American University Kyiv

THE INFLUENCE OF ORGANIZATIONAL STRUCTURE ON THE JOB PERFORMANCE OF VIRTUAL TEAMS

(ВПЛИВ ОРГАНІЗАЦІЙНОЇ СТРУКТУРИ НА РЕЗУЛЬТАТИВНІСТЬ РОБОТИ ВІРТУАЛЬНИХ КОМАНД)

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ABSTRACT

The study investigated the correlation between organizational structure and job performance of virtual teams in the European ICT industry, with a particular emphasis on determining if certain organizational forms might enhance the performance of virtual teams. The research employed quantitative methodologies, namely a survey conducted among 170 members from 30 distinct teams in 20 organizations. The findings indicate that there is no noteworthy association between organizational structure and the success of virtual teams. Nevertheless, there was a clear correlation between a moderate degree of virtualization and improved performance. The results indicate that adopting a well-rounded strategy to both virtual and face-to-face interactions might be advantageous for virtual teams. Additional investigation might explore the intricacies of organizational hierarchies and the dynamics of virtual teams.

Key concepts: Virtual Teams, Organizational Structure, Team Performance, ICT Industry, Virtualization.

CHAPTER 1 LITERATURE REVIEW

The ongoing wave of globalization is swiftly altering the manner in which we engage in competition within the global economy. Many firms are expanding their organizational boundaries and embracing a globally integrated enterprise business strategy. This allows firms to carry out tasks in any location worldwide, regardless of geographical, temporal, organizational, and cultural differences. The capacity to collaborate remotely has been predominantly facilitated by advancements in Information and Communication Technologies (ICT) and the integration of teams as a customary framework for conducting work inside a company.

Virtual teams inside firms are being used due to several factors, not just because of globalization. The perpetual drive to enhance shareholder value compels organizations to consistently evaluate methods to enhance their internal operations and differentiate themselves from competitors. Information and Communication Technology (ICT) is a crucial component of this approach, as firms continuously seek methods to mechanize manual procedures and leverage technology to enhance and optimize current business processes. Computer-supported cooperation is increasingly prevalent in most firms, even those with co-located work settings.

The impact of these external factors on enterprises is the increasing reliance on unconventional teams, generally referred to as virtual teams, to carry out tasks. Virtual teams utilize information and communication technology (ICT) to enable collaboration despite geographical and temporal constraints. While virtual teams provide indisputable advantages and exceptional adaptability to firms, it is important to acknowledge the economic principle that "there is no such thing as a free lunch" (Colander, 2010, p. 7). In accordance with the hypothesis, managing virtual teams has shown to be a notably challenging endeavor, prompting study to concentrate on the incremental advantages and expenses associated with virtual teams, as well as methods to alleviate their shortcomings and enhance their total effectiveness.

Below is a concise overview of the project, encompassing its objectives, extent, and approach:

Purpose: This study seeks to experimentally assess the correlation between organizational structure, the level of virtualization in work teams, and the resulting team performance. The study aims to ascertain if the organizational structure can alleviate the difficulties presented

by team virtualization and whether a certain structure is more favorable for achieving high-performance in virtual teams.

Limitation: The research was restricted to a span of five years in order to include advancements in technology and the availability of similar technologies among participants. The study only concentrated on virtual teams functioning inside the European business environment in order to minimize heterogeneity and guarantee that all firms were exposed to comparable external macro-economic influences. The scope was further restricted to encompass just enterprises operating within the ICT industry. A survey was conducted among 170 team members from 30 distinct teams in 20 different firms. Out of the total responses obtained, 87 were considered significant for study, while 69 were selected for further examination.

Methodology: The study employed a descriptive research design and applied quantitative methods. Structured interviews were conducted with team leaders to gather initial qualitative data, which then informed the development of a comprehensive questionnaire survey. A one-way analysis of variance (ANOVA) was used to evaluate performance ratings across various organizational structures, determining if any observed differences were statistically significant.

1.1 Virtual teams

The progress in information and communication technology (ICTs) has enabled more firms to implement various forms of remote work arrangements (RWAs). These can be differentiated based on an individual's perspective (such as home-based telework and mobile work) or a group's perspective (such as virtual teams). Regardless of their characteristics, all remote work arrangements (RWAs) require employees to be physically separated from their colleagues and/or supervisors during working hours, relying on technological means of communication such as emails and videoconferencing to engage with them.

The global outbreak of the Coronavirus has compelled several enterprises throughout the world to implement remote work arrangements (Toniolo-Barrios & Pitt, 2020). In the early months of 2020, a significant number of employees were required to quickly adapt their work habits from traditional office settings to remote work arrangements (RWAs). This transition involved a heavy reliance on digital resources such as collaboration platforms and videoconferencing in order to prevent any disruptions in work operations (Richter, 2020). Many companies have shown a strong desire to adopt these working methods following the

Covid-19 outbreak, and investing in remote work programs is a top priority in their digital agenda for the foreseeable future (Errichiello & Pianese, 2021).

The implementation of RWAs initiates a multifaceted process of organizational transformation. This phenomenon is characterized by a combination of intentional actions taken by executives and the organic development resulting from the behavior of managers and employees, influenced by their objectives, expectations, and the circumstances they face (Errichiello & Pianese, 2016). Nevertheless, the rapid implementation of remote work in response to the Covid-19 epidemic posed challenges for companies, particularly those without prior experience. It became challenging for these organizations to appropriately train managers to effectively lead in a virtual work setting (Newman & Ford, 2021), as well as for workers to adapt to remote work (Mangla, 2021). In the post-COVID era, organizations are required to efficiently handle the shift towards remote and work-from-anywhere arrangements. This necessitates careful planning and innovative approaches in terms of organizational structures, enabling technologies, managerial practices, and resources (De et al., 2020; Errichiello & Demarco, 2020; Richter, 2020).

Research on remote work arrangements (RWAs) has highlighted the issue of how to effectively manage remote workers who are physically distant from the office. Organizations and managers are urged to adapt their approaches to ensure that individual and organizational goals remain aligned (e.g., Lautsch et al., 2009). This pertained to both organizations that recently adopted remote working and those organizations where remote working was the standard work arrangement.

A "Virtual Team" is commonly characterized as an organizational structure consisting of team members that are physically separated and use technology to work across different locations and time zones (DeSanctis & Poole, 1997). Over time, the definition has evolved to include the concepts of temporal and relational dispersion in addition to the levels of virtualization. Temporal dispersion refers to the situation where team members engage in interactions at different times and across various time zones, resulting in a decrease in their capacity to cooperate in real-time (Kayworth & Leidner, 2000).

Relational dispersion is the measure of the variation in team members' connections to other organizational structures and external organizations (Griffith, Sawyer, & Neale, 2003).

Globalization, technology advancements, and enhanced inter-organizational collaboration are compelling several firms to implement virtual teams, even in workplaces where employees

are physically present (Ganguli & Mostashari, 2008). This gives rise to the contention that all teams possess a virtual element to some degree, and that the level of "virtualness" should be regarded as a characteristic of all contemporary work teams, rather than assessing the distinction between traditional and virtual teams. Martins et al (2004) contended that it is more appropriate to assess a team's level of "virtualness" rather than attempting to establish a definitive differentiation between conventional and virtual teams. They emphasized the necessity of conducting more research on how the level of virtualization affects the social and socialization consequences of team interaction. As a result, they established a virtualization continuum based on the degree of proximity and technology mediation. T.W. Danzfuss conducted a study on how the organizational structure affects the effectiveness of Virtual Teams among team members. Arnison&Miller (2002) also contended that the clear differentiation between virtual and conventional face-to-face teams may become impractical due to the widespread use of technology in organizations. They further argued that with adequate organizational support and resources, both conventional and virtual teams can enjoy the advantages associated with virtual teams.

The advantages linked to implementing virtual teams in a business are indisputable (Clemons & Kroth, 2011). According to Arnison&Miller (2002), even traditional team arrangements can achieve these advantages by using Information and Communication Technologies (ICT) to enhance collaboration. Researchers concur that "virtualness" may be considered a possible attribute of all teams (Griffith, Sawyer, & Neale, 2003) (Griffith & Neale, 2001). Furthermore, it is important to consider that comparing traditional teams with virtual teams is not appropriate. Instead, the research should concentrate on examining the impact of increased virtualization on team collaboration (Workman, 2007).

The widespread adoption of technology in team collaboration indicates that a greater reliance on virtual teams can result in improved team performance.

Workman (2007) conducted a study on the impact of virtualization level on team performance. The findings suggest that a moderate level of virtualization enhances overall team performance. However, totally virtual or proximate teams perform less effectively compared to hybrid teams.

Hence, it seems that a moderate level of team virtualization is beneficial, but beyond that, team performance begins to deteriorate. This viewpoint is in direct opposition to research that

indicates that pure virtual teams can achieve superior outcomes compared to hybrid or proximal teams (The Economist, 2010).

Consequently, one must inquire why certain teams exhibit enhanced performance as virtualization increases, while the performance of other teams seems to deteriorate with the same increase in virtualization. The study of team work performance is a highly intricate and expansive field, with no simple solution. Researchers often employ frameworks like the Input Process Output (IPO) model to examine the connections between the inputs, processes, and outcomes of team work (Martins, Gibson, & Maynard, 2004).

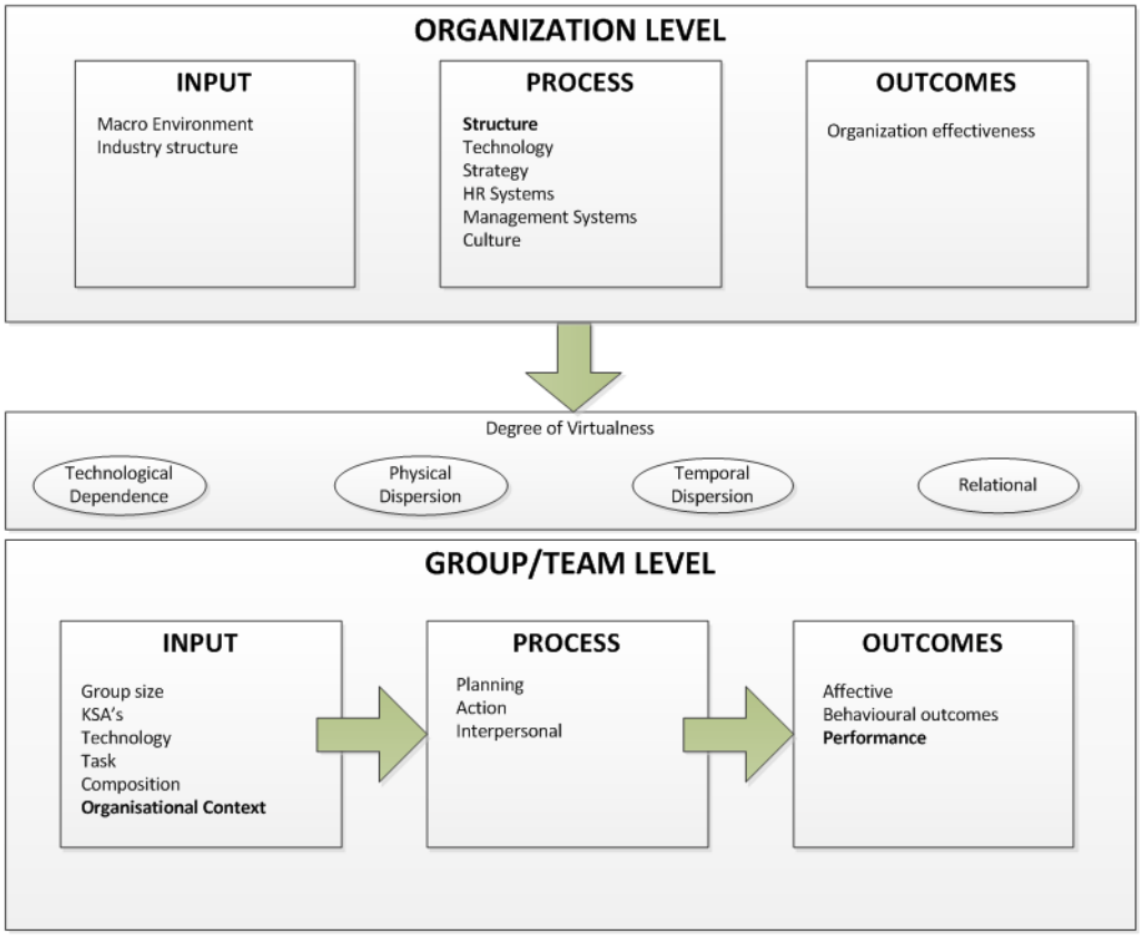

Figure 1 Extended IPO Model (Source: developed by author)

Joshi, Pandey & Han (2009) have advocated for the expansion of the IPO model to incorporate the influence of the team's context on work performance, in addition to its primary focus on the internal dynamics of the team. Maynard et al (2012) also emphasize the need for future study to investigate the impact of cross-level linkages between organization, group, and individual levels on the efficacy of virtual teams.

1.2 Organization structure

Hertel, Geiser & Konradt (2005) asserted that incorporating virtual teams into the organizational framework is crucial for enhancing the team's performance. They contend that organizational environment variables, such as boundary management, frequent communication, and organizational support, are crucial factors for enhancing team performance. They also point out the absence of empirical study on these components specifically in the context of virtual teams. Consequently, we shift our focus to the organization's structure, which may be described as the way in which the organization's work is divided into smaller units and how these units are coordinated to accomplish tasks. The reference for this information is Cummings and Worley (2009), page 315. This description may be overly simplistic for a good understanding of the concept of organizational structure. We provide a more comprehensive explanation by summarizing the influential research conducted by Mintzberg (1980).

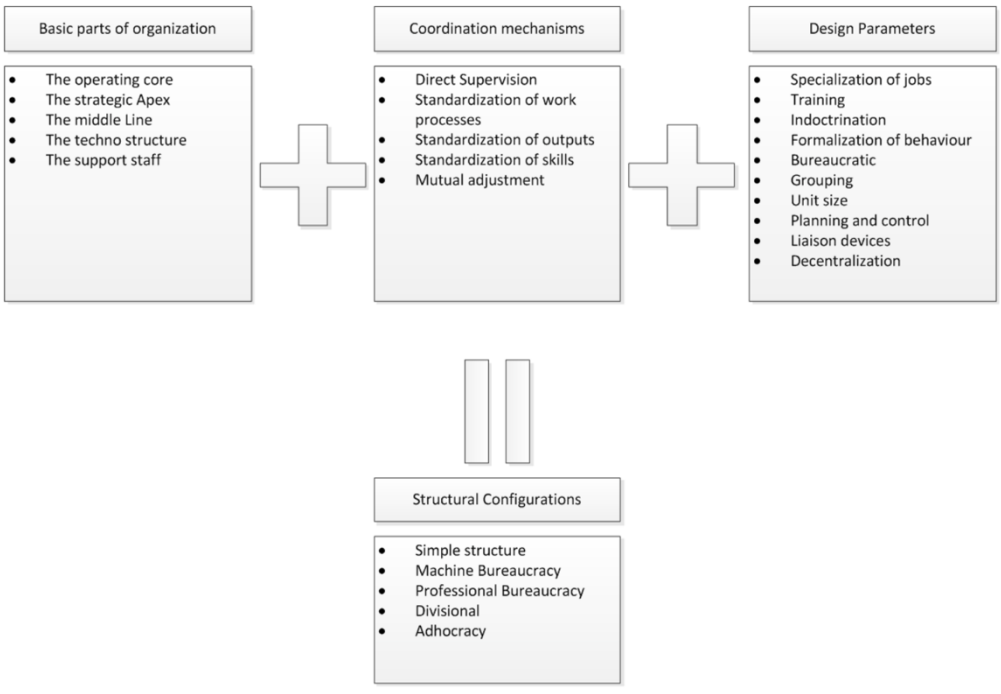

Figure 2 Organization structure and organizational driving forces

Source: developed by author

According to Mintzberg's findings, there are five main structural configurations for an organization. These configurations are determined by the organization's fundamental

components, coordination methods, and internal design criteria. In their study, Cummings and Worley (2009) provided a concise overview of the fundamental organizational structures, which include the functional structure, divisional structure, matrix structure, process structure, client-centric structure, and network structure. While the criteria may not align precisely with Mintzberg's, he acknowledged that several structural configurations may coexist as long as they employ distinct coordinating methods and are primarily driven by one of the fundamental components of the organization (Mintzberg, 1980, p. 339). Research has proposed an alternative definition of organizational structure, classifying it as either mechanistic or organic. A mechanistic structure is characterized by a high degree of formalization, standardization, and centralization, in contrast to an organic structure which is characterized by low levels of these factors (Satō, 2010). Successful Japanese electronics businesses like Hitachi commonly used organic organizational structures, but their American counterparts tended to be more mechanistic and generally achieved less success. This discovery aligns with the principles of structural contingency theory, as proposed by Donaldson in 1996.

Research on structural contingency theory acknowledges that there is no universally applicable organizational structure. Instead, the form of an organization should be contingent upon several elements such as strategy, size, technology, and environment (Donaldson, 1996). The idea posits that an organizational structure can vary from being very mechanistic to completely organic, and a corporation can achieve success as long as the structure aligns with its goal.

The concept of being suitable for a certain purpose aligns with the perspective of Cummings and Worley, who stated that organization design serves as a foundation for group design. These cross-level linkages highlight the importance of organizational levels aligning with each other for the proper functioning of the organization. The reference is from page 92 of the year 2009. The correlation between the organizational design structure and the virtual team design at the group level is evident in the extended IPO Model (Figure 1). It is apparent that the organization structure influences the inputs at the team level, such as group size, technology, task, and composition. Additionally, it affects the process level, including planning, action, and interpersonal relationships, which ultimately impact the team's performance.

Our research aims to address crucial queries by analyzing how an organization's structural configuration affects the fundamental issues encountered by virtual teams, particularly in the

domains of communication, culture, technology, and leadership. A crucial inquiry is: which characteristics and arrangements within an organization's structure might alleviate the detrimental impacts that team virtualization may exert on team performance? In addition, our objective is to determine the organizational structures that are most favorable for the achievement of virtual teams' performance.

These concerns align directly with the scope of our research, which centers on team performance ratings, the level of team virtualization, and the organizational structure type. The objective of our study is to thoroughly examine the characteristics, benefits, and drawbacks of different organizational structures and determine a connection to determine if and how these structures impact performance results as team virtualization increases. Our investigation aims to determine if particular organizational structures may have a good influence on communication, culture, technology, or leadership, ultimately improving team performance in virtualized contexts.

1.3 E-leadership and e-trust

In the 21st century, e-leadership has transitioned from being a purely theoretical concept to a real competence. Referencing the work of Avolio et al., the authors highlight the need of considering the context while examining the relationship between technology and leadership. They assert that "context is a vital aspect of e-leadership". The authors argue that leadership studies should prioritize the comprehension of the contextual integration facilitated by technology in the realm of e-leadership. Therefore, they determine that e-leadership is a concept that has a significant influence on society and is deeply rooted in both the internal and external environments, which are enabled by modern information technology. It has the ability to provoke several outcomes in companies, teams, and people, including performances, behaviors, thoughts, feelings, and attitudes.

Van Wart et al. proposed that Avolio's definition of e-leadership is an abstract idea. As a result, they proposed a practical definition that may be theoretically and experimentally utilized in many contexts. E-leadership is defined as the proficient utilization of a combination of traditional and virtual communication means to accomplish management goals. This involves having knowledge of current information and communication technologies (ICTs), carefully choosing and implementing ICTs that bring benefits to individuals and organizations, and have technical proficiency in using those ICTs. Furthermore, this utilizes a diverse range of information and communication technologies

(ICTs) effectively in different situations and combines them with traditional communication techniques when it is most suitable to accomplish goals.

Roman et al. defined the notion of e-leadership by identifying six characteristics after a thorough examination of existing literature. The SEC (Six E-Competency) model was created to emphasize that effective e-leadership is the result of six specific abilities. E-communication competency refers to the proficiency of leaders in successfully utilizing information and communication technologies (ICTs) to improve performance. E-social competency refers to the leadership's capacity to provide a favorable working environment that fosters cooperation and communication. E-team competency refers to the proficiency in developing, leading, and motivating virtual teams, whereas e-change refers to the capability of embracing and effectively managing change efforts using information and communication technologies (ICTs). E-trust competency refers to the leader's capacity to establish trust by being perceived as truthful, reliable, and impartial in the virtual environment. E-tech competency pertains to the leader's knowledge and understanding of ICT advancements and concerns related to cyber security. In their study, Liu et al. confirmed the validity of these six characteristics by comparing e-leadership between South Korea and the United States. They also examined the impact of these competences on the innovative potential of individual public managers. As far as we know, the SEC model is the sole e-leadership measurement model that has been created and examined in existing literature. However, further empirical data is required to verify the construct validity. Consequently, this study addresses the issue by employing the SEC scale to quantify the e-leadership concept.

The concept of trust has been thoroughly examined in the context of virtual teams (Jarvenpaa, Knoll, & Leidner, 1998). Mutual trust is crucial for the development of multinational partnerships (Uber Crosse, 2002), particularly in virtual teams that encounter uncertainty and lack comprehensive understanding of all group members (Child, 2001). Trust is considered to be more crucial in virtual environments compared to traditional team settings (Cascio & Shurygailo, 2003), since it is an essential need for achieving success in virtual teams (Child, 2001). Trust in virtual teams is established through the belief that team members are reliable and consistently meet or exceed expectations by delivering on their promises. This is considered crucial, as trust is built over time by consistently setting and meeting expectations (Cascio & Shurygailo, 2003).

E-teams are commonly established to accomplish a certain objective or job within a set timeframe. However, this might pose challenges in terms of establishing trust and

cohesiveness within the group, since these dynamics require time to develop (Zaccaro & Bader, 2003). Empirical evaluations indicate that teams with the highest levels of trust started their contacts with social messages, established distinct responsibilities for each team member, and displayed positive attitudes, excitement, and a strong inclination towards action in all of their communications (Cascio & Shurygailo, 2003). These findings indicate that trust is established through the integration of team members, facilitated by favorable dynamics that are obtained through collaborative efforts. Efficient teams progress through many stages in order to establish strong unity and trust. During this process, team members acquire effective methods of communication and collaborate to establish standard operating procedures. These processes play a crucial role in fostering trust within the team (Zaccaro & Bader, 2003). Therefore, trust is interconnected with cohesiveness and subsequently with motivation. In virtual work environments, motivation is influenced by the level of cohesion within the team, the extent of trust among team members, and the team members' perception of their own capabilities. Carita Lilian's article in Procedia - Social and Behavioral Sciences 110 (2014) discusses the convergence of issues faced by several parties, as highlighted by Zaccaro and Bader in 2003. Trust is mostly developed through conversation (Raisinghani, Arora, Baylor, Brown, Coleman, & Craig, 2010). Moreover, trust in virtual teams serves as a potent motivator, stemming from the team members' anticipation that each individual will fulfill their obligations and act with sincerity and diligence for the benefit of the group. It is crucial for the e-leader to cultivate trust, as this will enhance the motivation of the team members (Zaccaro & Bader, 2003). In a global, outsourced virtual project environment, trust is primarily established through the use of formal and informal electronic communication technologies such as teleconferencing, audio conferencing, data conferencing, and video conferencing. This trust is closely linked to coherence, communication, and shared understanding, which are all crucial factors for the success of virtual projects. Shared comprehension enhances the process of evaluating problems and selecting between options (Raisinghani, Arora, Baylor, Brown, Coleman, & Craig, 2010) and promotes helpful exchanges (Zaccaro & Bader, 2003), ultimately leading to efficient decision-making. Trust, knowledge management, and shared understanding are factors that contribute to successful decision-making. However, in internationally outsourced virtual project settings, the absence of these dynamics might result in process losses (Raisinghani, Arora, Baylor, Brown, Coleman, & Craig, 2010). The hazards associated with virtual teams can be reduced by utilizing videoconferencing, group decision support technologies such as electronic meeting

systems, and by fostering knowledge management, shared understanding, and team trust (Raisinghani, Arora, Baylor, Brown, Coleman, & Craig, 2010).

Given that trust is a crucial element for virtual teams (Raisinghani, Arora, Baylor, Brown, Coleman, & Craig, 2010), it is important to investigate the leadership qualities, abilities, and behavioral patterns that might create and strengthen trust in a virtual setting. The preceding discourse implies that e-leaders primarily employ their conduct or activities to inspire team members to establish trust. Leaders who reduce ambiguity, improve consistency, establish expectations of commitment fulfillment, encourage collaboration, foster a positive environment to address shared challenges, implement standardized procedures, facilitate the development of shared understanding for effective decision-making, enhance knowledge management, boost team motivation, and most importantly, communicate effectively by utilizing appropriate information and communication technology to match tasks with the appropriate electronic communication channel. These behavioral patterns have been found to increase trust and reduce process losses (Raisinghani, Arora, Baylor, Brown, Coleman, & Craig, 2010).

E-leadership and E-trust are crucial factors in the context of virtual teams, especially when examining the impact of organizational structure on job performance. E-leadership, which refers to the act of exerting influence over individuals and groups via digital methods, is crucial for effectively managing the intricacies of virtual team relations. Equally, E-trust, which pertains to the creation and upkeep of trust in digital settings, is essential for promoting collaboration and unity in the absence of face-to-face encounters. The efficacy of organizational structures in virtual contexts is inherently connected to these ideas. The optimal combination of E-leadership and E-trust inside an organization's structure may greatly enhance the job performance of virtual teams, showcasing the deep influence these factors have on the success of teams working in digital environments.

1.4 Team performance and job performance

Job performance encompasses the scalable acts, behaviors, and results that individuals do or generate, which are connected to and contribute to the achievement of company objectives. A crucial factor that impacts results on three different levels: the individual level (micro), the team level (meso), and the organizational level (macro). Meeting both the required quantity and quality standards, as well as fulfilling obligations and managing tasks, are essential factors for work performance. Various situations have led to varied conceptualizations of

performance, as evidenced by the literature. Consequently, there are many scales for its measurement. The majority of research have assessed performance by utilizing self-reported data, while a smaller portion have employed performance data judged by supervisors or colleagues.

The researchers' attention is typically focused on job performance, which is considered a crucial factor for the long-term sustainability of an organization (Ángeles López-Cabarcos et al., 2022; Han et al., 2022). This is because there is a well-established connection between job performance and organizational performance. It is also linked to organizational outcomes such as financial performance, product market performance, and shareholder return. Therefore, it necessitates the collective involvement of the entire organization (Bieńkowska et al., 2021b; Ramezan et al., 2013; Richard et al., 2009).

Considering this, Bieńkowska & Tworek (2020) established a performance model that relies on the dynamic capacities of employees. In this model, the focus is on the dynamic capabilities of workers, which are considered a novel concept that has emerged in the field of organizational dynamic capabilities. This concept has garnered attention from both scholars and practitioners (Al Wali et al., 2022; Joather Al Wali et al., 2020). Bieńkowska & Tworek (2020) define employees' dynamic capabilities as a multidimensional concept that encompasses their sensitivity to environmental changes, adaptability to changes, proactive problem-solving skills, and ability to incorporate workplace innovations. It also includes their capacity for continuous personal development and learning. The authors conducted a study including a sample of 550 employees from Poland and the USA. Through their research, they identified the impact of individuals' dynamic capacities on job performance, with two mediation dependencies. The initial mediator was the person-job fit, which refers to aligning the attributes of the individual with the requirements of the job description. The second group of mediators consists of job motivation, job satisfaction, and job engagement. Job motivation refers to an employee's internal drive to perform job-related tasks efficiently. Job satisfaction refers to the level of happiness an employee experiences in their job. Job engagement refers to the level of voluntary commitment an employee demonstrates towards their duties. These concepts have been discussed by Bieńkowska & Tworek (2020), Edwards (1991), Hackman & Oldham (1974), and Schaufeli & Bakker (2003).

Currently, the work methodology in the digital realm aims to achieve the same objectives as before employees were integrated into the digital world. The sole distinction is in the utilization of technology to facilitate information management on a broader magnitude.

Shifting work to binary thresholds presents novel difficulties not just in terms of leadership and team management, but also in ethical considerations pertaining to the integration of new technology in the workplace (Paska, 2021). Consequently, the technology must undergo suitable validations in order to maintain its reliability. The notion that the dependability of technology is crucial for the dependability of contemporary businesses is emphasized (Bieńkowska et al., 2020b).

CHAPTER 2 RESEARCHMENT

2.1 Research aims and objectives

In essence, the purpose of this study is to objectively assess the connection between the structure of a company, the level of virtualization inside work teams, and the resulting performance of such teams. The focus of this study is the virtual team itself, and we will assess how the organization's structure impacts the virtualization and performance of the team.

RESEARCH QUESTION 1 – IS THERE A CORRELATION BETWEEN ORGANIZATIONAL STRUCTURE AND VIRTUAL TEAM PERFORMANCE?

Based on the analysis of existing research on organizational structure and team performance, it is evident that the organizational structure has the potential to impact team performance. However, it remains uncertain if this influence is substantial enough to result in a noticeable disparity in the performance of virtual teams.

RESEARCH QUESTION 2 – Can the organizational structure facilitate team members in addressing the challenges arising from team virtualization in the domains of communication, culture, technology, and leadership?

The research on team virtualization identified communication, culture, technology, and leadership as the primary challenges that team members must address as team virtualization expands. Studies indicate that the organizational structure has the potential to impact these characteristics inside a company. However, it remains uncertain if the influence of the organizational structure remains significant as the team becomes more virtual.

Research Question 3: Which organizational structure(s) are more suitable for high-performance virtual teams?

Answering affirmatively to study questions 1 and 2 indicates the existence of an organizational structure that is more suitable for virtual teams compared to others. Our objective is to provide a response to the following question.

2.2 Methodology

In order to address the aforementioned research inquiries, we carried out a descriptive empirical investigation. This study approach aligns with contemporary research on

descriptive virtual teams. The primary rationale for selecting a descriptive research methodology was the existence of a well-established body of knowledge in the subject of virtual teams, which provided a solid foundation for further investigation. However, doing descriptive research was deemed essential before proceeding with explanatory or causal research. In addition, our study methodology did not let us to eliminate all possible explanations for the oscillations seen in team performance. As a result, we were unable to utilize our findings for causal research purposes.

The questionnaire survey was conducted to acquire quantitative data in order to address the study topics.

Q1: Is there a correlation between the organizational structure and the success of virtual teams?

Q2: Can the organizational structure facilitate team members in surmounting the problems posed by team virtualization in the domains of communication, culture, technology, and leadership?

Q3: Which organizational structure(s) are more suitable for high-performing virtual teams?

The findings of our questionnaire survey were further validated by analyzing secondary data provided by the participating organizations. Figure 3 illustrates the process we undertook in our research, which is emphasized below.

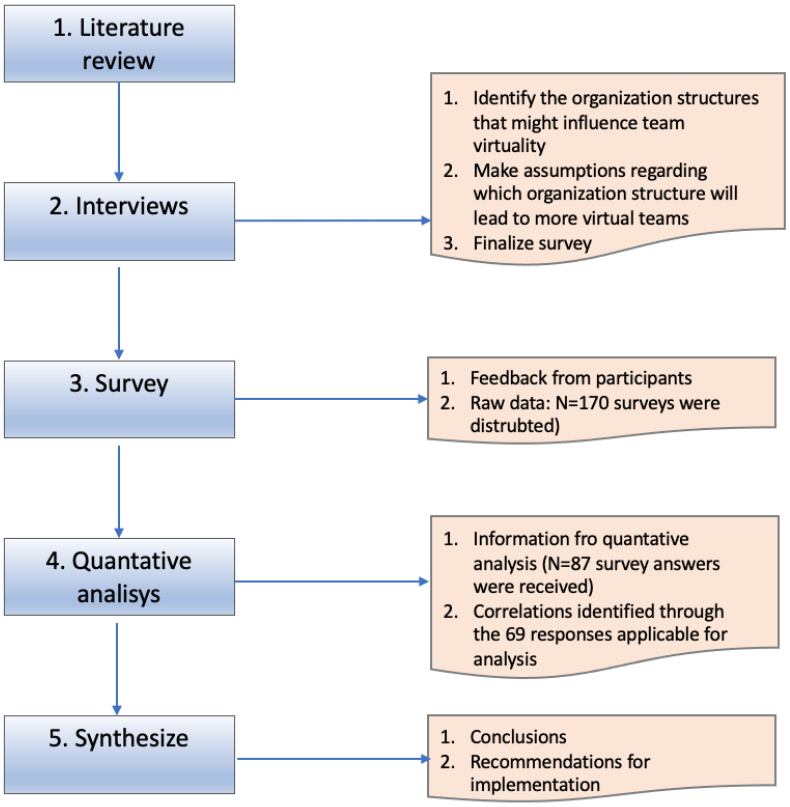

Figure 3 Research process flow

Source: developed by author

In order to keep pace with technological advancements and guarantee that the participants had access to comparable equipment, we confined our study to a five-year timeframe. This duration also allowed us to reach a sufficiently high sample size. The scope was limited to virtual teams operating exclusively inside the European business landscape. This constraint imposed a limitation on the diversity of the operational context and guaranteed that all entities were subjected to comparable external macroeconomic influences. As we aimed to examine the team performance in connection to organizational structure, we exclusively focused on business work teams and disregarded any other teams. These teams collaborate towards a shared objective in a corporate setting, but do not include virtual groups, teleworkers, and virtual communities. In order to minimize the influence of external factors, we imposed a constraint on the scope of our study, focusing solely on enterprises operating within the ICT industry.

We began our research by doing a comprehensive literature review on the subjects of virtual teams, team performance, and organizational structure. Upon comprehending the corpus of

knowledge, we proceeded to identify the pertinent theories and began the collection of qualitative data by conducting a limited number of structured interviews with team-leaders belonging to the groups specified in our demographic and sample section. The obtained data were utilized to authenticate our hypotheses and finalize the design of the questionnaire, which was subsequently given to all members of the team.

Following the literature review, the subsequent stage of the research involved conducting exploratory interviews. These interviews were intended to validate our assumptions or guide us towards fresh insights in relation to the literature studies. The interviews were done in the second part of the research in order to verify the alignment between our theory and practice, as well as to guarantee that no significant components were overlooked from either domain. After consolidating the interview findings, we proceeded to administer the survey to our target group and analyzed the data using quantitative methods. The survey was chosen as the most convenient method to gather responses from a large population. By implementing a well-designed questionnaire and appropriate controls, we were able to obtain highly reliable and concrete data through a significant number of structured interviews conducted with team-leaders from the identified categories in our population and sampling section. The obtained data were utilized to confirm our ideas and ultimately determine the design of the questionnaire, which was subsequently given to all team members.

The study focused on individuals who have been actively involved in work team activities within the ICT industry in Europe (EU) during the past five years. We assessed team members who participated in virtual team activities with varying levels of virtuality and in diverse organizational structures. According to the contingency theory (Donaldson, 1996), the structure of an organization depends on elements such as strategy, size, technology, and environment. By selecting a consecutive five-year period within the same geographic area, we successfully limited the scope of our study to examine the specific influence of technology and the environment on the examined organizations. The individuals in our sample were chosen from a diverse range of positions across the organizational structure and varying levels of virtualness within teams, as seen in Figure 4.

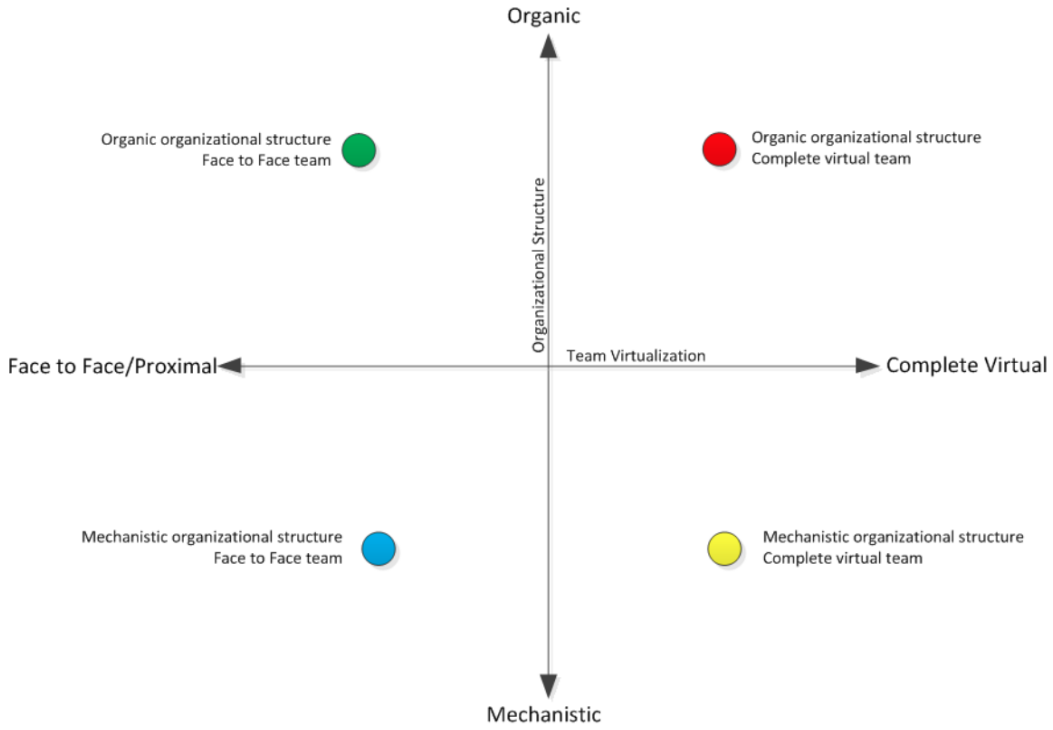

Figure 4 Organizational structure and team virtualness matrix

Source: Developed by author

Consequently, our people may be categorized into four distinct groups: Organic complete virtual, Mechanistic complete virtual, Mechanistic face-to-face, and Organic face-to-face. Firstly, we conducted interviews with the leaders of each team in the listed categories to verify the accuracy of our assumptions on the relevant theory. Subsequently, we circulated the survey to all teams.

As we were unable to obtain a comprehensive sample frame of the population, we had to employ a non-probability sampling technique for data gathering. Purposive sampling was utilized to choose four persons for the interview phase. The participants were meticulously chosen using extreme case selection to capture team members who represented the far ends of both the virtualization and organizational structure spectrums, as seen in Figure 4 above.

The rationale for this choice was that the insights gained from these exceptional case interviews would be valuable in comprehending the more representative examples.

In order to ensure accurate data collection, our objective was to gather responses from a minimum of 60 persons in our sample, with an equal distribution across the four predefined categories. We employed quota sampling to gather responses for each category, taking into

account the specific attributes of team virtualization and organizational structure. The survey was administered to a total of 170 individuals who are part of 30 distinct teams across 20 different firms that meet our specified population criteria. 50% of the surveyed organizations were multinational corporations with activities across many continents, while the remaining 50% were only functioning inside Europe (EU).

2.3 Results and discussions

In this section, we address the interview, survey, and analytic stages of our study process. The interviews substantiated the relevance of our research and validated our conjecture that the organizational structure may impact the effectiveness of virtual teams.

A total of 170 people received our survey, yielding 87 replies, out of which 69 were deemed suitable for analysis. This chapter then reported and classified the findings, which unveiled the subsequent intriguing observations:

• We observed a significant correlation of 0.7 between the internal and exterior performance metrics of a work team.

• None of the respondents chose their firm as entirely organic, whereas 4% of the respondents said that they regard their company as entirely mechanical across all 6 structural features.

• 43% of participants stated that they rely on ICT for communicating with their team members. This finding emphasizes the crucial role of ICT in virtual team dynamics and its interaction with organizational structures, which is important for understanding and improving the job performance of virtual teams.

Among team members, email was the most often used technology, with about 65% of respondents utilizing it on a daily basis.

The adoption of an organic structure provided the firm with greater flexibility in technology, but, it did not result in an enhancement of the company's technological expertise.

• The responses were evenly dispersed across our 2x2 classification model, which includes Organic and Face to Face, Mechanistic and Face to Face, Organic and Virtual, and Mechanistic and Virtual. A small proportion of replies were classified as neutral.

• There is no discernible correlation between the organizational structure and team performance.

The interquartile range (IQR) of mechanistic organizational structure is significantly smaller compared to the IQR of organic organizational structures.

There is a little positive connection of 0.13 between the virtualization of a team and its performance.

The interquartile range (IQR) of Face to Face teams is significantly smaller compared to the IQR of virtual teams.

There is a slight negative association of -0.4 between organizational structure and team communication performance.

There is no discernible correlation between the organizational structure and the technological performance of the team. There is no discernible correlation between the organizational structure and the cultural performance of the team. There is no discernible correlation between the organizational structure and the leadership performance of the team.

The primary objective of this is to ascertain the extent to which we have achieved our study goals and to emphasize any issues we have found throughout the research process.

After doing an ANOVA test with a 95% confidence level, we have determined that we must accept the Null hypothesis, which asserts that the mean performance score of all team categories is equal.

2.3.1 Discussions for Questions 1

Our initial inquiry in this study was to determine if there exists a correlation between the organizational structure and the performance of virtual teams.

The organization structure is a crucial factor that influences the design and operational activities of a work team. The link between team design, process activities, and desired output is clearly demonstrated in the enlarged IPO model depicted in Figure 1. Expanding upon Arnison & Miller's (2002) argument that it is not feasible to definitively differentiate between virtual and face-to-face teams, we choose to assess team performance along a continuum of team virtualization, ranging from face-to-face interactions to fully virtual interactions. Figure 5 (below) displays the frequency of replies for each category in a histogram. A negative score on the team virtualization continuum signifies that the team relies more on in-person interactions, whereas a positive score shows that the team relies more on virtual communication. The data displayed in the chart validated the concept that

none of the teams in our sample population were entirely virtual or entirely face-to-face. Instead, all teams exhibited some degree of virtualization.

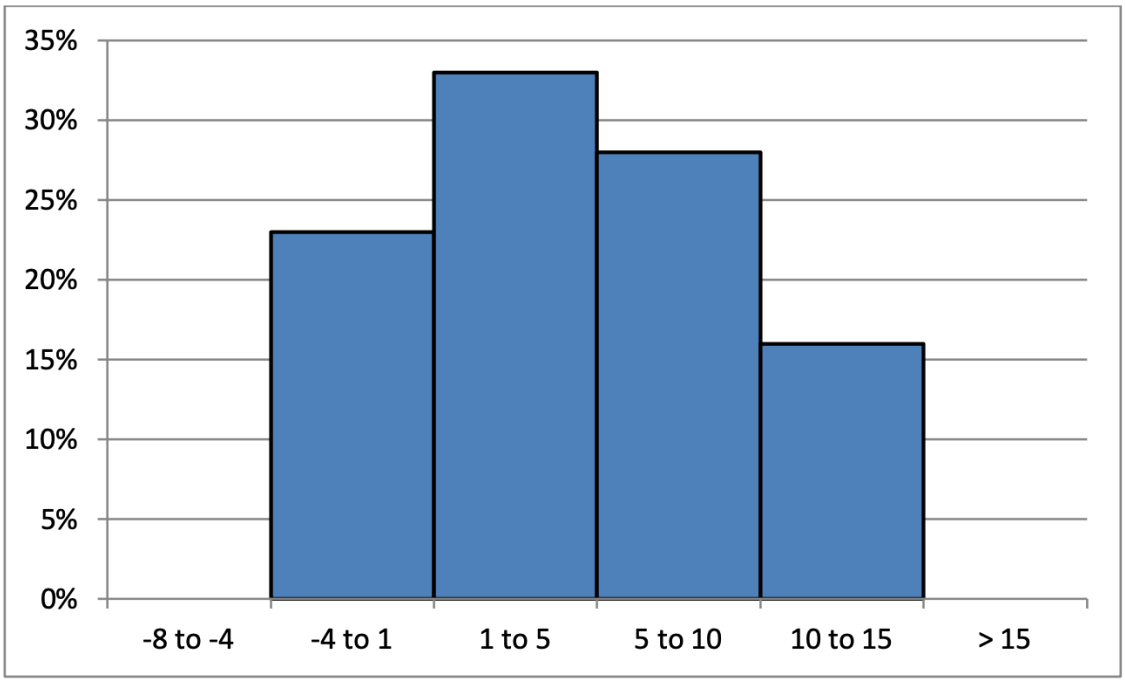

Figure 5 Team virtualization continuum frequency

Source: survey answers, N=69

In order to determine if there is a correlation between the organizational structure and the performance of virtual teams, we initially examined overall team performance. Subsequently, we assessed the influence of the organizational structure on team performance, as well as the impact of virtualization on team performance. Finally, we investigated the impact of organizational structure on teams that rely more on virtual communication rather than in-person interaction.

The concept of team performance is very subjective and can vary significantly depending on several conditions. Our study is around defining team performance based on the classical definition of virtual teams. According to this definition, virtual teams are created when members of virtual groups engage in interaction and collaboration to achieve a shared objective. Based on this criteria, we have identified both internal and external metrics to evaluate team success. Internal performance measurements of a team pertain to their capacity to effectively engage and work with one another, whereas external performance indicators

refer to the team's ability to achieve its objectives. This description aligns with the study conducted by Sinclair et al (2012), which concurs that team performance is determined not just by a team's capacity to achieve their objective, but also by the internal human elements inside the team. Our research has substantiated the connection between the performance of the internal and external teams by demonstrating a robust positive correlation of 0.7 between their respective ratings. However, we observed that team motivation had a much lower average score compared to all other indicators of team performance. The outcome remained constant for both virtual and face-to-face teams, as they exhibited a comparable distribution of replies.

The results of our study indicate that there is no statistically significant correlation between the average performance scores of work teams and the organizational structure. Hence, it is inconclusive to determine if the organizational structure would have a positive or negative impact on the performance of a work team.

Structural contingency theory posits that a universal organizational structure does not exist. Instead, for an organization to achieve success, its structure must be adaptable to other organizational aspects, including strategy, size, technology, and environment. Our findings support the idea of structural contingency theory, which argues that only examining the organizational structure is inadequate for making predictions about the anticipated performance of a virtual team inside the company. The organizational structure is only one factor that influences team-level design. While theory predicts that it may impact the inputs and processes inside the team, it remains uncertain if this effect is significant enough to affect the team's performance.

An organic structure is characterized by minimal levels of formalization, uniformity, and centralization. Consequently, teams operating inside an Organic framework are anticipated to exhibit more variability in performance due to the absence of formal and established quality control procedures. This concept is further substantiated by our study, which revealed that organizations that exhibit a higher degree of organic practices tend to achieve lower scores in the areas pertaining to systems and controls aimed at ensuring consistent quality output. Our findings, however, contradict the idea of complex adaptive systems (Ellis & Herbert, 2011) that regards virtual teams as a self-organizing organism that flourishes in a more organic framework.

Yoon's (2008) research demonstrated that most virtual teams tend to go through a process of adaptive progression as they move through the different stages of group development. This means that Organically structured teams usually begin with limited success and gradually improve their performance by progressing through the group development phases. Our research did not account for the duration of time that the virtual teams had been collaborating, nor did we examine the frequency of group development iterations undertaken by each team. A study conducted on the impact of shared mental models on virtual team performance (Roar, Bjørn Helge, & Jarle, 2011) revealed that teams with extensive prior experience tend to outperform freshly established teams. Subsequent investigations may need to take into account this variable while assessing the efficacy of a virtual team.

Our research revealed a tenuous correlation between the augmentation of team virtualization and the enhancement of team performance. Virtual teams had superior performance compared to face-to-face teams, as seen by higher mean, minimum, and maximum scores. These results align with Powell's (2004) findings, which indicate that virtualization can enhance organizational flexibility and performance. Hertel et al (2005) extended this notion and argued that the enhanced effectiveness of virtual teams may be attributed to the human, corporate, and societal benefits of team virtualization. The advantages of virtual teams were evident in our research, as the findings demonstrated that virtual teams consistently outperformed face-to-face teams.

Although virtual teams tend to have greater average performance, we observed that as teams get more virtual, their performance becomes increasingly uneven. The interquartile range (IQR) of face-to-face teams was much smaller compared to virtual teams. Cummings (2011) observed that the physical distance, time constraints, and limitations of communication technology hinder virtual teams from achieving their maximum effectiveness. Three often mentioned hypotheses that might reduce the effectiveness of virtual teams include social loafing (Chidambaram & Tung, 2005), communication breakdown (Daim, et al., 2012), and individual productivity loss (Mueller, 2012).

The increased variability seen in performance ratings of virtual teams reflects the idea that managing virtual teams poses higher challenges to companies and team members compared to traditional face-to-face teams. Our findings also demonstrate that virtual teams that successfully surmount these barriers possess the capacity to surpass face-to-face teams in performance. However, individuals who fail to effectively address these concerns are at danger of underperforming compared to teams that meet in person.

We found no correlation between the organizational structure and the performance of work teams in our investigation. In order to address research question 1, it is necessary to assess the potential impact of the organizational structure on the performance of virtual work teams. Consequently, we excluded all the teams classified as face-to-face and just analyzed the performance of teams classified as virtual. Furthermore, our examination revealed no substantial correlation between the organizational structure and the performance of virtual teams.

Conclusion for the Discussion for Question 1

No correlation was discovered in our research between the organizational structure and the performance of work teams. In order to address research question 1, it is necessary to assess the potential impact of the organizational structure on the performance of virtual work teams. Consequently, we excluded all the teams classified as face-to-face and exclusively analyzed the performance of teams classified as virtual. Throughout our examination, we also discovered that there is no noteworthy correlation between the organizational structure and the success of virtual teams.

2.3.2 Discussions for Questions 2

The second inquiry we posed in this study pertained to the potential of the organizational structure to aid team members in surmounting the obstacles arising from team virtualization in the domains of communication, culture, technology, and leadership.

Sato (2010) provided a definition of a Mechanistic structure as one that exhibits a high degree of formalization, standardization, and centralization, in contrast to an Organic structure, which is characterized by low levels of formalization, standardization, and centralization. Our study was to determine if these three elements of organizational structure can effectively address the common obstacles encountered in virtual teams, namely in the domains of communication, culture, technology, and leadership, as proposed by Hertel et al's (2005) research.

The 7 C's of successful communication serve as a well recognized management principle for establishing effective communication in a company setting (7 C's for effective communication, 2012).

The key characteristics of successful communication include: thoroughness, brevity, thoughtfulness, specificity, politeness, clarity, and accuracy. Based on this given criteria, our study discovered a tenuous association between the organizational structure and the

communication score attained by team members. There is a positive correlation between the level of mechanization within a team and the score of observed communications.

Our results revealed that the reporting structures were the most mechanistic or formal organizational aspect among the respondents.

The results we found align with the influential research conducted by Griffith, Gray, and Mayhew (1973), which demonstrated a correlation between the formal organizational chart and communication inside an organization. However, Meyer and Rowan (1977) cautioned that formal organizational structures can become so deeply ingrained in an institution that they may become detached from the requirements of work activities. This detachment can result in inefficiencies in communication and collaboration within the work environment. In our findings, a significant proportion of respondents reported that they work in a Mechanistic organization and are aware that their company's organogram is outdated. This suggests proof of the phenomena we were investigating.

The relationship between corporate culture and organizational performance has been scientifically established through several organizational characteristics, including dedication, creativity, purpose, and coordination.

Research on virtual teams has demonstrated that when a company grows more virtual, it becomes increasingly difficult to cultivate a cohesive corporate culture among all team members. The underperformance can be attributed to the idea that indicates virtual team members experience a decline in individual productivity. This implies that team members have challenges in coordinating duties, exhibit lower motivation, and sense a lack of support. Consequently, we define a successful corporate culture as a culture that mitigates the negative impact of reduced individual productivity and fosters transparent communication, trust, and mutual assistance among team members.

The results of our study indicate that there is no statistically significant correlation between the organizational structure and the culture score attained by team members. This outcome seems to contradict the findings of studies that indicate a strong correlation between social structures and culture, as eloquently articulated by Gans (2012, p. 131): "Therefore, it is essential for structural sociologists to comprehend that social interactions, whether within families or large corporations, invariably encompass values, tools, the creation of meaning, and other substitutes for culture."

Our research, however, only examined three specific elements of organizational structure: formalization, standardization, and centralization. The results we obtained indicate that these three components do not exert a substantial influence on the fundamental culture of the organization. Moreover, a culture that fosters open communication, trust, and support among team members can exist in both an Organic and a Mechanistic company structure. Additional investigation is required to ascertain the specific components of organizational structure that exert an impact on business culture.

Assessing the utilization of technology inside an organization has been a prominent subject of study in recent years. In order to assess the potential impact of the organizational structure on technology utilization inside a company, we adopted the metrics suggested by Raymond, Par, and Bergeron (1995). They proposed that the level of technical sophistication should be assessed based on two factors: the extent of technology utilization and the effectiveness of technology governance. Based on this, we contended that teams who employ cutting-edge technology while maintaining control over its usage inside the business should be assigned a high technology performance score.

Our investigation could not identify any statistically significant correlation between the organizational structure and the team's capacity to effectively utilize technology. Both the Mechanistic and Organic team structures exhibited equal technological reliance, with identical utilization patterns seen for the types of technology employed. While we observed variations in the extent of control exerted on technology usage inside the firm, this did not have an impact on the overall utilization of technology. Email remained the most prevalent tool, with over 65% of respondents using it daily for work-related tasks. Instant messaging came in second, with 26% of respondents using it on a daily basis. Remarkably, social media was the tool that saw the least amount of usage, as 68% of respondents reported never utilizing it for work-related tasks.

Based on our findings, it can be inferred that while Organic structures provide team members with greater autonomy in selecting technology tools for work, this did not result in any enhancement in the technological advancement of the company. Furthermore, no other correlation was found between the organizational structure and technology utilization within the organization.

During our investigation, we thoroughly examined the possible interaction between organizational structure and leadership performance. The investigation, employing

sophisticated statistical methodologies, discovered no substantial correlation between the two variables. This suggests that the efficacy of leadership, in terms of guiding teams towards accomplishing their goals, is not dependent on whether an organization's structure is mechanistic, characterized by a strict hierarchy and well-defined roles, or organic, characterized by a flexible and decentralized approach. Therefore, this implies that the effectiveness of leadership goes beyond the structural aspects of an organization. Leaders can effectively guide their teams to success irrespective of the organizational framework, suggesting that factors such as individual leadership qualities, team dynamics, and external circumstances have a more significant impact on leadership performance than the structure itself. It is crucial to recognize that although organizational structure plays a vital role in an organization's overall operations, its direct influence on leadership quality and performance may not be as strong as often believed.

Teams that functioned within both an Organic and Mechanistic organizational framework demonstrated comparable levels of performance in effectively guiding the team towards their objectives. Subsequent investigations may need to delve into the leadership styles employed in these two situations to ascertain the applicability of the same leadership styles in both contexts.

Conclusion for the Discussion for Question 2

Our research revealed a tenuous positive association between the score of the organizational structure and the score of the team's communication performance. Our findings indicate that teams functioning under a Mechanistic organizational structure exhibit superior communication efficiency compared to teams operating within an Organic organizational structure.

Nevertheless, we observed no statistically significant correlation between the organizational structure and other factors that often lead to decreased performance in virtual teams, such as culture, technology, and leadership.

These findings indicate that organizational structure may be a necessary factor for ensuring virtual team effectiveness. However, it is important to note that simply having the appropriate organizational structure is insufficient for completely mitigating the adverse impacts resulting from the virtualization of a work team.

2.3.3 Discussions for Questions 3

We recently inquired about the optimal organizational structure that best suits virtual teams.

The IPO model is frequently employed to depict the correlation among the constituent members of a work team. The objective of this study was to assess the correlation between the organizational level and the team level of the IPO model and determine the resulting influence on the work team's outcomes.

We specifically examined the organizational structure at the organizational level, which serves as an input for the design and execution of the team. The assessment of issues 1 and 2 demonstrated that the organizational structure by itself does not possess enough effect on the inputs and processes of work teams to impact the performance of a virtual team. This discovery is consistent with the principles of structural contingency theory (Donaldson, 1996), which posits that the organizational structure must be harmonized with other factors within the organization in order to achieve optimal performance. The impact of an organizational structure on the team alone is insufficient to enhance or diminish the overall performance of the work team.

In order to validate these findings, we examined all the responses within each category utilizing our organizational structure and team virtualness matrix. Subsequently, we conducted an ANOVA test to see if the modest disparities in performance means indicate statistical significance or not. The ANOVA analysis yielded a result that supports the acceptance of the null hypothesis, indicating that the mean performance scores across all categories are indeed equal. Upon examining the data shown in Figure 6, namely in the form of a boxplot, we observe some intriguing patterns. Face-to-face teams that were organic had a significantly higher level of consistency compared to teams in other categories. Virtual teams, albeit mechanistic, have the largest interquartile range (IQR) and the most variable performance compared to other groups.

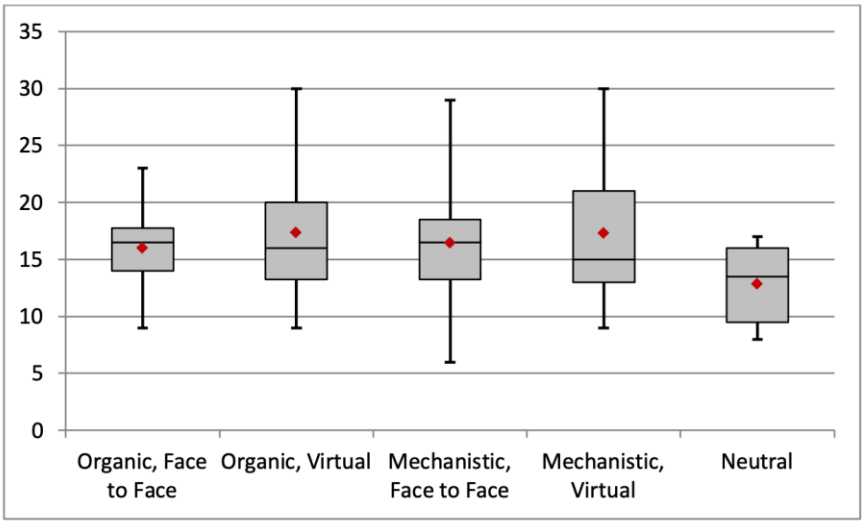

Figure 6 Boxplot of Performance per category

Source: survey, N=69

Conclusion for the Discussion for Question 3

Research question three inquired about the organizational structure that offers a superior alignment for virtual teams that function at a high level. A conducted ANOVA test, assessing the equality of means, concluded that we are unable to reject the null hypothesis. Consequently, we must assume that the mean performance score across all categories is equal. Consequently, it may be inferred that high performance teams have the potential to thrive in many organizational structures, and no one organizational structure offers a superior match for high performing virtual teams.

CHAPTER 3. CONCLUSION AND FINDINGS

In a progressively interconnected world, where technology advancements continuously decrease the expenses associated with global expansion, an expanding number of organizations are utilizing virtual teams to extend their operations worldwide. The advantages that may be obtained from virtual teams are unquestionable (Clemons & Kroth, 2011). One of the main advantages of team virtualization is the ability to quickly transfer knowledge across different geographic locations and time zones (Dietz-Uhler & Bishop-Clark, 2001).

Virtual teams can result in substantial cost reductions in terms of both time and travel expenditures. The citation is from the study conducted by Bergiel, Bergiel, and Balsmeier in 2008.

Virtual teams have the potential to mitigate power disparities among team members and mitigate the adverse impact of non-verbal cues on team members (Bower, et al. 2001).

Virtual teams have the potential to provide fair employment possibilities, particularly for those with physical limitations (Heller, et al., 2010).

Virtual teams can mitigate instances of racial, age, or sexual discrimination by allowing individuals to remain anonymous and be evaluated only based on their performance, rather than their personal characteristics or looks. The citation is from Bergiel, Bergiel, and Balsmeier's work in 2008.

Virtual teams are mostly failing to fulfill these promises primarily because of the inherent difficulties arising from the growing prevalence of team virtualization, particularly in the areas of communication, culture, technology, and leadership (Workman, 2007). In order to address this issue, new studies have begun to examine the impact that different organizational factors can have on the success of virtual teams (Hertel, Geister, & Konradt, 2005). This study contributed to the discussion by examining the impact of organizational structure on the success of virtual teams. In our study, we carefully examined three aspects of organizational structure: formalization, standardization, and centralization. These factors determine whether an organizational structure is classified as mechanistic or organic (Satō, 2010).

Among the 170 surveys distributed, 87 were completed by active members of work teams who were polled about the extent of virtualization in their respective teams. After careful examination, only 69 of these comments were considered pertinent and were used for the

final study. The survey was designed in a systematic manner to address the following three inquiries:

1. Is there a correlation between organizational structure and virtual team performance that may be observed?

Can the organizational structure facilitate team members in surmounting the problems arising from team virtualization in the domains of communication, culture, technology, and leadership?

3. Which organizational structure is more suitable for high-performance virtual teams? In order to evaluate the replies, we computed a team performance score, a team virtualization score, and an organizational structure score, enabling us to do statistical analysis on the findings. This also allowed us to classify the participants into the spectrum of team virtualization and organizational structure, as seen in Figure 7 below. If a respondent has a negative score on the team virtualization continuum, they will be classified as "Organic." Conversely, a positive score would result in classification as "Virtual." Similarly, a responder who scores negatively on the organizational structure continuum would be classified as Mechanistic, whereas a good score will be classified as Organic. The size of the bubble in Figure 8 below corresponds to the performance score attained by the responder, with a larger bubble indicating a higher score.

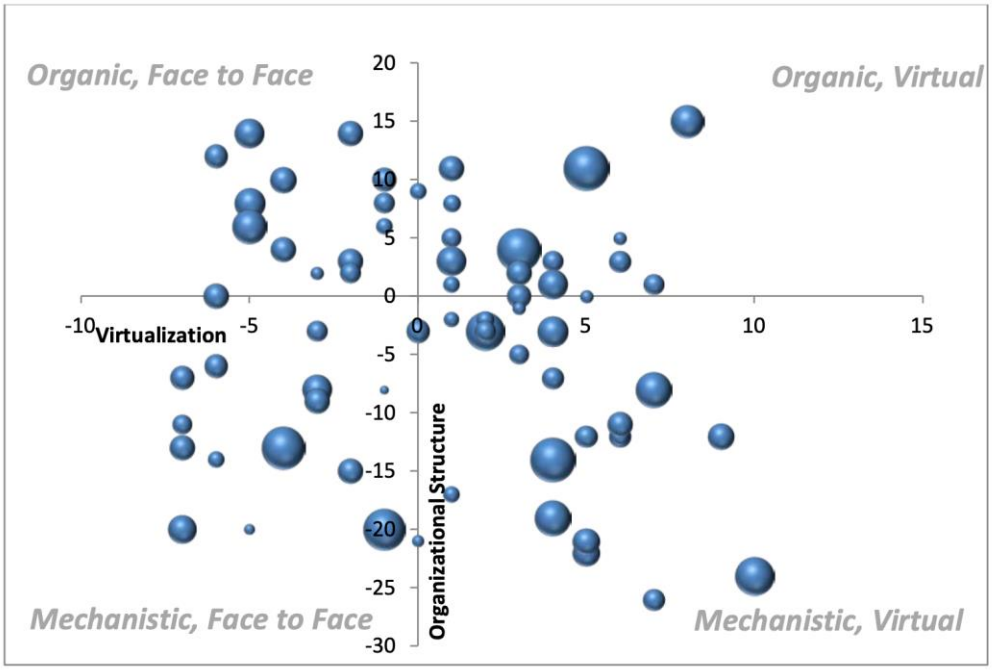

Figure 7 Team Performance per Category Source: survey, N= 69

Our investigation yielded no statistically significant correlation between the organizational structure and the performance of the work team. We conducted an analysis of variance (ANOVA) test to evaluate the average team performance ratings across different categories. The results of the test indicated that the observed differences in variances are not statistically significant at a 95% confidence level. Additionally, we observed that the performance of virtual teams was less reliable compared to face-to-face teams. Virtual teams had a greater interquartile range (IQR) and higher maximum scores compared to the face-to-face teams. To summarize, we have successfully addressed our research inquiries in the following manner:

1. Is there a discernible correlation between the organizational structure and the success of virtual teams?

There was no statistically significant correlation seen between the organizational structure and the average team performance. Teams operating inside a Mechanistic framework exhibited more consistency in performance compared to teams operating in an Organic structure. Nevertheless, the average performance ratings of both groups were identical.

2. Can the organizational structure facilitate team members in surmounting the problems arising from team virtualization in the domains of communication, culture, technology, and leadership?

The findings of our study revealed a modest inverse relationship between the organizational structure and the team communication score. Based on our findings, we have determined that communication is more efficient inside a Mechanistic organizational framework compared to an Organic structure. The organizational structure had no discernible influence on the other problematic aspects of culture, technology, and leadership.

Which organizational structure is more suitable for high-performance virtual teams?

The ANOVA test we conducted to compare means has shown that there is no significant difference in the average team performance between teams operating in a Mechanistic organizational structure and those operating in an Organic organizational structure. Consequently, it can be inferred that no organizational structure is more suitable for achieving optimal performance in virtual teams.

As globalization and technology become more prevalent in the business world, the use of virtual teams is certain to rise. Virtual teams provide several advantages to firms compared to

conventional face-to-face teams. This study has demonstrated that while virtual teams have the capacity to outperform face-to-face teams, the overall performance of virtual teams is less stable compared to face-to-face teams.

This finding aligns with research that acknowledges the numerous difficulties arising from team virtualization and aims to enhance the consistency of virtual team performance. Our study assessed the influence of the organizational structure on the performance of virtual teams and demonstrated that the organizational structure has no effect on the performance of virtual teams.

As globalization and technology continue to spread in the business world, the use of virtual teams is certain to become more prevalent. Virtual teams provide several advantages to firms compared to conventional face-to-face teams. This study has demonstrated that while virtual teams possess the capacity to outperform face-to-face teams, the overall performance of virtual teams is less stable compared to face-to-face teams. This finding aligns with previous study that acknowledged the numerous difficulties arising from team virtualization and aims to identify strategies for enhancing the consistency of virtual team performance (Hertel, Geister, & Konradt, 2005). Our study assessed the influence of the organizational structure on the performance of virtual teams and concluded that the organizational structure has no effect on the performance of virtual teams.

The findings suggest that managers should consider aligning the structural elements of their organization with other factors such as strategy, size, technology, and environment when optimizing the performance of virtual teams. This is in accordance with the principles of structural contingency theory.

CHAPTER 4. RECOMMENDATIONS TO IMPLEMENT RESEARCH RESULTS TO THE MANAGEMENT SYSTEM OF VIRTUAL TEAMS

1. Enhanced Communication Tools: Since communication was more effective in Mechanistic structures, invest in robust and user-friendly communication tools that mirror this efficiency, and provide training to maximize their use.

2. Flexible Organizational Practices: Although the research indicated that organizational structure doesn't impact virtual team performance, implementing flexible and adaptable practices can help teams respond to the challenges posed by virtualization.

3. Performance Consistency Measures: Address the inconsistency in virtual team performance by establishing clear performance metrics and regular feedback mechanisms to track and support consistent team output across various virtual settings.

4. Leadership Development: Focus on developing leaders for virtual environments (E-leadership) who are adept at using digital tools to build trust and manage teams remotely, ensuring that leadership is effective even when team members are not co-located.

5. Strategic Alignment: Work on aligning the structural components of the organization with other organizational factors as recommended by structural contingency theory. This can involve strategic planning sessions that take into account the size of the organization, the technology in use, and environmental factors.

6. Data-Driven Management: Utilize data analytics to understand the patterns in virtual team performance. This will help identify areas where virtual teams are struggling and where they excel, allowing for more targeted management interventions.

7. Cultural and Technological Adaptability: Given the lack of significant impact of organizational structure on cultural, technological, and leadership challenges, focus on creating an adaptable culture that can readily incorporate new technologies and leadership models as needed.

8. Regular Team Assessments: Conducting regular assessments can help to identify variations in performance among virtual teams and provide insights into which aspects of the current structure or processes may be contributing to these inconsistencies.

9. Invest in Consistency: Implement strategies to make virtual team performance more consistent, such as standardized processes, shared best practices, and regular team-building activities that can operate effectively across various structures.

10. Trust Building: Since E-trust is critical in virtual teams, develop initiatives that promote trust-building, such as virtual team-building exercises, transparent communication practices, and clear accountability measures.

APPENDIX A: SEMI-STRUCTURED INTERVIEW GUIDE

TOPIC 1: INTRODUCTION

The purpose of this discussion is to introduce myself, give background on the research topic and gain some basic insights into the interviewee and his/her company. The most important outcome of this discussion should be for the interviewee to understand the research questions and for me to determine whether they fall within our sample population or not.

TOPIC 2: TEAMS WITHIN THE ORGANISATION

The discussion around this topic should establish to which extent the organisation utilizes teams and teamwork to complete daily operational tasks. The main outcome should be a basic understanding of the role of teams within the organisation. Some starting questions might include:

• In how many teams have you been involved with at the company?

• What was the purpose of the team(s)?

• Do you think that your team(s) reached their goals?

TOPIC 3: ORGANISATIONAL STRUCTURE INFLUENCING THE TEAM

The discussion should now move from the organization to the team level. What are the factors in the organizational structure that might impact communication, culture, technology, and leadership elements found within the work team?

• What did the company do well in supporting the team?

• What would you have done differently?

• Would you like more freedom/responsibility within the team?

• How do you control quality within the organization?

TOPIC 4: TECHNOLOGY SUPPORTING WORK TEAMS

The discussion around technology in teams should establish to what extent the teams operating in the company are dependent on technology. The main outcome of this topic should be to understand where on the virtualization continuum teams in this organization find themselves.

• Does the company dictate what technology people must use for work purposes?

- Are you dependent on technology to perform your daily work tasks?
- What are the typical technologies that you utilize to collaborate with team members?

APPENDIX B: QUESTIONNAIRE **(Survey)**

1. For how many years have you been employed at the company?

- ◯ 0-2 Years
- ◯ 3-5 Years
- ◯ 6-10 Years
- ◯ > 10 Years

2. How many people are employed at your company?

- ◯ 0-10
- ◯ 11-50
- ◯ 51-500
- ◯ >500

3. Are you currently a member of a work team?

- ◯ Yes
- ◯ No

The impact of organizational structure on the performance of virtual

4. How big is your current work team ?

- ◯ 2-5
- ◯ 6-10
- ◯ 11-20
- ◯ > 20

5. Have you been a member of a work team in the last 5 years?

- ◯ Yes
- ◯ No

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Team and Organizational Structure

6. Consider a specific team which you worked in within the last 5 years and rate your feeling towards the statements below

	Disagree	Sometimes	Agree	Absolutely Agree
The team shared clearly defined goals	◯	◯	◯	◯
The team successfully reached the goals that has been set for them.	◯	◯	◯	◯
The team structure and its members was defined by management that did not form part of the team	◯	◯	◯	◯
Team members had clearly defined roles and responsibilities	◯	◯	◯	◯
All the team members where motivated, energised and committed throughout the project	◯	◯	◯	◯
The team worked together and was collectively responsible for reaching the goals	◯	◯	◯	◯
Management practices within the organisation allowed the team freedom to work according to their own processes, structure and rules	◯	◯	◯	◯
Team members respected and trusted each other	◯	◯	◯	◯
Team members supported each other	◯	◯	◯	◯
Team members frequently engage in open dialogue and communication	◯	◯	◯	◯

7. Does your organisation have a clearly defined organogram which shows the organisation's structure?

◯ Yes

◯ No

◯ I don't know

8. Is the organogram up to date?

- ◯ Yes
- ◯ No
- ◯ I Don't know

9. Please rate your company's structure on the scale from organic to mechanistic by completing the sentences below. A Mechanistic structure can be described as highly formalized, standardized and centralized versus an organic structure that is low on formalization, standardization and centralization.

	Completely Organic	Slightly organic	Slightly Mechanistic	Completely Mechanistic
Decision making in the organisation is...	◯	◯	◯	◯
Coordination mechanism within the organisation are...	◯	◯	◯	◯
Planning and control within the organisation are done...	◯	◯	◯	◯
Reporting structures in the company are....	◯	◯	◯	◯
Job definitions and task descriptions in the organization are...	◯	◯	◯	◯
I will describe the company's structure as being...	◯	◯	◯	◯

10. Please indicate which of the following control mechanisms are in place within your organisation to control the quality and consistency of outputs produced by your current company

	Not Applicable	Low	Medium	High
Direct Supervision	◯	◯	◯	◯
Standardized processes	◯	◯	◯	◯
Quality Assurance on all outputs	◯	◯	◯	◯
Standardized training for all staff	◯	◯	◯	◯

The impact of organizational structure on the performance of virtual

Technology Dependance

11. My company specifies which technologies I'm allowed to use for work purposes

- ◯ Never
- ◯ Sometimes
- ◯ Almost Always
- ◯ Always

12. Please rate your dependence on technology by answering the questions below on a scale from Disagree to Absolutely Agree

	Disagree	Sometimes	Agree	Absolutely Agree
Almost all my communication with team members are conducted over electronic communication mediums such as email, instant messaging and video conferencing	◯	◯	◯	◯
My own schedule and the team's schedule is managed through an online calendar which can be accessed by all my team members	◯	◯	◯	◯
All tasks are coordinated through a shared repository which can be accessed by all team members at all times.	◯	◯	◯	◯
Project milestones and progress is communicated to all team members through a centralized system that is accessible to all team members.	◯	◯	◯	◯
All project artefacts and outputs are managed by a repository to which all team members have access. Without access to this repository I cannot perform my daily tasks	◯	◯	◯	◯

13. How regularly does your team have scheduled face to face meetings?

- ◯ Daily
- ◯ Weekly
- ◯ Monthly
- ◯ Quarterly
- ◯ Never

14. How many people in the team have you personally met face to face?

- ◯ All of them
- ◯ Most of them
- ◯ Only a few
- ◯ None of them

15. When working with team members we typically use the following technologies to communicate and coordinate work

	Never used it	Used it once	Used it a couple of times	Constantly use it	Use it almost daily
Email	◯	◯	◯	◯	◯
Instant Messaging	◯	◯	◯	◯	◯
Teleconferencing	◯	◯	◯	◯	◯
Video conferencing	◯	◯	◯	◯	◯
Online Collaboration tools	◯	◯	◯	◯	◯
Online project and task management tools	◯	◯	◯	◯	◯
Social Media	◯	◯	◯	◯	◯

Other (please specify)