficient access to the technology and equipment required to perform your duties efficiently?"

With 86.7% of respondents affirming the statement "Yes," a substantial majority of participants believe they have adequate access to the necessary technology and apparatus to perform their responsibilities effectively. The greatest portion of the figure would be occupied by this segment, which would emphasise the proportion of participants who possess confidence in the sufficiency of their technological resources for professional purposes.

Of those surveyed, 13.3% said "No," indicating that some participants do not think they have enough access to the tools and technology needed to accomplish their jobs well. This area of the graph would be smaller, representing the proportion of respondents who believe they lack the essential technology resources to efficiently carry out their job.

3.4.2 Disadvantages and obstacles while working remotely:

3.4.2.1 Work-life balance:

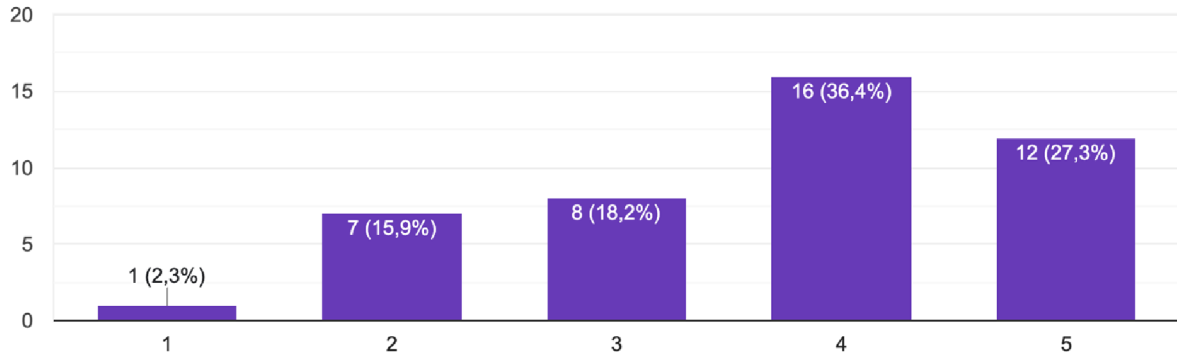


Figure 9: Satisfaction level of work-life balance

Source: own creation (data from survey, 2024)

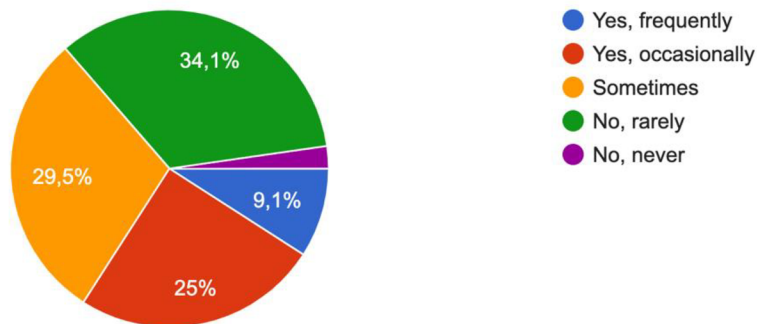


Figure 10: Distribution level of facing challenges in keeping work-life balanced

Source: Own process (data from survey, 2024)

In the figure 8 above indicates the distribution of respondents's satisfaction ratings with their current work-life balance. On the scale, 2.3% of respondents rated their current work-life balance as a 1. This finding suggests that a minority of respondents are extremely unhappy with their work-life balance, as evidenced by their receiving the minimum rating possible. According to the survey, 15.9% of participants evaluated their present work-life balance as a 2. This finding implies that a moderate percentage of the respondents are dissatisfied with their work-life balance, although not to the same extent as those who assigned a rating of 1.

An increasing proportion of participants (18.2%) assessed their current work-life balance as a 3. These findings suggest that a substantial percentage of respondents hold an average level of satisfaction or dissatisfaction regarding their work-life balance. A total of 36.4% of participants assessed their present work-life balance with a score of 4. This finding indicates that a substantial proportion of the group is satisfied with their work-life balance, thereby deserved a comparatively higher evaluation. On the scale, 27.3% of respondents rated their current work-life balance as a 5. This finding suggests that a significant percentage of respondents highly value their work-life balance, as evidenced by their highest possible rating.

Nevertheless, when questioned about the challenges associated with balancing work and personal life while operating from a remote location. Figure 9 shown as a 34,1% proportion of the participants agreed that they do find themselves struggle to find the balance between their worklife and personal lives which indicates that they are having problems working remotely for various reasons, as the table below illustrates. Meanwhile, 36,4% of respondents agrred that they rarely facing any challenges while working remotely. Demonstrating that at some extends, they are happy with their work-life balance and that, despite working remotely, they did not encounter any major difficulties in juggling their personal and professional lives. Despite comprising a 29,5% proportion, this data nonetheless suggests that a certain number of participants encountered difficulties in reaching a satisfactory proportion between their job responsibilities and personal life.

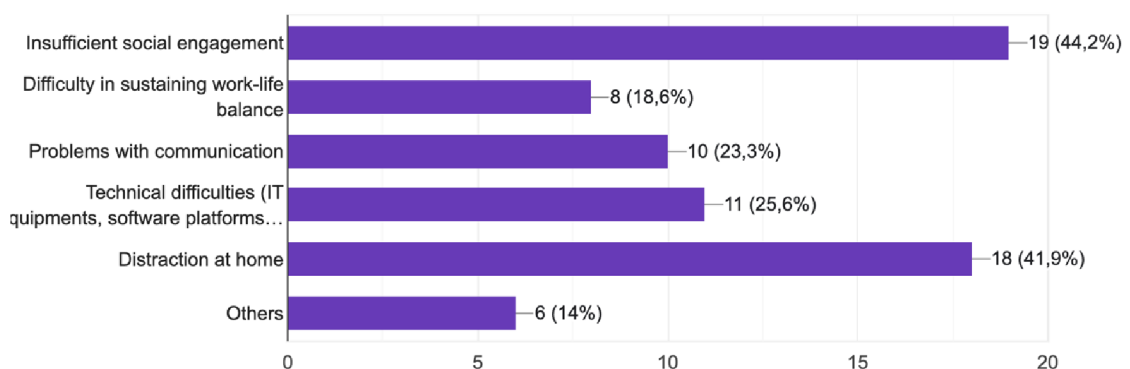


Figure 11: Primary difficulties while working remotely

Source: own creation (data from survey, 2024)

Figure 10 represents the difficulties that the participants experienced while working remotely. 44.2% of respondents expressed "insufficient social engagement," indicating that a sizable majority of participants suffer with a lack of social connection or involvement when working remotely. This area of the data represents the biggest proportion, emphasising the number of respondents who experience isolation or disconnection from their coworkers.

Meanwhile, a significant percentage of participants (18.6%) revealed that they encounter difficulties in maintaining a healthy work-life balance when operating remotely. This finding suggests that a considerable number of individuals encounter difficulties in effectively managing their professional obligations alongside personal life commitments. This section of the figure reflects a substantial proportion, indicating the percentage of participants who find it difficult to establish clear boundaries between their professional and personal time in a remote work arrangement.

The fact that 23.3% of respondents selected "Experiencing communication difficulties" indicates that a significant proportion of respondents face communication obstacles when working remotely. This particular section of the graph would correspond to a moderate proportion of the total respondents who encounter difficulties in a remote work setting, including miscommunication, response delays, and ineffectual communication channels.

A notable minority of participants reports encountering technological challenges while working remotely, as 25.6% of respondents indicated "Facing technical difficulties (IT equipment, software platforms)." This indicating the percentage of participants who encounter problems such as hardware or software failures, connection challenges, or insufficient technical assistance in a remote work environment.

With 41.9% of respondents selecting "Facing distractions at home," it can be concluded that a substantial majority of individuals engaged in remote work from home encounter challenges related to interruptions or distractions. It shows the percentage of participants who face distractions such as domestic chores, family obligations, or noise interruptions while attempting to concentrate on job assignments.

In addition to the reasons mentioned in the survey, the respondents also provide a more detailed understanding of the obstacles they have encountered, which were not explicitly included in the question. This information has been summarised in the table below.

Table 2: Challenges while working remotely of the respondents.

Participants	Difficulties in maintaining work-life balance while working remotely
P1	Keeping healthy work-life balance is hard disregarding working remotely or in office. in my view, it depends on the workload in the area you work. In my field, it is hard. Most of the times there will be calls after work hours, high workload, escalated tasks etc.
P2	I missed interaction with my colleagues and other teams.
P3	I was working remotely while traveling and it was hard to stay focused on work
P4	Sitting to much on one place, less activity
P5	Sometimes, I would start a task with the intention of finishing it fast but its quite easy to take more time over working hours during remote work since some issues can be encountered (such as internet being slow or waiting for a colleagues' input during a task). Not being able to socialize after work due to exhaustion of constant meetings at work.
P6	For someone who is working fulltime and also a hands-on mother to two wonderful kids, working remotely can really be challenging in terms of balancing time allotted for work and allotted for taking care of the kids.
P7	Since I have a team in 3 different locations. Team in one location was not as bad - as explained in the interview. In my previous role the remote working option improved my work-life balance considerably but setup and tasks were different

Source: own creation (data from survey, 2024)

Among the 44 responses, 7 respondents offered input that specifically outlined the difficulties they face when working remotely. A significant proportion of the participants encountered similar challenges in balancing their professional and personal lives, primarily attributable to escalations and after-hours phone calls. In certain instances, the individual's heavy burden might even require additional work hours. As a result, they had less opportunity to engage in with their family members or experienced increased levels of mental and physical exhaustion.

A few participants expressed a desire for increased social contact in the workplace, as they believed it would enhance their connections with coworkers and promote more engagement and productivity.

Conversely, the participants encounter the challenge of unreliable or disrupted network connectivity, an issue that may have an adverse effect on their professional productivity. Personal desires and necessities have also proven to be obstacles for some respondents when working virtually, causing an extension of workdays in order to finish a single task.

3.4.2.2 Communication issues:

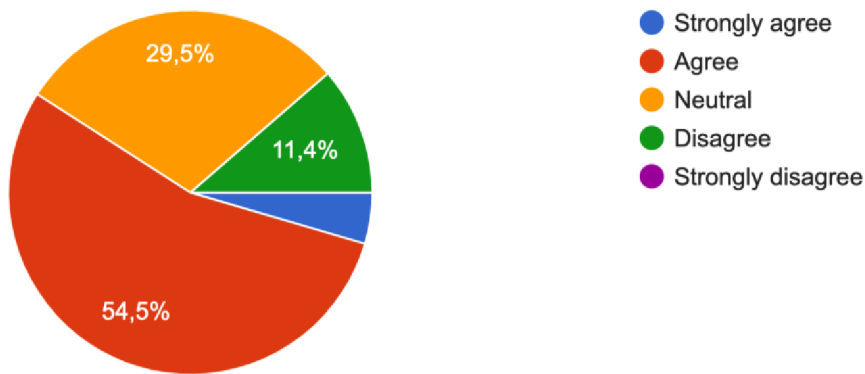


Figure 12 Distribution level of communication issues when working virtually

Source: own creation (data from survey, 2024)

With 59% of respondents agreeing or strongly agreeing with the statement that virtual teams face communication challenges more frequently than traditional teams due to the absence of face-to-face interaction, the majority of participants agree that virtual teams face communication challenges more frequently than traditional teams. This section of the figure represents the largest proportion, illustrating the percentage of participants who believe that virtual team communication is more difficult because of factors such as dependence on technology, absence of in-person interaction, or challenges in expressing tone and delicately in virtual communication.

In addition, a significant minority of participants (29.5%) chose "neutral," signifying that they neither agree nor disagree with the statement. This indicating the proportion of participants who are uncertain or have ambivalent views on the statement.

Conversely, a minority of respondents (11.4%) selected "disagree," indicating that they do not perceive virtual teams to encounter communication challenges with greater frequency than those who work traditionally. This section of the figure is the smallest part, indicating the proportion of participants who believe that virtual team communication is either similar or less difficult compared to conventional teams.

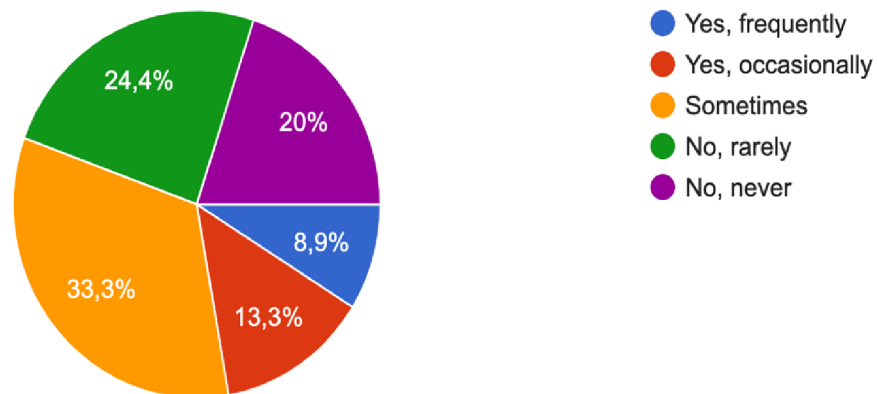


Figure 13 Distribution level of feelings isolated while working remotely

Source: own creation (data from survey, 2024)

The next question leads to the figure 12 when asked the participants "Do you experience any feelings of isolation and alone while working remotely?"

22.2% of respondents agreed, indicating that a minority of participants admitted to feeling isolated or alone when working remotely.

A notable 33.3% of participants chose the option "Sometimes," suggesting that a considerable fraction of respondents sometimes feel lonely or alone while working remotely. This section of the chart represents a moderate proportion, indicating the percentage of participants who recognise occasional sensations of solitude or isolation in a virtual work setting.

A significant proportion of respondents, namely 44.4%, said that they seldom suffer emotions of loneliness or isolation when working remotely. The largest portion of the figure would be devoted to this segment, which would emphasise the proportion of participants who, on average, experience a sense of connection and engagement while working remotely, with limited instances of loneliness or isolation.

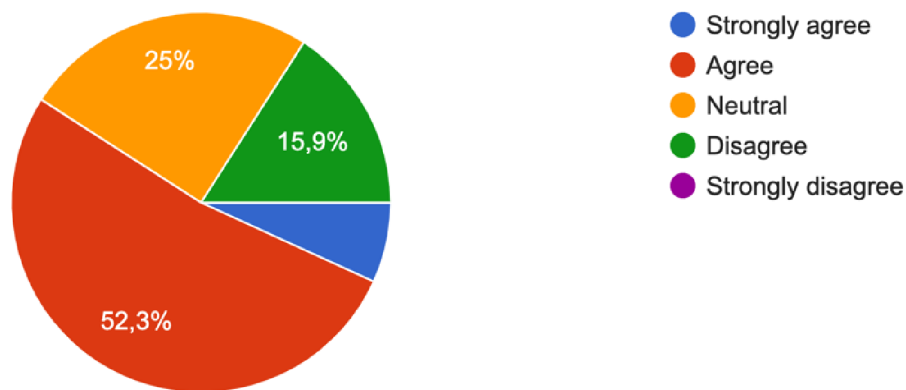


Figure 14 Distribution level of difficulty in developing team cohesion

Source: own creation (data from survey, 2024)

As a result, the chart above depicts answers to the question "In your opinion, virtual teams may have difficulty developing team cohesion and culture?".

A significant majority of participants, as indicated by 59.1% of the respondents, concurred with the statement that virtual teams might face difficulties in establishing a cohesive team spirit and culture. This area of the figure would be the biggest, reflecting the proportion of respondents who believe virtual teams have difficulty developing a feeling of unity, teamwork, and connection among those who work together.

Nevertheless, a considerable proportion of respondents (25%) chose "Neutral," indicating that they are neither in agreement nor disagreement with the given statement. This proportion is moderate, as it represents the share of participants who are unsure or hold conflicting views concerning the difficulties virtual teams might encounter in fostering team unity and culture.

On the other hand, a minority of participants, comprising 15.9% of the respondents, expressed disagreement with the statement, suggesting that virtual teams may not usually face challenges in establishing cohesiveness in teams. This component of the data would be the lowest, reflecting the percentage of respondents who disagree and believe virtual teams may successfully build team cohesiveness and culture despite the obstacles they face.

3.4.3 Overcome challenges:

3.4.3.1 Productivity enhancement:

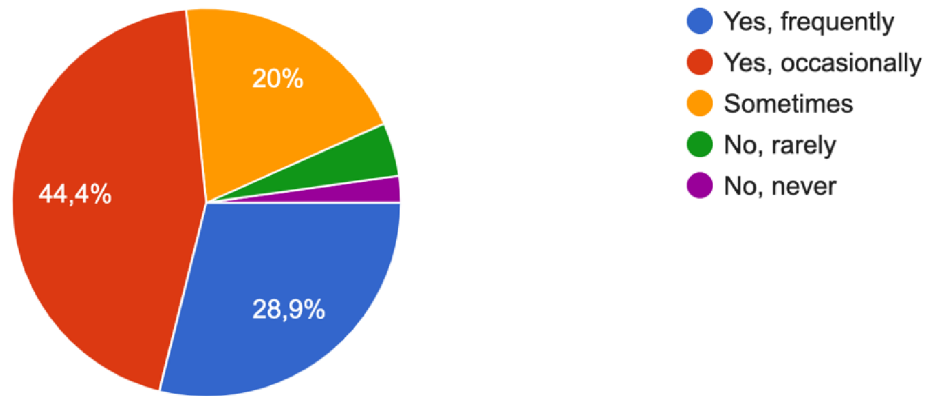


Figure 15 Distribution of the productivity while working remotely

Source: own creation (data from survey, 2024)

Responses to the following inquiry are shown in the figure 15: "Do you perceive a greater degree of concentration when operating remotely in an environment devoid of distractions?" A substantial majority of respondents (73.3%), or those who frequently responded affirmatively, stated that they experience enhanced concentration when working remotely in an environment free of distractions. This section of the graph would be the biggest, emphasising the proportion of responders who regularly report increased attention in a distraction-free workplace.

24.4% of respondents said "No," indicating that a small proportion of participants don't find themselves better focused while working remotely in an environment free of distractions. This component of the number would be lower, showing the proportion of respondents who do not see a substantial increase in their attention levels despite being in a distraction-free setting.

Meanwhile, 20% percent of the respondents indicated that they selected "Sometimes" suggesting that a subset of the participants encounters fluctuating degrees of concentration when operating remotely from a distraction-free workspace. This section of the graph would be an intermediate component, emphasising the proportion of responders who report occasional gains in focus but not regularly.

3.4.3.2 Establishing goals:

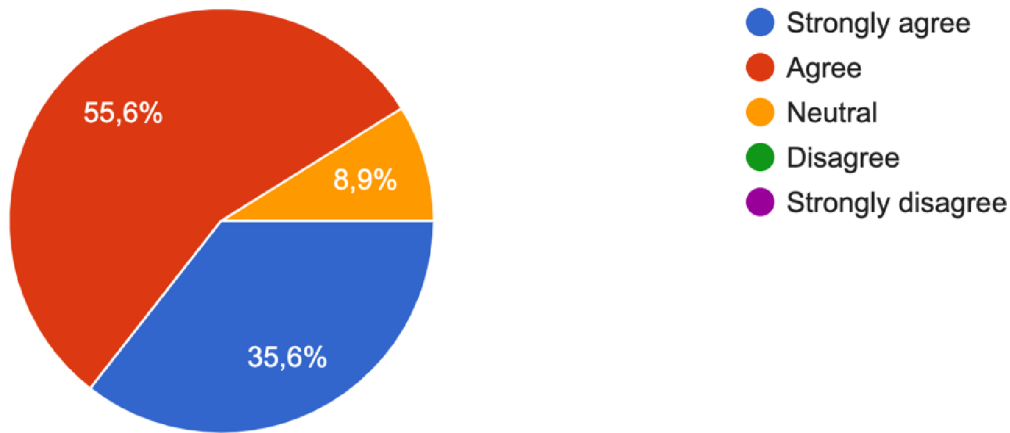


Figure 16 Distribution of establishing daily goals while working remotely increases productivity

Source: own creation (data from survey, 2024)

The pie chart depicts replies to the statement, "Prioritise tasks wisely and establish clear daily objectives to help me improve my performance while working remotely". A significant majority of participants supported the notion that prioritising tasks and establishing explicit daily objectives can improve performance when working remotely, as evidenced by the fact that 91.2% of respondents agreed or very much agreed with the statement. This region of the graph would be the biggest, emphasising the vast majority of responders who approve the statement.

8.9% of respondents chose "Neutral", indicating that a small number of people neither agreed nor disagreed with the statement. This region of the graph would show a small number of respondents who are unsure or have mixed feelings about the importance of prioritising activities and defining clear goals for remote job performance. In regard to the significance of task prioritisation and specific goal establishment for performance enhancement in remote work, there were no disagreements among the participants and therefore, no respondents opposed the statement.

3.4.3.3 Take regular break:

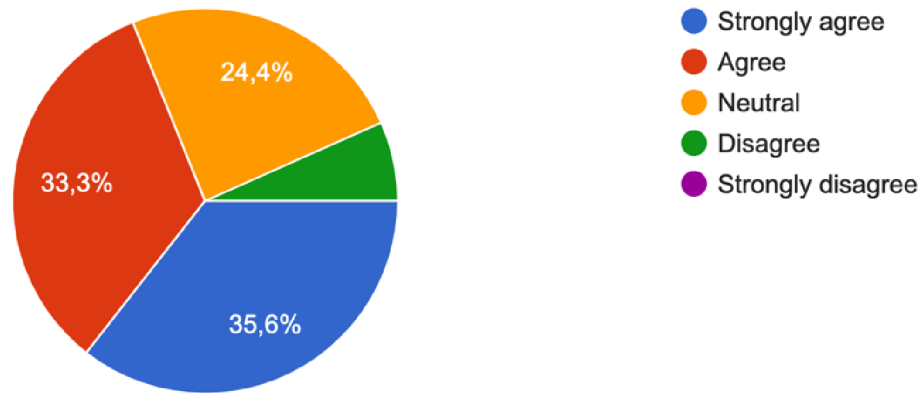


Figure 17 Distribution level of productivity when taking regular break while working remotely

Source: own creation (data from survey, 2024)

Figure 17 above illustrates the responses to the following statement: "I feel more productive when taking regular pauses in order to avoid burnout and stay focused".

A substantial majority of participants (68.9%) concurred or strongly agreed with the statement that taking regular pauses is beneficial for preventing exhaustion and sustaining focus, as well as for enhancing productivity. This section of the graph would be the biggest, illustrating the proportion of respondents who support the notion of introducing frequent breaks into their daily routine to improve productivity and well-being.

24.4% of respondents chose "Neutral," indicating that a large percentage of participants did not agree or disagree with the statement.

A small percentage of participants, 6.7% of answers, disagreed with the assertion, suggesting that frequent stops do not improve productivity or prevent burnout. This fraction of the graph would symbolise the least significant proportion, emphasising the proportion of participants who maintain an opposing stance and might prefer to work continuously without frequent intervals for refreshment.

3.4.3.4 Establishing regular check-in with the team:

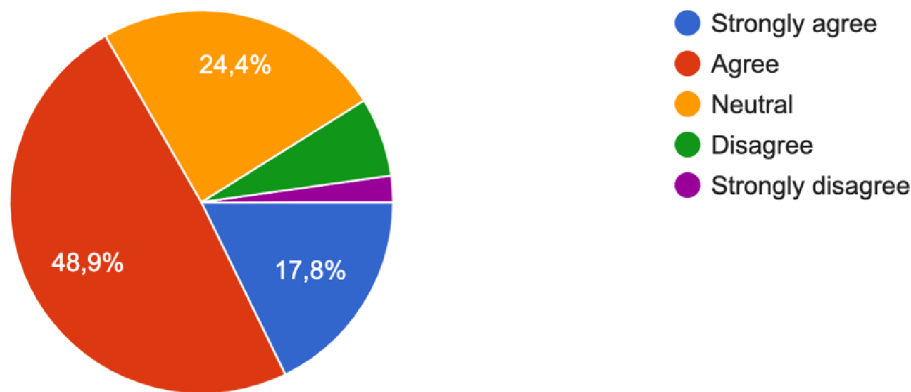


Figure 18 Distribution level of productivity when establishing regular check-in while working remotely

Source: own creation (data from survey, 2024)

The graph depicts replies to the statement: "When working virtually, I feel more updated and connected when there are regular check-ins and team calls with other colleagues and managers".

With the given statement, 66.7% of respondents concurred or strongly agreed. This finding suggests that a substantial majority of respondents perceive that maintaining regular check-ins and calling in teams with managers and colleagues enhances their sense of connection and staying informed while operating remotely. This component of the data would be the biggest, reflecting the proportion of respondents who believe frequent contact is helpful for remaining informed and engaged in a remote work setting.

A considerable minority of participants, comprising 24.4% of the sample, chose "Neutral", indicating that they are neither in agreement nor disagreement with the given statement

8.9% of respondents stated they disapproved with the statement. This suggests that a minority of the respondents do not think that frequent check-ins and team calls help them feel more informed and connected when working remotely. This component of the statistic would be the lowest, reflecting the proportion of respondents who disagree and believe that other variables or strategies are more successful for remaining connected and informed in an online work setting.

3.4.3.5 Satisfaction level while working remotely:

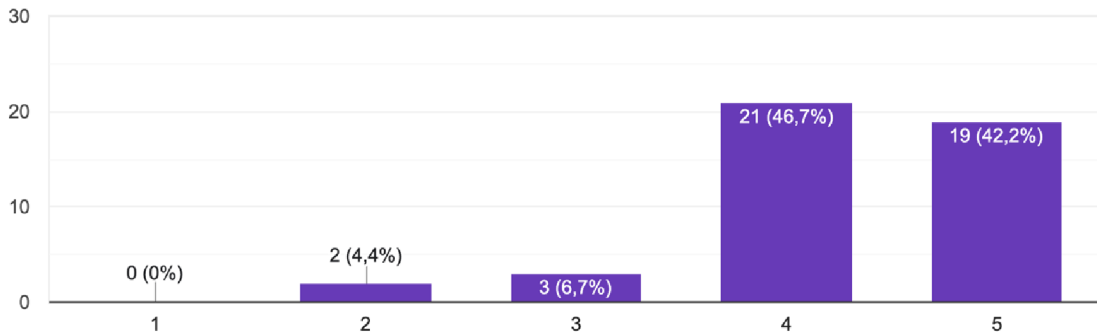


Figure 19 Distribution level of satisfaction while working remotely

Source: own creation (data from survey, 2024)

The provided response to the query "To what extent do you rate the overall remote work experience on a scale of one to five (indicating least satisfied to most satisfied)?" is depicted in the figure 19.

According to the responses, 46.7% of the participants expressed satisfaction, indicating that a considerable portion of the group is content with their remote work experience as a whole. The largest portion of the figure is devoted to this segment, which illustrates the proportion of participants who are content with their remote work environment.

A significant proportion of participants (42.2%) expressed high levels of satisfaction with their remote work experience as a whole, suggesting that "Very satisfied" was chosen by 42.2% of the respondents. The indicated proportion of respondents that are extremely pleased with their flexible working arrangement is highlighted in this substantial section of the graph.

A mere fraction of respondents (6.7%), or "Neutral," indicated their stance on the remote work experience, indicating that they are neither overwhelmingly pleased nor dissatisfied. However, 4.4% of respondents said they were "somewhat satisfied," suggesting that a small proportion of participants are somewhat satisfied with their overall remote work experience. This is the smallest part of the graph, and it shows the proportion of respondents who are satisfied yet have some concerns or places for development in their virtual work setup.

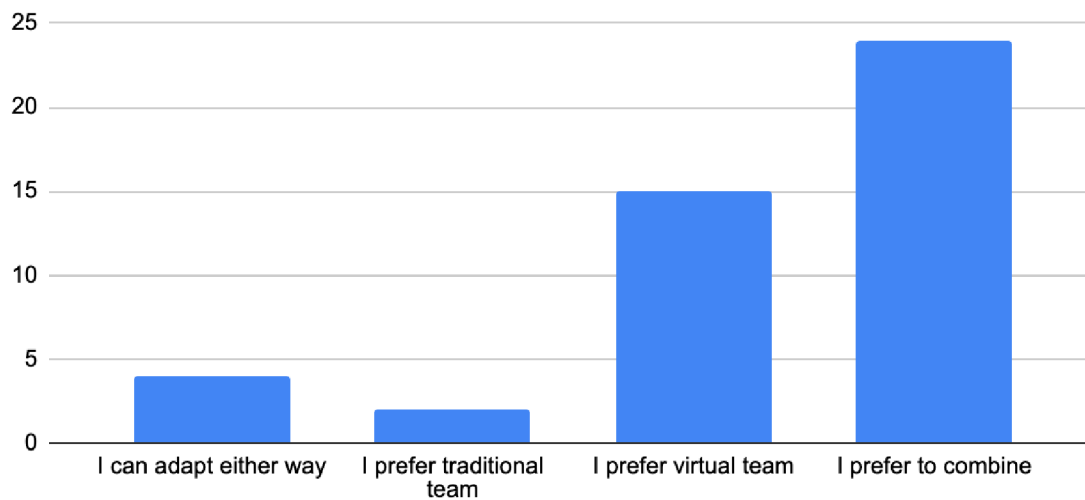


Figure 20 Preference of working environment

Source: own creation (data from survey, 2024)

The graph illustrates answers to the question "Do you prefer working in a virtual or traditional way?"

33.3% of participants said they would rather work in a virtual team environment, particularly if they were able to set their own schedules and had flexibility in their schedule. This section of the graph depicts the proportion of participants that value independence and flexibility in their work arrangements, particularly their capacity to manage their time on their own in a virtual setting.

Only 4.4% of respondents favour a traditional team structure, stating reasons such as a need for engagement with coworkers, appreciation of the office atmosphere, and the need to divide their professional and personal lives. This is the smallest segment of the figure, which signifies that a minority of respondents favour the social interaction and organisational structure of a conventional office setting.

It is preferred by 53.3% of respondents to combine virtual and conventional team setups. Their wish is to have both alternatives accessible to them, in order that they may take advantage of the freedom of remote work and periodically visit their workplace for social connections and teamwork. This area of the chart illustrates the majority of participants' preferences for a hybrid strategy that combines the advantages of virtual and conventional work settings.

The data indicates that 8.9% of participants are flexible and do not particularly favour a conventional or virtual team structure. They possess a sense of ease with both alternatives

and are adaptable to modification in accordance with the situation or demands of their occupation. This little area of the chart demonstrates the participants' flexibility and adaptability in their career choices.

4 Results and discussion:

4.1 Advantages and disadvantages of a virtual team:

The virtual team model provides tremendous advantages, with flexibility being a key factor that spans numerous dimensions. There is no doubt that substantial financial outlays linked to lodging, transportation, and diverse daily stipends can be drastically diminished or eradicated through the utilisation of technology-based communication for virtual teams.

Besides, hire highly-skilled individuals: Virtual teams enable all organisations, regardless of location, to hire the most talented individuals in their fields. A virtual employee can also serve on various teams without facing any difficulty in travelling and geographical location is no longer a barrier to team membership. By enabling team members with specialised knowledge to serve concurrently on multiple teams, virtual flexibility enables an organisation to optimise its human resources.

Moreover, by creating equal opportunities in the workplace, this accessibility enables organisations to reasonably address the specific requirements of disadvantaged employees.

4.2 Challenges when working virtually and how to overcome challenges for a virtual team:

4.2.1 Communication challenge:

Communication is a major difficulty for remote teams. Response delays, dealing with colleagues in different time zones, and having restricted cooperation time are all examples of communication challenges.

Furthermore, there are no possibilities for model conversations when teams operate remotely. Therefore, many nonverbal cue issues need concentration.

4.2.1.1 Overcome communication challenges:

Create regular communication channels and make sure that all team members have access to them. Some platforms for video calling, bigger team meetings (including back-to-backs), and 1:1 check-ins.

While email is best for official communication, promote casual social contacts. Also, promote and facilitate team member cooperation. Employees that are driven to share their expertise also experience increased creativity.

4.2.2 Trust

Trust is essential for improving staff engagement, but it may be difficult to establish within virtual teams. This is mostly due to a lack of face-to-face connection and physical presence, both of which are essential for developing connections with others and mutual recognition.

Establishing and maintaining trust might be more challenging without the intricacies of interpersonal interaction, such as body language and instant response.

Furthermore, the implementation of remote work arrangements may occasionally result in team members experiencing feelings of isolation or doubts regarding the contributions and commitments of their counterparts, which can hinder their sense of connection and self-assurance.

4.2.2.1 Overcome Trust Challenges:

Ensure that all employees have access to information regarding the organization's procedures, positions, and obligations. Create shared folders for convenient access to any pertinent information.

Before beginning a new project, ensure that the responsibilities of each employee are specified in detail so that any concerns or frustrations can be addressed promptly. Maintaining an open-door policy will encourage employees free to ask any inquiries or concerns

4.2.3 Multi-tasking:

Multitasking during virtual meetings, reaction delays, and adapting to different locations are major distractions for remote workers.

4.2.3.1 Overcome multi-tasking challenges:

To minimise response delays and multitasking, establish explicit meeting guidelines, which should specify whether or not employees are required to turn on the cameras. Keep employees on track during meetings, assign to the employees diverse duties, such as timetracker or take a meeting minutes after every online meetings.

Communicate expectations, provide other members with updates on the progress, and establish objectives and benchmarks using collaborative tools.

4.2.4 Productivity:

Virtual teams may encounter difficulties in maintaining productivity when members struggle to meet deadlines and accomplish projects in an efficient way. Additionally, the absence of face-to-face collaboration negatively impacts employee productivity.

4.2.4.1 Overcome productivity challenges:

Define definite short-term and long-term objectives. Effectively communicate critical deadlines to the employees and explain their significance in relation to the organization's mission.

Consult with your team regarding time management strategies and provide necessary training. Popular techniques include time blocking, to-do lists should be implemented

Define precise time constraints and specify the parameters by which team members will be evaluated for completed projects.

5 Conclusion:

It is necessary to identify the duties and responsibilities of leaders in this work environment in light of technological progress and the increasing prevalence of virtual organisations. The implementation of a virtual work environment has significantly enhanced the business organization's capacity to generate and distribute products and services. In addition to enhancing productivity and job satisfaction, it affords leadership the chance to advance the organisation.

Virtual work environments offer greater flexibility in comparison to traditional work environments. In a virtual environment, team members implement a combination of synchronous and asynchronous communication methods. Live monitoring of employees is made possible by cameras and videos. When evaluating the performance of team members, the leader may also employ synchronous and asynchronous methods. Synchronous refers to virtual meetings and communications, while asynchronous refers to electronic documents and knowledge repositories.

The primary objective of the diploma thesis is to study both the benefits and disadvantages associated with the utilisation of a virtual team. Also, highlight the problems that workers and supervisors experience while working remotely. Finally, what can be done to increase productivity and overcome obstacles while working remotely.

Furthermore, the theoretical component examined all other features of a virtual environment in terms of their qualities. Final guidance on how to overcome the challenges of working virtually has been provided. Leading a virtual team presents a significant challenge; therefore, in order to inspire leaders to adopt this mode of operation, the rewards must be substantial. In order to collaborate with specialists from different time zones, this form of team necessitates that its members possess knowledge of the customs and principles of their respective cultures.

It is widely acknowledged that organisations operating in virtual environments must adapt their leadership practices and work environments accordingly. In conclusion, it is anticipated that the organisation will make future preparations to equip executives with the necessary skills to manage virtual team.

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6 Appendix

6.1 Questionnaire

Dear participants,

Thank you for participating in this survey. This set of questionnaires including 28 questions explores various aspects of remote work and it will take 7 - 10 minutes.

Your response will help me in answering the following research questions for my research topic:

- What are the advantages and disadvantages of a virtual team?
- What challenges do employees & managers face with when working remotely?
- What can be done to enhance the productivity and overcome challenges when working virtually?

Your responses is highly valuable in helping for my research topic in understanding and improving productivity, well-being and overcome challenges in virtual work environments. Please answer the following questions honestly and thoughtfully.

All responses collected in this survey are completely anonymous.

Thank you very much for your time!

- I. Demographic information
 1. Gender:
 - . Male
 - . Female
 2. Age:
 3. Current position
 4. Years of experience working in teams
 5. How frequently do you engage in virtual team collaboration?
 - (1) Daily
 - (2) Weekly
 - (3) Monthly
 - (4) Others

6. What is the duration of your experience working in a virtual team?

- (1) 1 – 5 years
- (2) 6 – 10 years
- (3) Over 10 years

7 What is the duration of your experience working in a current virtual team?

- (1) 1 – 5 years
- (2) 6 – 10 years
- (3) Over 10 years

II. Advantages of virtual teams

1. Virtual teams enhanced flexibility with regard to geographical distribution and working schedules.

- (1) Strongly agree
- (2) Agree
- (3) Neutral
- (4) Disagree
- (5) Strongly disagree

2. Virtual teams provide access to a diverse talent pool, regardless of geography.

- (1) Strongly agree
- (2) Agree
- (3) Neutral
- (4) Disagree
- (5) Strongly disagree

3. Virtual teams cut costs connected with office space and utilities.

- (1) Strongly agree
- (2) Agree
- (3) Neutral
- (4) Disagree
- (5) Strongly disagree

4. To what extent would you rate your current work-life balance on a scale of one to five? (1 being very dissatisfied and 5 being very satisfied)

- (1) Very dissatisfied
- (2) Dissatisfied
- (3) Neutral
- (4) Satisfied
- (5) Very satisfied

5. Have you had any difficulties in keeping a healthy work-life balance?

. Yes

. No

III. Disadvantages of a virtual team

6. Virtual teams experience a higher frequency of communication challenges in comparison to traditional teams.

- (1) Strongly agree
- (2) Agree
- (3) Neutral
- (4) Disagree
- (5) Strongly disagree

7. Establishing trust within virtual teams presents a greater challenge for team members.

- (1) Strongly agree
- (2) Agree
- (3) Neutral
- (4) Disagree
- (5) Strongly disagree

8. Virtual teams may have difficulty developing team cohesion and culture.

- (1) Strongly agree
- (2) Agree
- (3) Neutral
- (4) Disagree
- (5) Strongly disagree

9. Virtual teams frequently encounter misinterpretations of communication and directions as a result of the absence of in-person communication.

- (1) Strongly agree
- (2) Agree
- (3) Neutral
- (4) Disagree
- (5) Strongly disagree

IV. Challenges that employees and managers face when working remotely

10. In your opinion, do you struggle to find a balance between work and your personal life?

- . Yes, frequently
- . Yes, occasionally
- . Sometimes
- . No, rarely
- . No, never

11. In your opinion, do you have any feelings of being alone or isolated when working virtually?

- . Yes, frequently
- . Yes, occasionally
- . Sometimes
- . No, rarely
- . No, never

12. In your experience, do you find yourself distracted when working virtually and it causes an effect on productivity?

- . Yes, frequently
- . Yes, occasionally
- . Sometimes
- . No, rarely
- . No, never

13. Do you have sufficient access to the technology and equipment required to perform your duties efficiently?

- . Yes
- . No

14. If not, please indicate what tools or equipment you need to improve your remote work experience.

15. How would you grade your home office arrangement on a scale from 1 to 5 (1: being poor – 5: being excellent)

- (1) Poor
- (2) Fair
- (3) Average
- (4) Good
- (5) Excellent

16. Are there any challenges you face with your current home office setup? (If yes, please specify)

17. What are the primary difficulties you encounter when working remotely?

- a. Insufficient social engagement
- b. Difficulty in sustaining work-life balance
- c. Problems with communication
- d. Technical difficulties (IT equipments, software platforms...)
- e. Distraction at home
- f. Others (please specify)

V. Ways to enhance productivity and overcome challenges when working virtually

Please kindly express your agreement with the strategies below to optimise productivity in the context of remote work

18. In my opinion, I feel more concentrated when a workplace free of distraction is created when working remotely.

- (1) Strongly agree
- (2) Agree
- (3) Neutral
- (4) Disagree
- (5) Strongly disagree

19. Prioritise tasks wisely and establish clear daily objectives to help me improve my performance while working remotely

- (1) Strongly agree
- (2) Agree
- (3) Neutral
- (4) Disagree
- (5) Strongly disagree

20. I feel more productive when taking regular pauses in order to avoid burnout and stay focused.

- (1) Strongly agree
- (2) Agree
- (3) Neutral
- (4) Disagree
- (5) Strongly disagree

21. Appropriate technological devices and software are being installed on my devices. Therefore, I can enhance cooperation when working virtually with my teammate.

- (1) Strongly agree
- (2) Agree
- (3) Neutral
- (4) Disagree
- (5) Strongly disagree

22. How satisfied are you with the communication channels in place for remote collaboration (eg., video conferencing, messaging platforms)? Rate on a scale from 1 to 5

- (1) Very dissatisfied
- (2) Dissatisfied
- (3) Neutral
- (4) Satisfied
- (5) Very satisfied

23. When working virtually, I feel more updated and connected when there are regular check-ins and team calls with other colleagues and managers

- (1) Strongly agree
- (2) Agree

- (3) Neutral
- (4) Disagree
- (5) Strongly disagree

24. How satisfied are you with your overall remote work experience on a scale from 1 to 5 (not satisfied – very satisfied)

- (1) Very dissatisfied
- (2) Dissatisfied
- (3) Neutral
- (4) Satisfied
- (5) Very satisfied

25. Do you prefer working in a virtual or traditional way?

- (1) I prefer virtual team
- (2) I prefer traditional team
- (3) I can adapt either way