



Doctoral School of Regional and Business Administration Sciences

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Trust and collaboration in multicultural virtual organizations

Doctoral dissertation

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## **Author's Declaration**

No portion of the work referred to in this dissertation has been submitted in support of an application for another degree or qualification of this or other university or other institution of learning.

Furthermore, this dissertation contains no material previously written and /or published by another person, except where an appropriate acknowledgment is made in the form of bibliographical references.

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## **Key to abbreviations**

CAPM Capital Asset Pricing Model

CBU Country Business Unit

CMC Computer Mediated Communication

FtF Face-to-Face

HR Human Resource Management

ICT Information and Communication Technology

IIC Inter-Item Correlation

ITC Item-Total Correlation

MNE Multinational Enterprises

MNC Multinational Corporation

GVT Global Virtual Teams

SOVC Sense of Virtual Community

## **1. Introduction**

In the last three decades, the concept of a workplace has undergone drastic changes driven by computer-mediated communication (CMC), destroying the paradigm of industrial economy, according to which productive assets can only be reached and utilised in a reserved and separated place (factory, office). CMC demonstrates new flexibility in terms of the location of work, especially for knowledge workers, certain industries, multinational enterprises (MNE), and provides significant advantages for both employers and employees. CMC has also changed the way of communication in the conventional, face-to-face team, where nowadays their interactions are based on the combination of personal communication and computer and electronic media (email, phone, video conference). In parallel with the transformation of conventional team interaction, CMC, on which virtual team communication and collaboration are predominantly based, has facilitated the emergence of remote or virtual work.

Virtual teamwork rewrites our knowledge about organizational behaviour, and has fundamentally changed the way of collaboration, knowledge sharing, decision making and the leader and follower relationship. The workplace is an important social space for personal relationships, which formulates company culture, social capital, and common identity. The virtual team construct has put all this knowledge and learning into a new perspective.

The virtual team required new competencies to help overcome physical boundaries and support new way of collaboration (Eisenberg and Mattarelli, 2017; Kunte, Bhattacharya and Neelam, 2020). The competencies required for virtual teams' operation is one of the most interesting questions for scholars. The increase of the degree of virtuality calls for newer and newer competencies on leader and team member levels in order to reach a stage of collaboration that is similar to that of conventional teams (Hertel, Geister and Konradt, 2005). Scholars do agree that the change in the workplace significantly influences the development and functioning of social capital (Jensen and Meckling, 1976; Tallman *et al.*, 2004; Harvey, Novicevic and Garrison, 2005; Ariani, 2012) but surprisingly limited research examined this problem territory holistically. Although previous, conventional face-to-face team research outlines the importance of social capital and the current virtual team's literature defines this problem territory, no clear conceptual model is supported by empirical studies. This dissertation targets this knowledge gap, that the virtual teamwork rewrote the way of collaboration since it fundamentally changed the formulation and development of

social capital. Our aim is a new conceptual model of virtual team collaboration, which takes the main crux of virtual teams into consideration. As only one discipline is not able to answer this question, we applied a transdisciplinary approach in the creation of the model.

Based on current literature we collected the main domains of the virtual team regarding international management, and we used these as a starting point of the dissertation.

- Virtual team represents a new norm of a workplace especially for MNEs (Harvey, Novicevic and Garrison, 2005; Eisenberg and Mattarelli, 2017; Wei, Thurasamy and Popa, 2018; Toro, Elguezabal and Anacabe, 2020; Zakaria and Mohd Yusof, 2020; Schmidt and Santamaria-Alvarez, 2021; Shaik, Makhecha and Gouda, 2021), the global economic background is investigated in chapter 2.
- Virtual team states an indisputable competitive advantage for enterprises (Porter, 2000; Corò and Grandinetti, 2001; Weimann *et al.*, 2013; Gunawan, Jacob and Duysters, 2016; Coletti and Landoni, 2018; Nestle *et al.*, 2019) which accelerated its spread in the last decade.
- Since virtual teams are a new phenomenon, they have attracted the interest of scholars in recent years. The rapidly growing number of publications starts from different approaches. Based on literature review we conclude that there is no consensus in the definition of a virtual team, which may cause a potential definition bias in research. Chapter 3 explores this gap and restructures current literature with a special focus on regional virtual teams (cluster organizations).
- Virtual team in MNEs provides a great access to human capital and incorporate members with different culture (Jarvenpaa and Leidner, 1998; Chudoba *et al.*, 2005; Harvey, Novicevic and Garrison, 2005; Davison *et al.*, 2017; Roehling, 2017).
- Scholars describes MNEs' virtual teams as an inter-cultural organization; however, systematic field studies that demonstrate this cultural diversity on each hierarchical level of organization are still missing. Chapter 4 targets this gap.
- The change of human capital and the structure of the organization transmutes the structural and relational dimensions of social capital in MNEs virtual team (Harvey, Novicevic and Garrison, 2005; Petter, Barber and Barber, 2019; Sheng and Hartmann, 2019).
- Trust is one of the most investigated phenomena related to a virtual team, but – based on a literature review in Chapter 4 – a fundamental literature gap was observed in the trust and control relations of ill-structured and well-structured processes.

- Trust is a fundamental mediator of the successful operation of a virtual team but does not answer all the changes of social capital. On the other hand, limited empirical studies deal with the mediators of successful collaboration and relationships beyond trust (Gilson *et al.*, 2015).
- Psychological empowerment, which is one of the most significant mediators and catalysts of collaboration, knowledge sharing, and decision making has attracted significant attention in both academic research and practitioners of conventional face-to-face teams, but very few empirical studies investigated it in virtual teams (Chapter 5).
- Virtual team is associated with isolation (Kirkman *et al.*, 2002; Ambos *et al.*, 2016; Prasad, DeRosa and Beyerlein, 2017; Zoonen van and Hoeven ter, 2021) therefore developing collective company culture, beliefs, values and required behaviour is more difficult than in a face-to-face team.
- Social narrative study is a growing topic in psychology and social science in the creation and development of personal and collective identity, but surprisingly limited research applies on the corporate level in the development of socialization in the organization for formulating the social identity and company culture on both individual and collective levels (Chapter 6).

This dissertation is addressed to have a comprehensive understanding of structural and relational social capital transformation in cross-cultural virtual teams and to create the new conceptual model of collaboration in virtual teams from the international business strategic point of view. As the virtual team is a huge topic, in the first part of the introduction we briefly explain how we narrowed down the problem territory to a concrete, well-defined space and why we selected MNEs as a representative sample of virtual team research.

### **1.1. Problem space: The development and the definition of virtual team**

CMC provided the technological background of the development of a virtual team and three economic factors accelerated the spread of this phenomenon. The financial pressure after the 2008–2009 global credit crisis encouraged all organizations to reduce the operational cost (personal, equipment, workplace cost), and improved financial efficiency. A virtual team fulfils these expectations on each level of working capital (Franke and Luthje, 2003; Horwitz, Bravington and Silvis, 2006; Kunte, Bhattacharya and Neelam, 2020). A better access to the required resources especially to the human resources is the second factor

accelerating the spread of virtual teams, which is beneficial for employers and employees as well. The employer becomes attractive to talents who are geographically dispersed and ensures a 'work around the clock' (Breuer, Hüffmeier and Hertel, 2016) and better proximity to local markets. A virtual team offers more flexibility to location and a better time control for employees, which makes this form attractive to them (Hertel, Geister and Konradt, 2005; Horwitz, Bravington and Silvis, 2006). The global pandemic in 2020 was the third factor, when the prevention of humanitarian disasters forced all companies and educational institutions to operate remotely temporarily. This period confirmed that the majority of the companies are ready for virtual work, and virtual teams are a good alternative or complement to conventional, face-to-face teams. These factors accelerated the transformation and virtual teams are the new norm for many companies and industries.

The definition of a virtual team is not homogenous, as different organizational forms and formulations lead to remote working. One, collectively accepted definition does not exist, which leads to many biases in results and conclusions in empirical research (Hertel, Geister and Konradt, 2005; Cousins, Robey and Zigurs, 2007; Gilson *et al.*, 2015). The definition of a virtual team and related organizational forms (hybrid team, cluster organization etc.) is formulating dynamically, the current team forms are not the final ones, due to the highly turbinating influence of external economic and internal organizational factors.

Scholars' minimal consensus that a virtual team (1) consists of minimum two persons (2) collaborating and coordinating their work remotely (3) to accomplish a common goal. There is no consensus regarding personal meetings, it not a requirement that all members work virtually, the minimum agreement is that (4) at least one team member works geographically dislocated (Kirkman *et al.*, 2002; Martins, Gilson and Maynard, 2004; Hertel, Geister and Konradt, 2005; Gilson *et al.*, 2015; Gibbs, Sivunen and Boyraz, 2017).

In order to prevent research bias, we narrowed down our research territory to NMEs. MNEs have a robust advantage of virtual teams by eliminating the region or country-based entities by cross-border multicultural virtual teams (Germain and McGuire, 2014; Appio *et al.*, 2017). Scholar approach virtual team as a manifestation of the remote working which manifests in two typical organizational forms. The global virtual team is the first most investigated organizational manifestation of the virtual work. The cluster organization began to develop rapidly and is spreading more and more worldwide. In this dissertation cross-cultural cross-border virtual teams is the research territory: the global virtual teams (GVT) and regional cluster as well.

## **1.2. Problem territory mapping: geographic distance and isolation result in changes in social capital**

According to Coleman Social capital theory, capital resides in the social structure of relationships between people. While human capital is the skills and knowledge of people, social capital represents the capital coming from the relation among people (Coleman, 1988). Trust, reliability of the environment and authority is critical for the development of social capital (Coleman, 1990), as this is a capital which is consciously created by the person (Coleman, 1990). ). If we would like to use the analogy to financial capital, it means that the individuals and their connections constitute capital resources. Strong communities originate from strong social bonding among team members and social capital may increase integrity in teams (Tzanakis, 2011) and this capital can be utilized via personal relations only (Anheier, Gerhards and Romo, 1995).

Social capital has three dimensions: structural, relational, and cognitive social capital. The structural dimension “concerns the properties of the social system and of the network of relations as a whole...inheres in the relations between persons and among persons.” (Nahapiet and Goshal, 1998, p. 244). Appropriable organization, network tribes and network configuration are the building blocks of a structural dimension. The relational dimension is predicted by trust, norms, obligations, and identification, as this dimension describes the personal relations people develop with each other through interactions. The cognitive dimension specifies the vision or the collective goals of the organization via shared narrative. These three dimensions are highly interrelated (Nahapiet and Goshal, 1998) but prior studies posited that the dimensions have independent operation as well. We do agree with Nahapiet and Goshal’s opinion, and we used this interrelated element of social capital in our research, which investigates the connection of the three dimensions and their impact on each other in a virtual team.

Social capital has a great literature among the conventional face-to-face team studies and a very interesting topic for virtual team researchers as well, as the change of the workplace may influence the dimensions of social capital (Jensen and Meckling, 1976; Tallman *et al.*, 2004; Harvey, Novicevic and Garrison, 2005). Each dimension of the social capital impacts knowledge sharing in virtual team (Petter, Barber and Barber, 2019). Social capital affects many factors in virtual team, relationships, interactions, connections, integrity and sense of community and its development can be effected by these factors (Widjaja *et al.*, 2017).

Organic development of the social capital seems to be hampered in a virtual team, due to the lack of personal relationships (Harvey, Novicevic and Garrison, 2005).

Literature finds that the geographic distance results changes in the social capital of virtual team compare to the conventional teams and the social distance may negatively influence the each dimensions of social capital (Sheng and Hartmann, 2019).

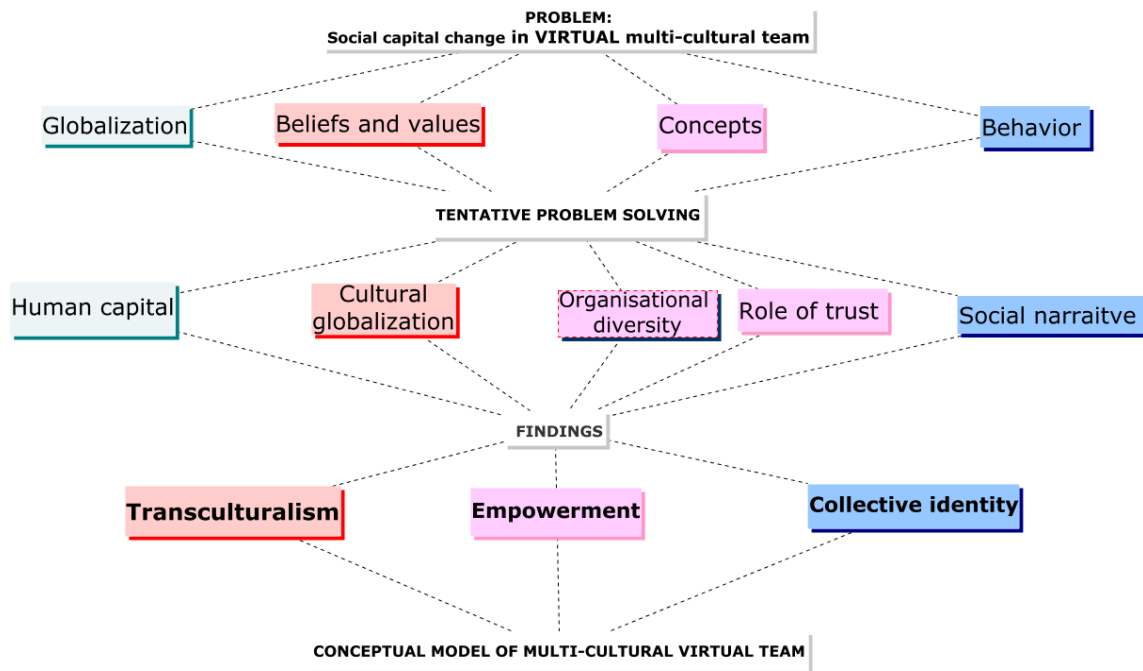


Figure 1.1 Concept map of dissertation's problem territory

In the introduction we will briefly explain the theoretical background of each domain appointed in our concept map (Figure 1.1) and lead the reader through our journey. We started our journey with the deeper understanding of the impact of globalization on human capital since human capital represents the economic value of the human skills and knowledge operated by social relationships.

### 1.2.1. Globalization's impact on human capital

Since we selected MNEs as a research area, the first step was to understand, based on current literature, what the main motivation, driving force and the consequence of globalization are, and its impact on human capital. The International CAPM (Capital Asset Pricing Model) clearly proved that, compared to domestic enterprises, international enterprises are motivated to diversify their risk and enter the international market to minimize systematic risks. The International portfolio theory concluded that globalization is driven by risk



mitigation and portfolio diversification, which provide a greater security for MNE than a purely domestic one (Moffett, Stonehill and Eiteman, 2015). Risk mitigation originates from two reasons: (1) reaching major consumer markets of the goods of the enterprise and (2) better access to the resources.

Nowadays, better access to human capital and knowledge seeking is the leading reason for multinational operation. According to Machlup's definition, human capital is an "increased productive capacity of persons"(Williams and Machlup, 1985, p. 419), manifested in the skills and knowledge of individuals. According to the Human capital theory, an employer is able to develop human capital by education and training (Baker *et al.*, 1997). On the other hand, human capital is a multi-dimensional domain what we investigate in Chapter 2 in details. Human capital includes physical and mental abilities of the skills. As literature clearly states, skills themselves are not enough, the combination of skills and the willingness of sharing knowledge are critical to the effective capitalization of human resources.

CMC accelerated globalization and raised it to a new level, creating cross-border multicultural virtual teams, where the sustainability of collaboration highly belongs to the willingness of collaboration and knowledge sharing, especially to sharing tacit knowledge (Levin and Cross, 2004; Falconer, 2006; Sheng and Hartmann, 2019).

Polányi conceptualized human knowledge as it stands in an explicit and a tacit dimension; and individuals cannot verbalize tacit knowledge easily (Polanyi, 1966). The transpersonal process, when people intensively learn from each other and formulate the community of practice together (Pyrko, Dörfler and Eden, 2017) can be threatened by cultural differences and virtuality. Davenport and Prusak's (1998) defined it as a justified personal belief that increases an individual's capacity. Based on this approach, knowledge is a commercial product, a resource for the firm or organization, and human capital (Davenport and Prusak, 1998).

The development of human capital is indeed a fundamental tool in the hands of MNEs to enrich the skills of the team members, but these efforts will not have the desired impact if they are not able to address cross-cultural differences.

### **1.2.2. Cultural globalization's effect on collaboration and knowledge sharing**

Globalization, working for a global company influences individuals, employees who are working in a multicultural environment and the cultural differences, or the lack of understanding cultural differences may reduce or block collaboration and knowledge sharing, especially tacit knowledge. Cultural differences slow down or even block the

development of trust and reduce the willingness of sharing tacit knowledge. These facts made cultural globalization an important domain for the formulation of our conceptual model.

Each country has a different culture, education, institutions, regulations etc. which have confronted enterprises with a new risk arising from human capital. In order to mitigate the risks of globalization on human capital, new managerial skills and competence, and infrastructure are needed. The successful global operation is a real cultural shift in attitude and cooperation which affects everyday practices and has long-term consequences and importance.

Employees of multinational companies are influenced by the diversification of human capital. Without moving to a different country, individuals work together with different cultures, without being ready for managing this diversity. Even in the global ages, all cultures consist of their own prejudices, dogmas, convictions, and beliefs, which manifest on the subconscious level of the individuals. Since this is not conscious in the participants, it can often manifest itself in incomprehensible and hidden disagreements or stereotypes. Although MNEs apply trainings to educate employees about cultural differences, they manifest in a hidden way destroying trust, and slowing down or preventing knowledge sharing and collectively. The main learning of the investigation of this domain was that only one discipline is not able to answer the problem of a cross-cultural virtual team, and we approached our research with a transdisciplinary method, which is explained in the Method part of the introduction.

The second learning of the literature review was that a cross-cultural virtual team is ill-functioning without trust, which navigates us to the next domain, such as trust in a virtual team.

### **1.2.3. Trust and role of the trust in virtual team**

Trust and trusting relationships are a central value of social capital. Trust has a dynamic impact on building social capital and the exchange of knowledge (Davenport and Prusak, 1998).

The multicultural virtual team represents a high level of complexity and isolation for team members (Kirkman *et al.*, 2002; Ambos *et al.*, 2016; Prasad, DeRosa and Beyerlein, 2017; Zoonen van and Hoeven ter, 2021). Because of this, it is difficult to build trust in a virtual environment. This is the reason why a significant part of the virtual team literature deals with the measurement of the trust domain (Adya, Temple and Hepburn, 2015; Iorio and

Taylor, 2015; Margaryan *et al.*, 2015; Henderson, Stackman and Lindekilde, 2016; Paul, Drake and Liang, 2016; Collins *et al.*, 2017; Widjaja *et al.*, 2017; Davison *et al.*, 2017; Petter, Barber and Barber, 2019; Villena, Choi and Revilla, 2019; Hao, Yang and Shi, 2019; Kauffmann and Carmi, 2019; Nestle *et al.*, 2019).

Most researchers value trust as a multidimensional, complex, and abstract phenomenon, and use Mayer's (1995) definition as trust is "the willingness of a party to be vulnerable. Trusting relationships lead to greater knowledge exchange"(Mayer, Davis and Schoorman, 1995, p. 712). We prepared a systematic literature review (see Method part of the introduction) where we learnt that although trust is the most investigated topic of a virtual team:

- 1) Research among university students were overrepresented.
- 2) Very limited study investigates the concept of a virtual team, and the definition of a virtual team is not clear. This gap motivates us to step here and prepare a conceptualization of the regional virtual teams based on a comprehensive literature review (Chapter 3).
- 3) As we explained earlier, MNEs' virtual team is a culturally diverse team, but empirical studies do not confirm this diversity on the different levels of the organizational hierarchy.

Built on this literature gap we prepared a data analysis to confirm this preposition.

Literature discusses different ways to conceptualize and measure trust in a virtual team, but currently we did not find an empirical study about the trust and control in a virtual team. We targeted this literate gap as a next step in the formulation of the conceptual model. The aim was to measure which part of the processes and behaviours are covered by internal control and define the gap for un-regulated components of processes where trust exclusively leads the behaviour of the team members (Chapter 4).

#### **1.2.4. Go beyond trust: psychological empowerment in virtual team**

The trust describes the "leader-follower relationship or, more precisely, how the follower understands the nature of the relationship" (Ferrin and Dirks, 2002, p. 612). This definition of trust underpinned our finding that the leader-follower relation changes in a virtual team, and it persuaded us to alter our model, as trust itself is not enough to describe the leader-follower relationship. Trust is a fundamental building block in a virtual team, but we went further to identify the key predictors of collaboration and relationships beyond trust, which cover and lead the controlled and uncontrolled (trust based) processes as well. Based on the systematic literature review, we selected psychological empowerment which describes the

employees' perceptions of the ability to influence the environment (Zimmerman, 1995). Empowerment according to Ford (1995) gives autonomy to the individual on the lowest level of the organization, where knowledge to make decisions is available. Empowerment is a critical factor in a virtual team, where the leader is not always available, and the right level of empowerment accelerates processes and improves effectiveness. We aimed to investigate psychological empowerment and its predictors such as sense of community, psychological climate, and position in hierarchy. As we realized from the literature review, the long-term effect of isolation on the predictors of psychological empowerment is a rarely studied area in a virtual team. Our empirical study seeks the answer to how strong or weak the perception of psychological empowerment of the members of GVT is, and how the predictors change due to separation (Chapter 5).

#### **1.2.5. Social narrative contribution to collective identity building and common values**

As discussed earlier, the cognitive dimension of social capital is specified in the vision or the collective goals of the organization via shared narrative. Our starting point was Luhman's social system theory (1995), which defined the social system as a self-producing or autopoietic system of communications, where the persons or groups influence each other via their narratives. Shiller (2021) steps further and he speaks about narrative economy where the narratives have fundamental impacts on actors' behaviour and economy. Social narrative is a rising territory of science, which evaluates the impact on the mind-set and behaviour of individuals and teams. Our research question was, how the mission and vision statement of MNEs can fulfil this function and create a memorable, credible story about team values and influence common beliefs and culture. We used the method of the social narrative theory to understand how communication creates a cohesion in the social identity of a virtual team.

### **1.3. Research approach and methodology**

The fundamental result of the literature review was that structural changes of social capital take place in a virtual team itself, and each component of this problem territory is complex and based on one discipline we are not be able to create our conceptual model.

With the development of human knowledge, the disciplines became more and more fragmented and new disciplines were created, further accelerating the growth and development of global knowledge. This fragmentation leads to more and more complexity in science and an increasing demand for collaboration among disciplines to solve problems.

Multidisciplinarity brought a basic solution for this problem when each affected discipline investigates one piece of the whole problem territory and works parallel on a solution. In this problem solving process each discipline stays within their borders, and the solution is not always integrated or the integration of the solutions requires additional efforts (Nicolescu, 2010). Interdisciplinarity is a transfer of knowledge from one discipline to the other (Bernstein, 2015) which provides a solution for the mother-disciplines problem with the method of other disciplines. In this fast-moving ambiguous, complex world, the concept of transdisciplinarity focuses on a fundamental feature of reality, on different levels and dimensions of reality, and on what he calls the logic of the included middle (Nicolescu, 2002). While multidisciplinarity collects items from different disciplines without the synthesis of knowledge, "transdisciplinarity identifies with new knowledge about what is between, across, and beyond disciplines" (Bernstein, 2015, p. 6). The goal of transdisciplinarity is to understand the present world – and the closest one to real-life experience - where the central imperative is the unity of knowledge. Transdisciplinarity applies to the disciplines across the different disciplines, and beyond all disciplines simultaneously. There is no opposition between disciplinary (including multidisciplinarity and interdisciplinarity) and transdisciplinarity, but there is instead a fertile complementarity (Nicolescu, 2010).

In our decades, knowledge is manufactured at unprecedented speeds by hundreds of media channels, by social media, digital communication, it has become significantly harder (or impossible) to know everything. "The problem of knowledge itself as the foundation of civilization and the basis of communication both inside and out of the academy could provide a starting point for a transdisciplinary viewpoint that would unite the humanities, social sciences, physical sciences, biological and psychological sciences, and more in creating a fresh and integrative approach to knowledge" (Bernstein, 2015, p. 12).

The age of globalization, especially the way how it is produced and how knowledge is kept within the organization, reflects the importance of transdisciplinarity. Knowledge management and practices in a virtual world is a specialized area of transdisciplinarity. It is not the change of technology that requires transdisciplinarity, but the new modes of communication enabled by global connectivity, which led to new social structures, new vocabularies, systems of etiquette, and provide a contact between persons who could never have crossed their paths before.

Not only the access to knowledge and the way of communication changed in the digital society but also the way of knowledge generation. As multinational enterprises maximize the benefit of diversification, local firms become part of the global community where common knowledge is generated. This is a real cultural shift in attitude and cooperation which affects everyday practices and has long-term consequences. Globalization in the digital ages transforms social behaviour and influences cultures. The picture will become more complicated if we introduce the problem of multiculturalism into the picture and bring the networked knowledge into organizations research, including different culture and culture's influence on people's behaviour which makes a virtual team interesting for transdisciplinary researchers.

In order to define the relevant and significant gap in current science we applied a systematic literature review to select the most relevant keywords to our studies. As scholars have minimal consensus regarding the definition of a virtual team, we used 'virtual team' 'cluster team' keywords to cover the whole problem space, with 'knowledge sharing', 'social capital', 'trust', 'collaboration'. We selected papers from highly ranked (Q1) peer-reviewed journals, using the Boolean (AND) search of the selected keywords in the Scopus database based on the rank of Scimago Journal & Country Rank database.

We ran three quantitative studies during the study period. The first quantitative research aim was to prove and confirm cultural diversity on the different levels of the organizational hierarchy and group seniority. We analysed 495 managers' data (location, nationality, level of seniority, department) to confirm that MNEs are a multicultural phenomenon.

In the second quantitative research our target was to confirm that trust is a critical moderator of the successful collaboration of a virtual team. Literature discusses different ways to conceptualize and measure trust in a virtual team, but currently we did not find empirical study of trust and control in a virtual team. We targeted this literate gap as a next step for the formulation of the conceptual model. Here we faced a methodological problem whether trust is a measurable phenomenon or not. Two main approaches concern trust measurement. One part of scholars sees trust as a measurable phenomenon by measuring the components of trust to quantify components (Ferrin and Dirks, 2002; Dunn and Schweitzer, 2005; McEvily and Tortoriello, 2011). The other part of scholars sees that trust is not measurable. Our approach was closer to the second opinion, and we measured the inverse part of trust: controls in a virtual team.

The third quantitative research was a questionnaire conducted among the knowledge workers of GVT. We used a validated questionnaire with a 7-scale Likert scale from 1, "strongly disagree," to 7, "strongly agree" to measure virtual team members' perception of psychological empowerment, sense of community and psychological climate.

Ensuring generalizability in research was an important element of the research approach. We drew a methodological conclusion from literature review that the research on trust in the virtual team among university student teams was overrepresented (approximately 60% of studies). Although student teams are an excellent 'laboratory' of collaboration measurement, students are in the early phase of socialisation (Powell, Piccoli and Ives, 2004). This is confirmed by a case when the most effective leadership style was different in the virtual teams of enterprises from that of student teams (Gibbs, Sivunen and Boyraz, 2017). Thus, the application of the student-team results for multinational enterprises requires caution and secondary research. To avoid this methodological bias, we aim to select one company that resembles the broader population of MNEs. Our research was run in a global MNE. The selected company operates in more than 50 countries, with subsidiaries in 4 regions and 13 virtual organisations. This geographic structure is one of the most representative among MNEs worldwide: one global virtual team forms the global strategy and 13 cross-border clusters are unified under regional governance. Due to the large size of the samples, among the knowledge workers, the high response rate and representative geographic coverage may make the broadly applicable results.

#### **1.4. Research questions and hypotheses**

Prior conventional team research outlines the importance of social capital, and the current virtual team's literature defines this problem territory as well, but no clear conceptual model is supported by empirical studies. The aim of the dissertation was to prepare a new conceptual model of collaboration in cross-cultural virtual teams with respect to changes in social capital compared to face-to-face teams. Virtual teams rewrite our knowledge about organizational behaviour and international leadership, our conclusion was that we can only understand it through a synthesis of disciplines and a holistic methodology.

After certifying the existence of the problem space, we narrowed down the research questions to understand the main domains and specify a space that may represent an original and relevant territory for academics and practitioners.

We appointed five research questions as the primary goals of the dissertation.

- 1) Is remote work a new manifestation of the workplace or just a narrow area for some businesses?
- 2) Does remote work require new competencies and roles due to the transformation of social capital in virtual team?
- 3) What is the role of trust in virtual teams?
- 4) What are the fundamental mediators of collaboration in virtual teams beyond trust?
- 5) How to embed the required values into the corporate narrative?

Based on the nature of applied transdisciplinary methodology the formulated five hypotheses included quantitative and qualitative research.

*Hypothesis 1: Virtual work in MNEs is the new norm of the workplace may represent competitive advantage and is associated with cultural diversity*

*Hypothesis 2: Virtual work in MNEs changes social capital and due to these changes, a virtual team needs new competencies and roles on team member and team leader levels and requires the reinterpretation of global management theory.*

*Hypothesis 3: The combination of trust and internal control is critical for minimizing non-systematic risks. However, trust itself is not enough to compensate the impact of virtuality on collaboration.*

*Hypothesis 4: Psychological empowerment with its predictors is one of the most significant mediators of collaboration in a virtual team.*

*Hypothesis 5: The organizational mission statement may support the development of socialization in the virtual organization for the formulation of social identity and company culture on both individual and collective levels.*

### **1.5. Papers included and their contribution to conceptual model**

The next five chapters of the dissertation present our publications, the formulation of the new conceptual model of the collaboration in a multicultural virtual team. The papers are built on each other and the knowledge of a paper may influence the starting point for the next one. Thanks to this approach, the reader can see them as one narrative to describe the change of social capital in a virtual team. Obviously, each paper is an independent publication, and all of them have a concrete aim and a well-defined problem territory is targeted by them.

In the first paper (Chapter 2). Understanding the human capital development: diversification of multinational enterprises (Hoffmann and Barcskai, 2019) we investigate the impact of globalization on international risk management, how MNEs mitigate their operation risk by



entering a new market, but simultaneously increase their country risk coming from the low awareness of the different cultures of the markets. Globalization has a significant impact on human capital as working for multicultural MNEs requires different knowledge and skills. Based on the literature review we provide an overview of the main challenges of knowledge sharing and trust in this environment. We review inter-, multi-, and transculturalism domains from an international management point of view.

The second paper of the dissertation (Chapter 3), the Cluster organization: we do not know where we play (Hoffmann and Barcskai, 2020 (b)) deals with the definition problem of regional virtual teams. Scholars appointed this literature gap related to the structural dimension of social capital, but – since the formulation of virtual teams is an ongoing process – there is no clear definition of this operational form. Based on a systematic literature review we collect and structure the cluster operational models as a manifestation of the regional, cross-cultural virtual teams. We created a three dimension-based conceptual model of these organizational forms based on Time frame, Territory and Way of collaboration. We applied this systematic literature review to define the literature gap for the next step in our journey: the concepts of virtual team collaboration, trust and controls.

The third paper of the dissertation (Chapter 4) Does Trust matter? Role of the trust on collaboration in virtual team (Hoffmann and Baracscai, 2020 (a)) targets a great territory of the knowledge gap to investigate how the structural and relational dimension of social capital change in a virtual team, and how MNE can mitigate the operational risk resulting from these changes. Can trust or control contribute to this mitigation? The first part of the paper confirms the structural change and diversity of the virtual team by the analysis of employee data of MNE. The second part of the paper investigates the role of trust and internal control and their impact in a virtual organization. The result of the statistical analysis shows that a virtual team requires new competencies and behaviour, especially in the leader and follower relation. Trust is an important element of successful collaboration, but we have to go beyond trust to compensate for all the changes of social capital. Empowerment seemed to be a good direction to answer these challenges.

The fourth paper (Chapter 5) Investigating predictors and mediators of psychological empowerment in Global Virtual Team: an empirical study among hybrid and virtual team members (Hoffmann, Baracscai, under review) utilized the result of the previous paper and narrowed down the moderators of collaboration and knowledge sharing to psychological empowerment. Our starting point was that the most effective way to streamline all processes

is to give the right level of autonomy to each level of the virtual team, which improves effectiveness, increases competitiveness and – from employees’ perspective – motivates employees and contributes to their job satisfaction and supports employee retention. Since virtual work is associated with isolation which may threaten the predictors of empowerment, we investigated this domain holistically, including psychological climate, sense of community and position.

This paper is unique from a methodological point of view as we divided the study group to fully virtual and partially virtual participants. Thanks to this separation we could investigate our model in both communities. This part of the paper answers the dilemma of organization strategy, whether we can observe any difference between virtual and hybrid teams.

The fifth paper (Chapter 6) Role of mission statement in creating collective identity and embedding trust and collaboration in organizational narrative (Hoffmann and Barcskai, 2022) focuses on the cognitive dimension of social capital. Social narrative is interesting from two points of view. The first reason is that social narrative is a tool to influence collective beliefs and values in the organization and a critical contributor to the company culture formulation. Secondly, social narrative is the leading element of cognitive social capital. We analyzed (with a qualitative research method) companies’ mission and vision statements to evaluate how these statements contribute to collective identity building, common mind-set, and the common values of the community. The paper was a pioneer in corporate narrative analysis applying a social narrative analysis method and drawing the attention to a new future research territory.

Based on the five papers we finalized our conceptual model of the key attribute of virtual team, what we explain in the Conclusion (Chapter 7).

## **2. Understanding the human capital development: diversification of multinational enterprises**

### **Congress paper:**

Hoffmann, P<sup>1</sup>. and Baracskaï Z<sup>2</sup> (2020) Understanding the human capital development: diversification of multinational enterprises. In: Muslim, I., Ana, A., Darko, D. (2020): Economic and Social Development (Book of Proceedings): 37th International Scientific Conference on Economic and Social Development: "Socio Economic Problems of Sustainable Development", (2019, pp. 1128-1134).

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### **Abstract**

The cooperation of multicultural teams is an organic phenomenon of globalized work. Multicultural team ill-functioning without trust. In the absence of trust, dialog and community of practice are ponderous. Nevertheless, when two cultures meet, the distrust is an involuntary reaction. Encounter and collision of cultures are present in the age of globalization, but the methodology of a single discipline is not able to describe and solve the emerging issues. Transdisciplinary approach (go beyond the disciplinary boundaries) and the reconceptualization of knowledge help to understand the operation of this phenomenon and provide the solution.

To operate on the foreign market means a significant risk (cultural differences, asymmetric information between domestic and foreign-based labor, lack of transparency, foreign exchange risks, political risks, corporate governance differences). However, to minimize the cost of capital and systematic risk, to maximize the market access and to achieve diverse global human capital mean an enormous advantage for multinational enterprises compare to the local one. Each foreign country has a unique culture, history, and the institutional practice is different. Multinational management requires an understanding of these differences. The limited knowledge of the decision makers influences cooperation and creates a high risk of the operation. The cultural understanding and connection are crucial for knowledge

management, especially how produced and how to keep within the organization, reflects the importance of trust.

The benefits of international portfolio diversification are intelligible, but on the other hand, the effect on the human capital is not unequivocally. When the primary aim is the cost optimization, the international enterprises must provide sufficient tools to increase the productivity of the human capital and keep their knowledge in the organization, but if they do not invest significantly to the development further, it makes them vulnerable.

Keywords: diversification, globalization, human capital, multinational team, culture

## **2.1. Introduction**

In the last three decades, a significant change was observed in the world financial and economic model. As the market became more complex, and the global landscape changes, all stakeholders face a challenging environment. If companies operate in only their home market, they have limited (and more expensive) access to different resources. The companies are motivated to move foreign markets to minimize their cost of capital and maximize their market (Shapiro, 1978). While the cost of the production of the internationally active enterprises decreased, at the same time, the systematic risk increased (Causevic, 2017).

The benefits of international portfolio diversification are intelligible, but the effect on the individual human capital is not unequivocally. These changes in the global trends influence individuals who are employees of the multinational companies. Each foreign country has a unique culture, history, and the institutional practice is different. The international enterprises have to provide sufficient tools to multinational management to understand these differences. The limited knowledge of the decision makers influences cooperation and creates a high risk of the operation. The cultural understanding and connection are crucial for knowledge management, especially how produced and how to keep within the organization.

Cultural fragmentation is one of the key principles of every culture, and now I investigate the effect of the meeting of culture in the modern world. As far as Nicolescu (2014) concerns, neither the intercultural nor the multicultural do not assure communication between all cultures, but they certainly contributed to steps toward the act of transcultural communication. This phenomenon leads to the problem, where the language and meaning

receive a higher weight: people use same – not native - words which can have different meanings through culture and representation (Nicolescu, 2014; Brier, 2015).

## **2.2. The main motivation of the companies to become global**

Since one of the first multinational business organizations, the East India Company, was established in 1600, the decision whether a company move abroad is driven by strategic direction. Move to abroad is a huge opportunity and a big challenge as well. “I define globalization as producing where it is most cost-effective, selling where it is most profitable, and sourcing capital where it is cheapest, without worrying about national boundaries” (N. Murthy, Founder and Executive Chairman of the Board, Infosys; (Moffett, Stonehill and Eiteman, 2015, p. 2).

Their strategic considerations lead by different motivations (Moffett, Stonehill and Eiteman, 2015). Market seekers produce in foreign markets either to satisfy local demand or to export to markets. The Raw-material seekers motivated to find cheaper resources including raw materials, for export or for further production (oil, gas, forest is the most significant) or knowledge. The Productivity is the main keyword for firms so to reduce cost on labour is highly motivate companies to move new countries (Production Efficiency seekers) This strategic direction is true not only for labour-intensive production but for their, it is the one of the factors of reducing cost. Labour-intensive production of electronic components in Taiwan, textile industry movement to China or car industry moves to Asia or Eastern Europe are the main proof of this motivation. The Knowledge seekers moves to countries to gain access to technology or knowledge or managerial expertise. Nowadays well-educated formal MBA students are available in India or Chine, a lot of companies work with them with a lower cost. And finally, the Political Safety seekers establish new operations in countries that are considered unlikely to expropriate or interfere with private enterprise.

The movement of the industrial trends observed in the comparison of the Largest Global companies<sup>1</sup>. While in 2008 oil company (Raw-material seeker) was the leader of the list of global companies, now the industrial change is obvious. The technology companies dominate the list which has the most benefit from globalization through access of knowledge on low cost.

### **2.2.1. The main risks of the international enterprises**

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<sup>1</sup> <https://milfordasset.com/insights/largest-companies-2008-vs-2018-lot-changed>, downloaded: 04-12-2019.

Multinational financial management requires an understanding of cultural, historical, and institutional differences such as those affecting efficiency and sustainability. Each foreign country has unique culture, history, and institutions. The country risk is significant if someone invest or operate a business in a foreign country. The country risk is different from country to country, but it includes political risk, exchange-rate risk, transfer risk, economic risk, regulatory risk. In general, the country risk is the degree to which political and economic situation influence the securities of the business in a particular country (Moffett, Stonehill and Eiteman, 2015).

It is not always understood by exported management of multinational enterprises, which influence cooperation and effectiveness. The countries' regulations and institutional practices are all different, and the lack of knowledge of the decision makers can create a high risk of the operation.

This phenomenon raises the question, whether the classical trade model, the general principle of comparative advantage is still valid or not. The comparative advantage of the twenty-first century is based more on internet facilitated services than on the classical resources in the seventeenth-nineteenth century when countries specialized only on the products that they most efficiently produced. The modern factors are more complex when the companies operated worldview and the availability of the operate facilities lead the decisions like managerial skills, research and development competence, educational levels of available workers, access to capital or supporting infrastructure. (Moffett, Stonehill and Eiteman, 2015).

### **2.2.2. The effect of the portfolio diversification on the risks of the international enterprises**

Beyond the access to the market and the resources of the countries, the potential benefits to companies to operate on global markets are based on international portfolio theory, as the benefits of international diversification. The company can reduce non-systematic risk by maximizing the security of the operation, but it cannot influence systematic risk.

In the CAPM model, a fully diversified domestic portfolio would have a beta of 1.0. This is Standard Domestic Financial theory. If the company is represented on the domestic and international market as well, the diversify of the portfolio more than only the domestic and the beta will be lower one. The International CAPM (ICAPM) says, that there is a global market where the firms' trades. International portfolio theory typically concludes, that adding international securities to a domestic portfolio will reduce the portfolio's risks.

Although the firms to operating on the market has significant risks, but they have a lower cost of capital than their domestic counterparts and effective tools – not to ignore but - to minimize the risk level of the optimal capital budget. All of these factors lead to the fact, that “the multinational corporation (MNC) becomes the norm rather than the exception, the need to internationalize the tools of domestic financial analysis is apparent” (Shapiro, 1978, p. 211).

### **2.3. Capture the knowledge of the human capital in the multinational companies**

The changes in global trends influence individuals who are employees of the multinational companies. Encounter and collision of cultures are present in the age of globalization. Culture and the understanding of the cultural differences have a determinative role in the business practice.

The cultural separation is the heart of every culture. When two people try to communicate their prejudices, convictions, and language appear on the sub-conscious level. The dialog is difficult as sub-conscious ‘fights’ against sub-conscious. As this confrontation is sub-conscious, they drifted conflict is not obvious. The process is the same for cultures, where dogmas, believes meet with each other.

The different aspects of the cultural examinations in business researches go beyond the boundaries of nationality, citizenship, religion or other cultural dimensions, but the method of a single discipline is not able to describe and solve these emerging issues (Li, Cohen and Tan, 2018).

#### **2.3.1. Transdisciplinarity, the unity of knowledge**

More and more scientific areas arrived at the limits of their discipline which had a far-reaching consequence, not only the given discipline but for community and society as well. As the knowledge of the human beings developed and specialized, the fragmentation of disciplines was released (Montuori, 2005). Now, the separated disciplines – even sub-disciplines - are not able to answer to burning topics, which influenced not only the scientists but practitioners as well. Discoveries on many fronts were also leading scientists to think big systems.

Multidisciplinary seems like a solution to this problem, which investigates a research topic in several simultaneous disciplines, not in only just one. Multidisciplinary brings an extra value in question, but this is “in the exclusive service” of the home discipline and not

inclusive (Nicolescu, 2010, p. 22). The goal and the method of Interdisciplinarity are different than multidisciplinary, as it transfers methods from one discipline to another. Bernstein (2014) emphasizes that multidisciplinary overflows the disciplines, but the goal remains within the disciplinary research framework.

In fact, there is no transdisciplinarity without disciplinarity. The goal of Transdisciplinarity is the understanding of the present world, the closest one to the real-life experience, where the central imperative is the unity of knowledge. The transdisciplinarity concerns at once between the disciplines, across the different disciplines, and beyond all disciplines (Nicolescu, 2010). As Piaget said succeeding to the stage of interdisciplinary relations a superior stage, Transdisciplinarity is the most comprehensive and abstract synthesis of disciplines (Piaget, 1972), the coordination of all disciplines in the education and innovation system by a generalized axiomatic (introduced from the purposive level down) and an emerging epistemological pattern (Jantsch, 1972).

The "transdisciplinarity identifies with new knowledge about what is between, across, and beyond disciplines (the meaning of trans)." (Bernstein, 2015, p. 6). This is the scientific approach which initiates a dialogue between minority and majority cultures, includes scientists and practitioners from different areas, and strives to transcend the traditional borderline between objective and subjective viewpoints.

In this fast-moving, ambiguous, complex world, the concept of transdisciplinarity focuses on a fundamental feature of reality, on different levels and dimensions of reality, and on what it calls the logic of the included middle (Nicolescu, 2010)

This trend is the same for the cooperation, trust and cultural challenges in the multinational teams, where the single disciplinary approach is not able to get through the definition of knowledge and knowledge management.

### **2.3.2. Challenges of the knowledge management**

The knowledge management, the organizational learning, and build the community of practice through trust are the main topics for business administration and management also as for psychology, sociology or knowledge science. Hard to define, specify, measure, and keep knowledge in the organization but from organizational cooperation point of view, the understanding of the concept of tacit knowledge and effect on Knowledge management is crucial.

Bernstein (2014) uses knowledge management as "the toolbox of techniques intended to maximize the value and impact of employees' knowledge by converting tacit knowledge into



explicit knowledge, thereby making it actionable." (Bernstein, 2014, p. 17). He uses Davenport and Prusak's definition of it as a justified personal belief that increases an individual's capacity (Davenport and Prusak, 1998).

Based on this approach, knowledge, is a commercial product, a resource for the organization, and for human capital. Williams and Machlup use a definition of human capital as "increased productive capacity of persons." (Williams and Machlup, 1985, p. 419). Knowledge management is a tool to capture knowledge of employees of the firms and make it available to others is the primary goal of the enterprises, to use this knowledge to create better products or respond to market needs. In the age of globalization, especially regarding how it is produced and how to keep knowledge within the organization reflects the importance of transdisciplinarity.

The evolution of communication in the 'digital galaxy' has been changed. Not only the access to the knowledge but the way of communication changed in digital society. As the majority of the multinational teams are working remotely, the knowledge management and practices in a virtual world is a specialized area of this topic (Danessi, 2008). Brier (2015) appoints that Shannon's model was successfully used over the years, in providing terminology for describing aspects of communication systems, but it tells us nothing about how messages and meanings shape and ultimately determine the nature of human communication events (Brier, 2015; Margaryan *et al.*, 2015).

### **2.3.3. Communication, trust, and culture in the cross-cultural team**

As we saw, the humankind develops more and more knowledge, which influence the cooperation of labor and division of labor. Disciplinary fragmentation is the result of increasing specialization. The globalization speeds up this process. As multinational enterprises maximize the benefit of diversification, local firms become part of the global community. It not only hinders the limit the informal cooperation but reduce the effectiveness of formal knowledge transfer (makes it longer or less effective) as well. It is critical for multinational teams where the member works in a virtual team. While cultural differences across countries through diversity expected to increase the number of learning, it is blocked, if the organization is not able to improve the trust.

Far beyond technology, this influence social behaviour and influence on the cultures. From the transdisciplinary approach, this explanation based on technology and science, but social science, semiotics, psychology on the other hand. This is the reason for the problem of

networked knowledge in organizations in a different culture and these influences on people behaviour is an interesting question for transdisciplinary.

Not possible to have a theory of information, cognition, and communication without a concept of meaning. The meaning is not a simple question, as this is related to life, language, consciousness, and unconsciousness. The meaning is part of the culture and like it, part of the collective metaphysical framework (Brier, 2008) which is a fundamental issue for an organization. The industrial organization used the division of labor and specialization, to increase, articulate, and facilitate production, and the production of knowledge has followed the same organizational model (Montuori, 2005). Each organization's goal to create unity within a diverse team, while the relationship between the people in diversity is contradictory and raise many challenges.

#### **2.4. The promise of transcultural approach**

As far as Nicolescu (2014) concerns, neither the intercultural nor the multicultural do not assure communication between all cultures, but they certainly contributed to steps toward the act of transcultural communication.

As a starting point, use Nicolescu framework about cultural interaction (Nicolescu, 2010). He investigated the effect of the meeting of culture in the modern world. The modernity leads to an establishment between cultures and brings a desire for the need to unite. He adapted the logic and level of multi-inter-trans prepositions and introduced a framework of the three degrees of cultural interaction. In his conception, the multicultural "shows that the dialogue between different cultures is enriching, even if its goal is not real communication between cultures." (Nicolescu, 2014, p. 22). He brings an example; the study of Chinese and Islamic civilizations influenced the European culture in Middle Ages. With a corresponding analogue, this discernible in the virtual world as strong cultures – which can be even non-existent one - influence other cultures and the behaviour.

Multicultural as the first level of cooperation, - not unity yet - and the discovery of the different culture is embedded in our cultural understanding. It "helps to discover the face of our own culture in the mirror of another culture" (Nicolescu, 2014, p. 22). Based on the observation in the multinational organization, this phenomenon appears is the first step of the cooperation when the persons seem their culture feature and disadvantage more clearly than before.

The intercultural level what assisted by Nicolescu as the result of the growth of transportation and communication and economic globalization. Multinational organizations

have higher access to the capital included human capital than a local one, but on the other hand, they destroy borders and create a cross-border organization where the cultural understanding and connection is crucial for knowledge management. "A deepening discovery of hitherto badly known or unknown cultures makes unsuspected potentialities burst forth from our own culture. The face of the Other permits us to know our face better." (Nicolescu, 2014, p. 22). This can lead a learning process or – otherwise, their cultural differences lead to stereotype and untrusty.

In 1940 by Fernando Ortiz anthropologist use transculturalism in his study to explain the formation of a new culture. "The transcultural designates the opening of all cultures to that which cuts through them and transcends them... It presupposes a universal language founded on shared values" (Nicolescu, 2010, p. 23). As we have seen the significant change on the level of disciplines – thanks to the development of scientific methods and approaches – that this kind of change has been realized as an inner need, those of cultural modes remain the domain of ephemera.

Transculturalism is a very complex transmutations of culture which may have a mutation to 'acculturation', 'deculturation', and 'neoculturation' (Stenner, 2014). 'Acculturation' is the transformation of one culture in other culture and merge the main features of this new culture; deculturation ends in a loss of home culture. Transculturation is the process of the creation of new cultural phenomena. "Culture today appears more and more like some monstrous rolling garbage can in which strange defences against the terror of non-meaning proliferate. Of course, as always, the new is hidden in the old, but it is slowly but surely being born. Beyond all the different cultural modes, a new cultural way of being is taking shape" (Nicolescu, 2014, p. 22).

## **2.5. Summary**

The multinational enterprises and the cooperation in multicultural teams are an organic phenomenon of globalized work. Transdisciplinary approach (go beyond the disciplinary boundaries) and the reconceptualization of knowledge help to understand the operation of this phenomenon. Besides of, this is the reason that the problem of networked knowledge in organizations in a different culture and the influence on people behaviour is an interesting question for transdisciplinary research. The recognition and the understanding of the problem with a transdisciplinary approach, and find the common language is challenging, so the misunderstanding and disagreement in transdisciplinary cooperation are more common. (Dodig-Crnkovic *et al.*, 2017).

Each person has his/her prejudices, his/her convictions. We discussed the importance of meaning earlier and put this into the consideration of the two-culture problem. The language receives a higher weight: people use same but not native words which can have different meanings through culture and representation. This is the reason why transdisciplinarity can be the method of dialogue between cultures. To adapt the ontological axiom of transdisciplinarity, the A is the culture on a personal level, the non-A the different culture and the hidden-T which appear on an organizational level as A and non-A at the same time. These two systems – cultures – generate the system of the system: the culture of culture. "The included third does not mean at all that one could affirm one thing and its opposite... in a logic based on the assumption "both this one and the other one," or rather "neither this one nor the other one." (Nicolescu, 2014, p. 170). "Thus, the philosophy of the included third appears as a philosophy of freedom and tolerance" (Nicolescu, 2014, p. 181).

### **3. Cluster organization: we do not know where we play**

#### **Congress paper**

Hoffmann, P<sup>1</sup>. and Baracskaï Z<sup>2</sup> (2020) 'Cluster organization: we do not know where we play'. In: Lorga da Silva, A., Rados, T., Kaurova, O.V, (ed): *Economic and Social Development. Book of Proceedings: 62nd International Scientific Conference on Economic and Social Development*, pp. 310-315.

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#### **Abstract**

The cluster organization was a newly emerging form of the association in the last decades of the twentieth century. Globalization, the high pressure on financial efficiency, cost reduction, and the development of remote communication were the primary factors that encouraged the development of the clusters. Today this became a new normal of the interfirm, inter-organizational collaboration. These factors accelerate the formation, and the cluster model has a dynamically increasing and expanded literature. Nevertheless, the cluster is not a homogenous form. A limited number of academic models evaluate the clusters' organization, and a comprehensive overview of the structural setup is not available.

This literature review intends to deep dive into the previous 5 years' publications in order to collect, structure, and clarify the cluster operational models. Based on the systematic literature review, this paper developed a conceptual model integrated into three dimensions as Time frame, Territory, and Way of working, which together may describe the operational model of cluster organizations. The study offers a new taxonomy that may significantly impact the better understanding of the organizations' territory and helps scholars restructure their knowledge.

**Keywords:** cluster organization, virtual team, organizational structure, collaboration

### 3.1. Introduction

Generally accepted principle that the organization's aim determines the organizational structure, and it has a fundamental role in collaboration, knowledge sharing, organizational behaviour, team commitment, and trust. The investigation and description of the organizations' structural dimension have a significant part in the classical organizational literature. Many scholars appointed this literature gap related to the cluster model and required more systematic research to explore the structural dimensions of the cluster organizations (Breuer, Hüffmeier and Hertel, 2016; Morgulis and Sölvell, 2017). Porter defines the cluster in 2020 (p. 16) as "a new way of thinking about the national, state, and local economies, and they necessitate new roles for companies, for various levels of government, and for other institutions in enhancing competitiveness." The cluster beyond the competitive advantage, support innovation, provide proximity to the resources to the MNEs if the company builds and maintains an intense and close relationship with the employees (Porter, 2000; Corò and Grandinetti, 2001; Porter and Ketels, 2009; Weimann *et al.*, 2013; Gunawan, Jacob and Duysters, 2016; Coletti and Landoni, 2018; Nestle *et al.*, 2019).

The personal development – which contributes to the team effectiveness (Caya, Mortensen and Pinsonneault, 2013) makes the cluster form more attractive for the senior and experienced managers and provides an excellent place for growth to the young talents than in the country based model. The general employee-retention ability and the participants' motivation may improve to the organization as the impact and the content of the job is higher than in the separated organization model. Social capital can develop internally, which leads to better access to knowledge and generates a favourable environment for innovation (Molina-Morales and Martínez-Fernández, 2009; Qui, Cano-Kollmann and Budambi, 2017). In the cluster model, productivity increases, and innovation speeds up (Porter, 2000; Tallman *et al.*, 2004; Molina-Morales and Martínez-Fernández, 2009).

The original article (Porter, 2000) defines and describes the new form of interconnected companies and understands how it supports innovation, competitiveness, and cooperation in an increasingly complex, globalized world. The definition was descriptive, which foremost specified the new phenomenon. By now, the cluster definition turned to prescriptive and implies all collaboration where these factors are present simultaneously. Consequently, the cluster definition may lose its sharpness.

### 3.2. Methodology

Identify the literature gap, the chosen method consisted of the investigations from highly ranked (Q1) peer-reviewed journals, using the Boolean (AND) search of the selected keywords in the Scopus database and the rank of the journals in the Scimago Journal & Country Rank database. The cluster organization and the remote working virtual team is a new phenomenon; the area has limited but exponentially growing publications. The number of publications in the Scopus database is illustrated in Figure 3.1. As in this combination of the keywords, the cluster appeared from 2014, therefore we excluded all papers published earlier in our research.

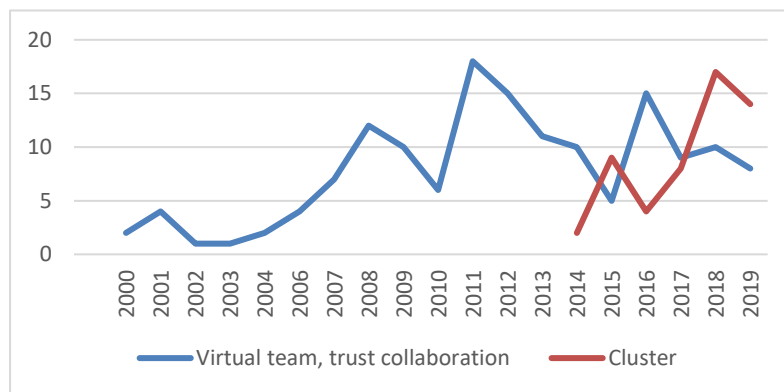


Figure 3.1: Publications related to virtual team and cluster in scopus from 2000

The meaning of cluster definitions has not been crystallized and not formalized properly in the terminology. Many disciplines use cluster terminology for different processes like chemistry, biology, statistics, or medicine. The virtual team was the most diverse definition covering a massive territory in computer science. Therefore, the predetermination of categorization and selection was conscious and critical to prevent the results' biases. Minimize the errors, the literature review was only running among the journals in the business, management, and accounting subject areas.

The predefined keywords dealt with the form of organization as "cluster", type of the collaboration as "virtual team", the impact of the way of working as "knowledge sharing", "social capital", "trust", "collaboration", and the referred to the research question as "organization" (Table 3.1).

Keyword 1.	Keyword 2.	Identified	Selected
Virtual team	Knowledge sharing	20	11
Virtual team	Trust	55	14
Virtual team	Organization	116	7
Virtual team	Social capital	23	15
Cluster	Knowledge sharing	20	13
Cluster	Trust	10	1
Cluster	Organization	0	
Cluster	Social capital	10	2
Cluster	Collaboration	23	1
TOTAL		277	64

Table 3.1: Literature search and selection based on keywords

Source: own research result.

From the identified 296 articles, 64 were defined as Q1 publications for further analysis. Providing a multi-disciplinary perspective based on the inclusion of papers from various disciplines such as Business and International Management (9); Organizational Behaviour and Human Resource Management (8); Psychology (7); Economics, Social Science, Electronic Engineering and Computer Science, Decision Science, Strategy management; Finance; Arts and Humanities.

### 3.3. Finding

The review's main conclusion is that the cluster organization does not have a clear definition in the literature. Each article that examines the cluster organisation uses the definition of Porter and connects the cluster with competitive advantage and innovation in an increasingly complex and knowledge-based economy (Porter, 2000; Gunawan, Jacob and Duysters, 2016; Goerzen, 2018a; Kim and Shim, 2018; Li, 2018; Nestle *et al.*, 2019). Then the application is too broad and different, from loose connection systems like a network of businesses within a country to cross-border school projects (Gunawan, Jacob, and Duysters 2016; Nestle et al. 2019;; Marra, Mazzocchitti, and Sarra 2018).

The cluster now does not describe homogenous, well-defined groups of organizations, and the application deviates from the original target. Porter's definition is generally accepted and



applied in the articles. Each publication examined the advantages of the clusters and connected them to the original sources, like competitive advantage and innovation in a global and knowledge-based economy (Porter, 2000; Gunawan, Jacob and Duysters, 2016; Goerzen, 2018b; Kim and Shim, 2019; Nestle *et al.*, 2019). Based on the literature review, we concluded that the cluster definition application is general and diverse, which may confuse the searches and interpretations.

### 3.4. The main dimensions of the cluster organizations: time, territory and the way of collaboration

Although each team uses some of Porter's definition elements, no homogeneous organizational structure emerges in front of the readers. Scholars described clusters from loose connection systems like a network of businesses within a country, cross-border school projects (Weimann *et al.*, 2013; Marra, Mazzocchitti and Sarra, 2018; Nestle *et al.*, 2019) or a highly controlled and centralized liaison of the Multinational Enterprise's subsidiaries. The aim of the paper was the define and described the organization form adequately in this diverse reality. As many factors influence collaboration, the conclusion that only one dimension cannot characterize the phenomenon (Figure 3.2).

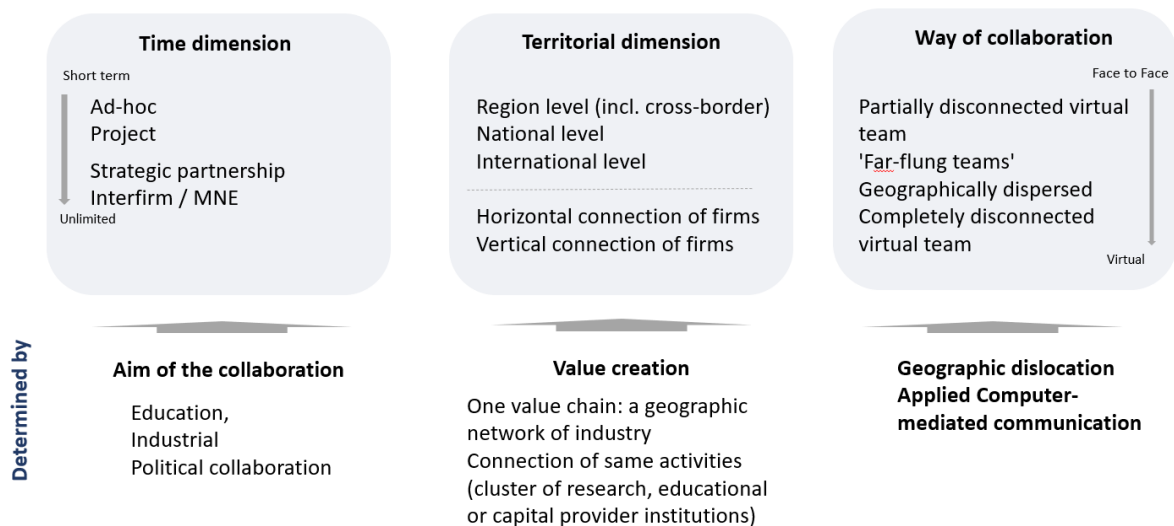


Figure 3.2: Combination of 3 dimensions can describe the operational model of cluster organization

Time is the first dimension to classify organizations. The ad-hoc organization is not typical in a cluster. The remote working or the investment to bring remotely working organizations together is too big compared to the benefit of an unconstrained collaboration. The project

team is the most typical time frame where the cluster form can contribute the most. During the project, the team can share in-depth experiences and utilize resources during the teamwork and activate shift trust and improve cohesion for innovation and knowledge transfer (Paul, Drake and Liang, 2016; Zakaria and Mohd Yusof, 2020). The second most published time frame is the long-term or unlimited interfirm collaboration as the typical form of the multinational enterprises or firms who built a value chain together (Arnold, Barling and Kelloway, 2001; Coletti and Di Maria, 2015; Eisenberg and Mattarelli, 2017; Coletti and Landoni, 2018; Nestle *et al.*, 2019). These firms release superior performance compared to the isolated players and compensate for the lacking skills and resources through cooperation. This dimension is originated by the aim of the association: education is typically a project, an innovation or a political collaboration is a strategic partnership; the industrial interfirm collaboration is long-term or unlimited.

The Territorial coverage - the second dimension of the model - marks a broad spectrum of territorial agglomeration from the collaboration of the different industries within one value chain (a geographic network of the sector), a connection of same activities (cluster of research, educational or capital provider institutions) and the horizontal or vertical connection of firms withing one organization (Tallman *et al.*, 2004; Morgulis and Sölvell, 2017; Kim and Shim, 2018).

The clusters beyond the competitive advantage, support innovation, provide proximity to the resources if the company builds and maintains an intense and close relationship with the employees (Porter, 2000; Corò and Grandinetti, 2001; Porter and Ketels, 2009; Gunawan, Jacob and Duysters, 2016; Coletti and Landoni, 2018; Nestle *et al.*, 2019).

As a third dimension, the Way of collaboration comes into consideration to understand all the cluster model spectrums. Development of the Information Technology and internet-mediated collaboration (Powell, Piccoli and Ives, 2004; Berry, 2011; Plotnik, Hiltz and Privman, 2016; Schulze and Krumm, 2017; Seetharaman *et al.*, 2019) ensured the technical background and allowed the close collaboration among parties (Gilson *et al.*, no date; Tworoger *et al.*, 2013; Morgulis and Sölvell, 2017). The traditional face-to-face model is not fully applicable to these organizations, as the geographic dislocation is the essential criteria of the cluster. The partially or completely disconnected virtual teamwork is the typical Way of collaboration, where the teams or team members of the same team are fully or partially separated (Bjørn and Ngwenyama, 2009). Technological development has rewritten and, at the same time, fundamentally changed the collaboration. These virtual teams comprise

participants who do not meet physically (Jarvenpaa and Leidner, 1998) or rarely meet face-to-face (Chudoba *et al.*, 2005). This type of team is geographically dispersed; the team members accomplish work primarily using internet-mediate technology. Other definitions, as "far-flung teams" are also described that the teams meet face-to-face occasionally with geographical distances and work on a highly interdependent organization.

### **3.5. Conclusion**

The result underpinned the need for the creation of the different archetypes of the cluster organizations. Based on the defined literature gap, the paper aimed to collect and structure the most typical forms of clusters and prepare a comprehensive structure of the applicable and more precise subcategories and its definitions. The cluster form itself creates a new agenda for the leaders and managers (Porter, 2000), which is rarely realized in the papers. Suppose the organizations do not know where and how they play; it leads to falling decisions. It may negatively impact the short- and long-term functional efficiency, employee retention ability, collaboration, trust, and knowledge sharing.

The precise definition of the cluster archetypes supports both scholars and practitioners. Collecting and structuring the cluster's definitions systematically may help reconstruct the existing knowledge and define new literature gaps for further research. The new subcategories' amplification allows practitioners in the knowledge transfer and finds the best applicable model for their organization.

## 4. Does Trust matter? Role of the trust on collaboration in virtual team

### Journal paper

Hoffmann, P<sup>1</sup>. and Baracscai Z<sup>2</sup> (2020). Does Trust matter? Role of the trust on collaboration in virtual team, *Hungarian Statistical Review: Journal of The Hungarian Central Statistical Office* (2630-9130): 3 (2), pp: 50-70, (2020).

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### Abstract:

Virtual cross-border teams emerged after the global credit crisis as a new operational phenomenon of multinational enterprises. This new form eliminates country-based entities and combines local departments. It is of notable benefit to financial efficiency; however, it may have a crucial impact on the structural dimension and nature of relations (ties) of social capital. The damage to ties is characterised by weak trust and heightened operational risk. Measuring trust directly is cumbersome; therefore, this study aims to measure its inversion (internal control). A quantitative research method is used to analyse a) the data (location, nationality, level of seniority, department) of 495 managers of a multinational enterprise to describe their impact on the structural dimension of social capital and the ties between employees, and b) 298 operational control points to find a statistical correlation among their number, the various types of risks and organisational diversity. The authors' correlation analysis demonstrates that all well-structured high-risk processes are controlled by the organisation. However, the internal controlling system does not seem to cover the trust-based ill-structured processes: human relations and behaviour.

**Keywords:** virtual team, social capital, trust.

### 4.1. Introduction

In the last two decades, a significant change was observed in the working environment and the content of the jobs and positions in the subsidiaries of the multinational enterprises (MNEs). Several factors have contribute to this change, but the advancement of the communication technologies is leading and intensifying the process (Berry, 2011; Weimann

*et al.*, 2013; Plotnik, Hiltz and Privman, 2016; Seetharaman *et al.*, 2019). The internet and the mobile communication revolution has ensured the necessary infrastructural background (Powell, Piccoli and Ives, 2004; Schulze and Krumm, 2017), and provided a new opportunity to exchange information (Walther, Anderson and Park, 1994; Van Den Hooff and Ridder, 2004). In addition to face-to-face (FtF) teams, this progress has brought about the emergence of a new kind of working engagement, the remotely working virtual team (Berry, 2011; Morita and Burns, 2014). The computer-mediated communication (CMC) technology is a fast-growing sector, whose innovations and tools support communication, knowledge sharing, relational capital in virtual teams and manage the whole spectrum of collaboration (Corò and Grandinetti, 2001; Robert, Dennis and Ahuja, 2008; Zornoza, Orengo and Peñarroja, 2009; Wei, Thurasamy and Popa, 2018).

After the 2008–2009 global credit crisis, the development of information and communication technology (ICT) met financial pressure, which accelerated the transformation of FtF teams to virtual ones. The latter organisational form has helped MNEs reduce operational costs by eliminating country-based entities and setting up cross-border, multicultural virtual teams (Germain and McGuire, 2014; Appio *et al.*, 2017). The transition was accelerated by the central promise of the virtual team, that new way of working improves financial efficiency, decreases the costs (personal, equipment, workplace cost) and increases the access to new resources, including the human capital (Horwitz, Bravington and Silvis, 2006). One form of the virtual team manifested in the MNEs is by merging subsidiaries to minimize the cost and create cross-bored virtual organization. The Global Virtual Team (GVT) is different from this phenomenon, as in the GVT the connection between the global team and the subsidiaries is described with a key hierarchy and responsibilities (Zakaria and Mohd Yusof, 2020). The combination of subsidiaries is the incorporation of Country Business Units (CBUs), which is the merge of equal subsidiaries to a new organizational form with one management team.

## **4.2. Literature review**

### **4.2.1. Virtual team in MNE**

The organization presents a managerial challenge to provide successful operation. Traditionally, organizational teams collaborate face-to-face (FtF). However, the development of the information and communication technology (ICT) has enabled teams to collaborate virtually, allowing them to work together while physically fully or partially

separated (Bjørn and Ngwenyama, 2009) and accomplish the common goal (Gibbs, Sivunen and Boyraz, 2017). The technological development has rewritten and, at the same time, fundamentally changed the collaboration.

The virtual team in the new MNEs set up means a cross-cultural organization, as the activity is cross the borders and merge different countries' teams as one functional entity (Anawati and Craig, 2006; Collins *et al.*, 2017). This emerges additional challenges compared to the nation-based virtual team (Harvey, Novicevic and Garrison, 2005). The physical distance slows down the communication, reduces the frequency of the interactions, increases the social distance, and negatively impacts the relations (Sheng and Hartmann, 2019). The geographic distance results changes in a distributed team (Hertel, Geister and Konradt, 2005; Margaryan *et al.*, 2015), and the virtual team requires new roles and competencies in the organization. The new role requires a multicultural agent, who helps to overcome physical boundaries and distance and support the collaboration and help to transfer knowledge in terms of quantity and quality (Eisenberg and Mattarelli, 2017). The communication is critical as it is predicted for the team effectiveness and efficiency (Kock and Lynn, 2012).

#### **4.2.2. Individual in the virtual team**

Creating virtual teams is a new way to make work more productive and flexible to realise profitability (Zakaria, 2017) but these changes influence the employees of multinational companies. Flexibility is an essential feature of virtual teams; it shows their capability to adapt rapidly to fast-changing CMC tools and work processes as well as unique communication challenges (Powell, Piccoli and Ives, 2004; Jimenez *et al.*, 2017; Schulze and Krumm, 2017).

Cross-border multicultural virtual teams, however, involve a high level of complexity, which may increase ambiguity and create a lack of transparency for team members. It is a real cultural shift in attitude and cooperation, which affects everyday practices and has long-term consequences. Working in a diverse team is not a new phenomenon in the modern world, but today it may refer to nationality, position or seniority in the organisation, functional specialty, or geographic location (Edewor and Aluko, 2007). Our research focuses on this latter definition (structural diversity).

#### **4.2.3. Social capital in virtual team**

Social capital denotes existing and potential human resources that can only be utilised through human relations (Anheier, Gerhards and Romo, 1995). People need to rely on each

other, taking advantage of their connections (Portes, 1998). Nahapiet and Goshal (1998) defines three dimensions of social capital: 1. nature of relations (ties), 2. cognitive dimension, and 3. structural dimension. The first describes people's working relationships, which develop via interactions and provide a channel for information flow and knowledge sharing. The cognitive dimension specifies the vision or the collective goals of an organisation. It refers to the intellectual capital that is the universal language, codes, common paradigms, and the chance to share knowledge (Ariani, 2012). The organisational structure determines the evolution of the cognitive and relational dimensions of social capital. The structural dimension describes the social interactions originated in the organisational architecture that influences the relations among people, predicts their behaviour, and helps appear social motives such as respect, trust, and friendship (Nahapiet and Goshal, 1998; Milana and Maldaon, 2015; Widjaja *et al.*, 2017). The cognitive dimension specifies the vision or the collective goals of an organisation. It refers to the intellectual capital that is the universal language, codes, common paradigms, and the chance to share knowledge (Ariani, 2012). Many types of capital exist as assets of the organisation, but the social capital is different. It is embedded in the community and the connections among individuals. The development of social capital in a virtual team highly depends on the willingness of individuals to connect in action.

The structure of virtual team influences each dimension, where the social capital develops internally (Jensen and Meckling, 1976; Tallman *et al.*, 2004). However, the development of social capital may stall across organisational and national borders (Harvey, Novicevic and Garrison, 2005). In a virtual team, members never meet FtF, and trust, the main dimension of social capital, does not develop organically (Harvey, Novicevic and Garrison, 2005).

#### **4.2.4. Role of trust in the collaboration**

Trust has an essential role in building and supporting collaboration in virtual teams. Every organisation's goal is to create unity within diverse teams, while people's relations are contradictory. In leadership theories, trust is described as a leader-follower relationship or, more precisely, the way how a follower understands the nature of the relationship (Ferrin and Dirks, 2002). Building and maintaining trust in the virtual cross-cultural team is a major challenge, as the personal relationship can be damaged.

A large body of literature on trust focuses on personal behaviour and refers to trust in the organisation as an individual's ties that are expressed on two levels: team trust and organisational trust (Kramer, 1999). A large body of literature on trust focuses on personal

behaviour and refers to trust in the organisation as an individual's ties that are expressed on two levels: team trust and organisational trust (Kramer, 1999). Interpersonal trust is of increasing importance; it solidifies group dynamics and effective collaboration. Numerous studies measure trust in organisation sciences. Most trust instruments are either at an individual level, related to peers, or at a dyadic level between leaders and subordinates or between organisations (inter-organisational trust; Smith and Barclay, 1997). Most researchers regard trust as a multidimensional, complex and abstract phenomenon that involves specific components. They conceptualise trust as a multicomponent variable with the following dimensions: propensity to trust, cooperative behaviours, perceived trustworthiness, monitoring behaviours, affective commitment, team commitment, and continuance commitment (Costa and Anderson, 2011). At the interpersonal level, trust is always described as a process when the 'trustor' is trusting in another person, the trustee. Mayer–Davis–Schoorman define trust as 'the willingness of a party to be vulnerable. Trusting relationships lead to greater knowledge exchange' (1995 p. 712.), which is the most common definition in organisational trust research (McEvily and Tortoriello, 2011). Trust creates a climate where both agents can predict the other's behaviour, reduce vagueness, and evaluate what kind of behaviour is desired in the future (Lewicki, Tomlinson and Gillespie, 2006). On a team level, this appears as expected behaviours and norms, and influences others' behaviour (their communication openness, acceptance of influence, support for the spirit of cooperation, and information sharing). According to the researchers, trust is a psychological state and inherently an individual-level phenomenon. Investigating trust in a virtual organisation as the product of a collective entity is, however, complicated.

Trust and trusting relationships are a central value of social capital; they have a dynamic impact on building social capital and exchanging knowledge. Trust is the central element of the willingness for collaboration, knowledge transfer, networking, smooth and non-competitive interactions, and building of social capital (Striukova and Rayna, 2008). To support team collaboration, companies should realise that the nature of trust is not the same in virtual teams as in FtF teams due to their different interpersonal dynamics, and they should develop a strategy to strengthen trust (Ford, Piccolo and Ford, 2017; Zakaria and Mohd Yusof, 2020).

### **4.3. Organizational structure and collaboration in virtual team**

A systematic literature review was conducted to get a comprehensive picture of the recent studies on virtual cross-border organisations, the way they approach the development of



collaboration, and the role of trust in such organisations. After the exclusion of local, non-intercultural studies, a total of 46 papers from various disciplines (e.g. business and international management, organisational behaviour and human resource management [HR], psychology, electronic engineering and computer science, strategy management, finance, arts, and humanities) were selected for further analysis, providing a multidisciplinary perspective.

Our first conclusion drawn from the review is that there is no common definition of virtual teams in the articles, but the content of the various definitions is uniform: they are teams, whose members work remotely, not having face-to-face daily interactions. ‘Fully virtual teams’ and ‘partially virtual teams’ are not clearly separated in the literature, but the phenomenon is homogenous (Ambos *et al.*, 2016; Cheng *et al.*, 2016, 2017; Plotnik, Hiltz and Privman, 2016; Alsharo, Gregg and Ramirez, 2017; Bisbe and Sivabalan, 2017; Vahtera *et al.*, 2017; Ramalingam and Mahalingam, 2018; Newman, Ford and Marshall, 2019). Only a limited number of papers analyse the organisational structure of remote teams, and the research that explores the levels of virtuality and their effects on business processes is scant (Hertel, Geister and Konradt, 2005; Caya, Mortensen and Pinsonneault, 2013). Although the organisational structure, the structural dimension of social capital and the interaction of the different roles in FtF organisations are among the most investigated topics, only six of the selected articles deal with these subjects in terms of virtual teams. A better understanding of the structure of remote teams may help to expand our knowledge on the development of trust, and allows researchers to predict more successfully how such teams will affect team members’ work and facilitate the development of intra-organisational ties. Only a small number of studies examine the potential benefits of structural diversity in virtual teams (Caya, Mortensen, & Pinsonneault, 2013).

The second methodological conclusion drawn from the literature review is that the research on university student teams is overrepresented. Although student teams are an excellent ‘laboratory’ of collaboration measurement, students are in the early phase of socialisation (Powell, Piccoli and Ives, 2004). This is confirmed by a case when the most effective leadership style was different in the virtual teams of enterprises from that of student teams. In virtual teams, the ‘strong’ leadership approach was the most effective, whereas student teams preferred the ‘emergent’ style (Gibbs, Sivunen and Boyraz, 2017). Thus, the application of the student-team-results for multinational enterprises requires caution and secondary research.

We have also performed a systematic analysis to identify discrepancies between the examinations of trust-based ill-structured behaviour and those of well-structured process-controlled behaviour (Guindon 1990) in terms of collaboration in multicultural virtual teams. Each article addresses collaboration, approaching the subject through trust or the team members' personal characteristics (Lisak and Erez, 2015; Henderson, Stackman and Lindekilde, 2016; Davison *et al.*, 2017; Choi and Cho, 2019).

#### **4.4. The problem area: How to measure the trust in virtual team?**

Trust is the acceptance of the unregulated part of human behaviour and its role is to alleviate over-regulation. The main problem is related to the difficulty of measuring trust. Most of the articles use quantitative research methods for this purpose (Adya, Temple and Hepburn, 2015; Iorio and Taylor, 2015; Margaryan *et al.*, 2015; Henderson, Stackman and Lindekilde, 2016; Paul, Drake and Liang, 2016; Collins *et al.*, 2017; Widjaja *et al.*, 2017; Davison *et al.*, 2017; Petter, Barber and Barber, 2019; Villena, Choi and Revilla, 2019; Hao, Yang and Shi, 2019; Kauffmann and Carmi, 2019; Nestle *et al.*, 2019). Nevertheless, all the selected quantitative articles employ a self-survey method that is based on 5- or 7-point semantic differential scales. This method has many advantages, but cannot be deemed an objective, non-opinion-based data measurement technique.

In contrast, measuring lack of trust (distrust) through the correlation between internal controls and hierarchical distance may provide an objective picture of reality. Five of the reviewed articles focus on collaboration, examining the scope of controls and processes, but only two of them investigate virtual teams in MNEs.

Many studies analyse the dimensions, factors and elements of trust in organisations, qualifying its level indirectly (Butler, 1991; Ferrin and Dirks, 2002; McEvily and Tortoriello, 2011).

There are two types of opinions about measuring trust. Our position is closer to the one that trust cannot be measured directly, and as an alternative approach, lack of trust (distrust) should be measured through the correlation of internal controls, hierarchical distance, and cultural diversity.

To understand the problem of collaboration and trust, the main task is to divide the problem area into measurable and quantifiable parts. As measuring trust is cumbersome, we examine whether it is possible to measure the inverts of trust (regulation and control) instead. If each process of the organisation is well structured and regulated, employees' behaviour is rule-based, and their collaboration is less dependent on trust. In contrast, generating new ideas

for decision making is ill-structured (Guindon, 1990), it depends on personal tribes, where the trust-based behaviour is a key element.

The primary aim of our data analysis is to map the well- and ill-structured processes of an MNE and determine the number of control points built into these processes to minimise systematic and non-systematic risks. We examine whether these control points cover all the behaviour elements (every single process, including personal behaviour) or only the well-structured ones. This subject can only be examined in the light of the organisational structural changes. Analysing the internal relations and controls within various departments (functions) of an organisation is a new way to describe collaboration in multicultural virtual teams of MNEs.

#### **4.5. Methodology**

Our data were collected in May 2019 from an MNE that operates in more than 50 countries, with subsidiaries in four regions and with 13 virtual organisations. The most prominent of these virtual organisations, where our research was run, operates in North-Eastern-Europe and covers 13 countries (the organisation has offices in 9 countries and works with local distributors in 4 countries). Each department works remotely in virtual teams: the heads of the departments are in their home country offices, and the team members are in their home countries (3 to 8 locations). This structure supports the proximity to the local market but creates considerable complexity and distance within the virtual teams at the functional level. Employees are divided into two groups: non-managers with local responsibility and managers with cross-border responsibility. As the first step, data from 495 managers (location, nationality, level of seniority, department) were analysed to gain a clear picture of the structural dimension of social capital and cultural diversity in the MNE. Then, as a second step, the company's controlling system (i.e. how the diversity and control of processes support safe operation) was examined. Furthermore, it was mapped how the company covers the well- and ill-structured processes with controls.

The company employs a risk management and prevention system, called Vestalis, for controlling, analysing, and prioritising non-systematic risks. 298 control points were introduced covering all functions, and they are grouped as 1. basic function regulation without risk, 2. financial risk, 3. fraud risk, 4. financial and fraud risks. The system also involves two directions of actions (preventive and detective actions). The company has precise regulations to control most types of risks, which apply to the following: timeframe of reviews, type of control and documentation, and effects of controls on systematic or non-

systematic risk. In this study, we analyse the 298 control points by functional and country levels. Our goal is to find a statistical correlation between the various types of risks and compare the number of control points with the level of cultural diversity in the various functional areas (departments). The data analysis was performed with the JMP Pro 14 statistical software.

#### 4.6. Findings and discussion

The functional variance and seniority as well as the number of nationalities confirm that this is a culturally diverse cross-border virtual organisation, and the entire team’s diversity appears in all job families. The bottom of the organisation (level of junior managers) – just like the various levels of directors – is less diverse than the managerial levels. Diversity decreases with seniority among directors, and there is no diversity at the top of the organisation (Figure 4.1). The company approach decentralises and localises the ‘Sales’ department in order to maintain the proximity to the market. This functional team comprises only a few members from different levels of the organisation, but is more extensive and less centralised at the lower director level.

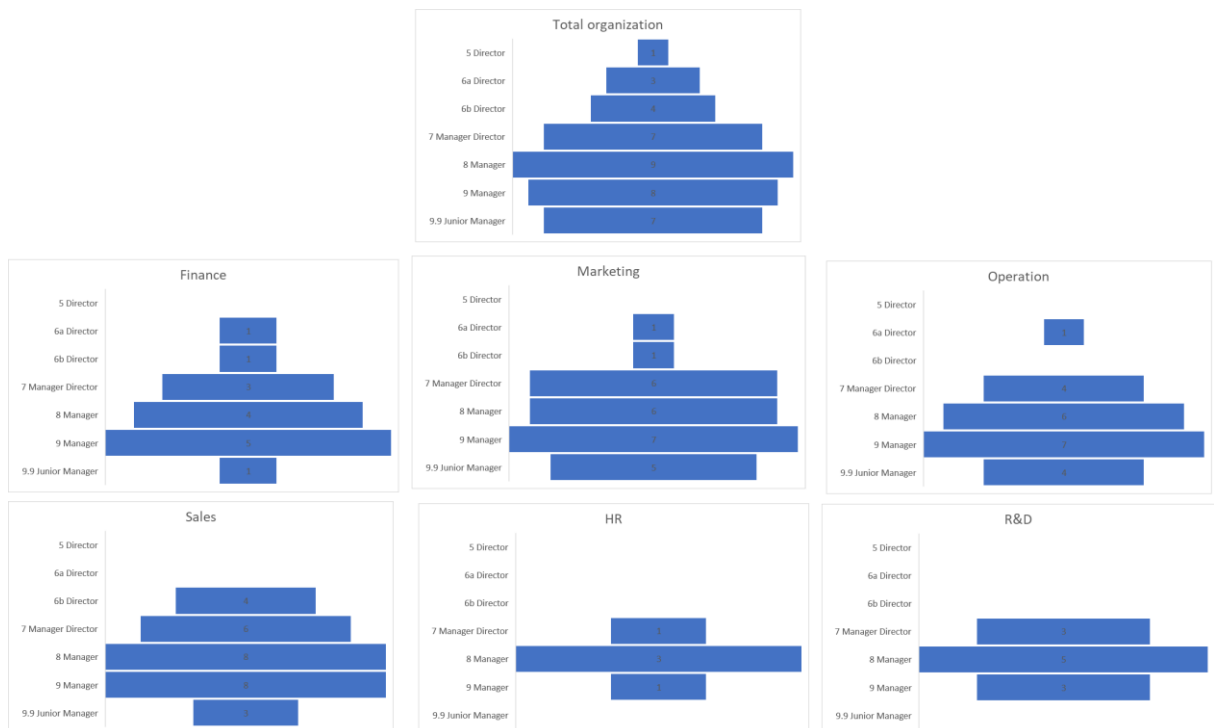


Figure 4.1 : Employee classification (seniority) and the number of nationalities per classification level (total organization and functional virtual teams).

Source: own research result.

Country	Variance	Mean	Median	Range in employee classification
	of the number of employees			
Bulgaria	0.80	8.58	9	3.9
Czech R.	0.59	8.43	9	2.9
Finland	1.37	8.59	9	3.9
Hungary	1.04	8.30	9	4.9
Latvia	.	8	8	0
Poland	0.85	8.38	9	3.9
Romania	0.58	8.47	9	2.9
Slovak	0.25	8.75	9	1
Sweden	0.84	8.47	9	3.9

Table 4.1 Employee classification by country

Source: own research result

Department	Variance	Mean	Median	Range in employee classification
	of the number of employees			
Finance	0.80	8.46	9	3.9
General Management	0.5	5.5	5.5	1
GS-General Secretary	.	9	9	0
Human Resources	0.57	8	8	2
Industry	0.99	8.37	9	3.9
Information System	0.63	8.48	9	3
Marketing	1.10	8.34	8	3.9
Medical & Health Affairs	0.5	8.5	8.5	1
Office Services	.	9	9	0
Operations	0.76	8.55	9	3.9
PURCHA-Purchase	0.90	7.86	8	3
Quality	0.66	8.45	9	3
R&D-Research &Development	0.64	8.06	8	2
Sales	0.74	8.50	9	3.9

Table 4.2 Employee classification by department

Source: own research result

Employee seniority is independent of nationality or location. No significant difference is observed in terms of the mean and the median among countries and departments regarding seniority (Table 4.1 and 4.2). Employee classification is independent of the number of employees per country. (See Table 4.1 and online Annex for Figures A1 and A2. [<http://search.ksh.hu/#/year/2020?c=h02>]). The data analysis confirms that the structural dimension of the social capital in the organisation is fundamentally different from that of the FtF-based country model, but it is balanced by and based on quality. The results of the analysis of control points indicate that all high-risk and well-structured processes (Finance, HR, Operation, and IT) are highly controlled (Figure 4.2 and Appendix 8.1.) A strong correlation was revealed between teams' diversity and the number of control points. Finance is the most controlled department, in line with the aspiration of reducing systematic and non-systematic risks.

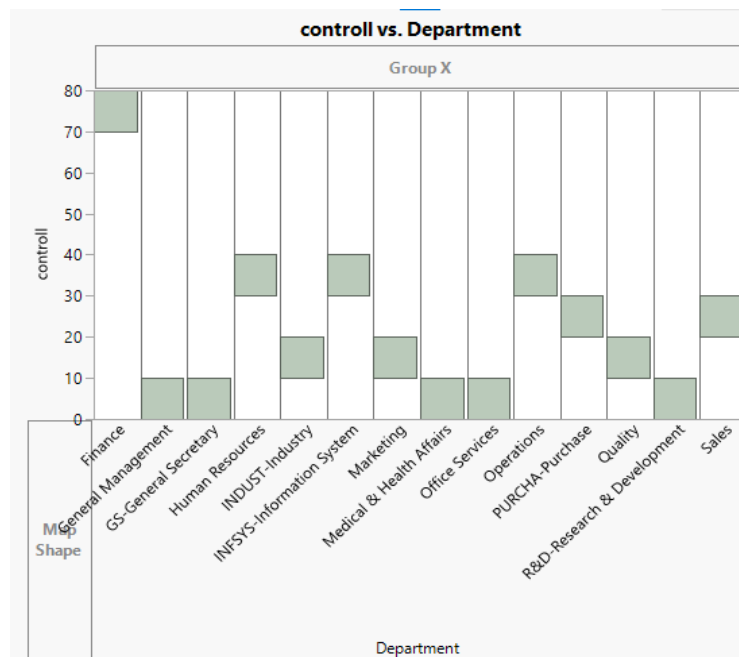


Figure 4.2: The number of controls per department.

Source: own research result.

The range between the various organisational levels is an important indicator of diversity. In a well-balanced organisation, all levels of seniority are observable through the presence of a strong successor plan, which increases the organisation's retention ability. At the same time, it is one of the most significant risks for a remotely working virtual team. Our correlation analysis has revealed that the number of control points is highly correlated with the range in

the employee classification (0.65; Table 4.3). In this way, the studied MNE can maximise the benefits of diversity while reducing the risk via internal controlling.

Based on the in-depth analyses, we found that internal controlling applies more rule-based controls to minimise financial risk in teams where the employees work at a longer distance from each other or in teams which face a potential financial or fraud risk in the course of daily operations. A strong correlation can be observed between the various types of risks (financial, fraud, and both financial and financial risks) and the two types of control (preventive and detective), weighted by the number of control points. (Table 4.4)

Denomination		Geometric mean	Median	Mean	Range of employee classification	Number of control point
		of the number of employee				
Geometric mean	of the number of employee	1.00	0.94	1.00	0.08	0.17
Median		0.94	1.00	0.94	0.26	0,33
Mean		1.00	0.10	1.00	0.10	0,18
Range		0,08	0.26	0.10	1.00	0.65
Control		0,17	0.33	0.18	0.65	1.00

Table 4.3: Correlations between employee diversity (classification) and the number of control points in the business processes

Source: own research result.

Multivariate	Risk	Financial Risk	Fraud risk	Financial and Fraud risk	Preventive	Detective
Correlation weight: Control						
Risk	1.00	0.98	1.00	0.96	0.92	0.97
Financial Risk	0.98	1.00	0.96	0.98	0.96	0.98
Fraud risk	1.00	0.96	1.00	0.96	0.91	0.96
Financial and Fraud risk	0.96	0.98	0.96	1.00	0.95	0.97
Preventive	0.92	0.96	0.91	0.95	1.00	0.89
Detective	0.97	0.98	0.96	0.97	0.89	1.00

Table 4.4: Correlations between the three types of risks and the two types of control, weighted by the number of control points in the business processes

Source: own research result.

Note. The correlations were estimated by the Row-wise method.

The MNE has grouped the control points into the following five main categories: 1. supporting the enterprise, 2. managing sourcing, 3. managing sale 4. generating demands,

and 5. forecasting stock. Almost half (47%) of the control points fall into the category of ‘supporting the enterprise’. A good example of this category’s relative majority is HR (that is among the most controlled functions and has well-structured processes) whose every control point serves this purpose, just like the control points of the IT and legal affairs departments. Nevertheless, if we examine the whole scope of HR activities, only a small part of such activities can be linked to the category of ‘supporting the enterprise’, which – being well-structured processes – are measurable and controllable. Our analysis has revealed a massive gap between these well-structured processes and the other part of HR activities, as the latter, ill-structured content of the HR function is not controlled.

	Forecast to Stock	Generate demand	Manage sales	Manage sourcing	Support the Enterprise	Grand Total
Finance	2		5	13	51	<b>71</b>
Human Resources					30	<b>30</b>
IT					34	<b>34</b>
Legal					4	<b>4</b>
Manufacturing	10				4	<b>14</b>
Marketing		12		1	1	<b>14</b>
Medical Affairs		1				<b>1</b>
Quality	2	2		1	8	<b>13</b>
Research & Development		8		1		<b>9</b>
Sales			25			<b>25</b>
SSD (Sourcing & Supplier Dev)		1	2	22	2	<b>27</b>
Supply Chain	25		19	5	7	<b>56</b>
<b>Grand Total</b>	<b>39</b>	<b>24</b>	<b>51</b>	<b>43</b>	<b>141</b>	<b>298</b>

Table 4.5: Number of control points in the business processes of various departments, by control point group (not all functions present in the investigated organization)

Source: own research result.

In contrast to the well-structured high-risk processes, ill-structured soft processes (managers’ behaviour and collaboration), where personal relations play an important role,



are not regulated by the organisation, and the lack of control may make the organisation vulnerable.

#### **4.7. Conclusion**

Setting up multicultural virtual teams in MNEs is an emerging phenomenon; thus, the structure of these teams has been less studied so far than that of classic FtF organisations. The activity of virtual teams in MNEs can be considered as cross-border collaborations of cross-cultural functional teams where both leaders and their followers (peers) work in different offices, affecting the development of ties and trust in the organisation. Several studies have explored a similar phenomenon among university students. Although teams of students are easier to access than those of employees in MNEs, their 'relationship' with digital tools is different and thus challenge comparability. In addition, the socialisation phase of student virtual teams makes the applicability of such results questionable.

We have reviewed several quantitative studies and selected 46 of them for further analysis. In all the selected studies, a self-evaluation method was used to investigate the various elements of trust as its direct measurement is difficult or impossible. Development of trust, however, differs in virtual and FtF teams due to their dissimilar interpersonal ties, and the role of trust may be crucial in virtual teams.

We agree with those scholars who claim that direct measurement of trust is impossible. Therefore, we have measured the inversion of trust, (i.e. lack of trust) and converted it into a quantitative indicator (number of control points). It was found that the internal controls of the studied MNE could not regulate both dimensions of behaviour (well-structured processes and ill-structured behaviour). The MNE has established several control points to minimize operational risk.

The bottom of its organisation is 'narrow', only a limited number of junior employees work in the virtual teams, and a high level of cultural diversity can be observed among managers and senior managers. Team seniority is a useful indicator that shows an organisation's efforts to employ experienced, competent, mature people, who can work independently. In a remote collaboration, risk consciousness is indispensable on a personal level, and more significant than in an FtF team where the leader is present every day and can monitor junior team members.

In the studied organisation, seniority is independent of the nationality or location of employees. This may significantly contribute to the employees' openness and equal opportunities, and the acceptance of leaders, which are the building blocks of trust. However,

non-equal opportunities or a nation's objective to reach a better position would destroy all personal efforts to build interpersonal trust.

It is hard to define, specify, measure, and maintain collaboration in an organisation, especially when the structural dimension of social capital and the nature of relations changed. It is particularly critical to multinational virtual teams of MNEs whose members work together from different geographic locations. Cultural diversity supports learning from one another, which is blocked if there is no interpersonal or organisational trust in the MNE. Extensive and comprehensive internal controlling and audits are fundamental in a company's risk management. According to our data analysis, the studied MNE follows a conscious and systematic risk prevention approach that controls well-structured tasks. However, it is not able to regulate the quality of personal collaboration. In a virtual environment, trust has a significant role in building and supporting collaboration since there is greater interdependence among team members, which is made even difficult by cultural differences, physical distance, language difficulties, lack of non-verbal communication, and technical barriers. The ability and willingness to build and maintain trust is the 'interplay' among co-workers.

In terms of organisational cooperation, inclusive diversity is a must. Every organisation's goal is to create unity in diverse teams where team members' relations may be contradictory and pose several challenges. Nevertheless, the questions about knowledge management and collaboration in multicultural virtual teams cannot be answered by only one discipline. These teams have an influence on people's behaviour that may be the subject of future transdisciplinary research.

The scarcity of research on MNEs' virtual teams has motivated us to analyse and measure the correlation between trust and the number of control points in an MNE's business processes. Our results may help companies to examine their well-structured processes and internal control system to minimise operational risk. The literature undervalues the impact of remote working on the development of social capital, although this threatens the collaboration in virtual teams. Based on our data, trust is strongly linked to ill-structured processes, and not replaceable by control. Due to the changes in the structural dimension of social capital, building of trust is more difficult today than it was earlier. Further research should address this subject as well as the introduction of control systems in new virtual teams to evaluate if trust and control systems are able to strengthen each other.

The research on virtual teams of MNEs is limited and does not provide a conceptual model for reinforcing trustworthy behaviour. Trust means accepting the unregulated part of human behaviour and has an important role in alleviating over-regulation. Further research is required to confirm the findings of previous studies on interpersonal trust for this organisational form, and to create new models.

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<sup>2</sup> The MNE grouped the control point to five big categories: support enterprise, manage sourcing, manage sales, generate demand, forecast the stock (Appendix 8.1.).

## 5. Investigating predictors and catalysts of Psychological Empowerment in Global Virtual Team: an empirical study among hybrid and virtual team members

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### Abstract

This research aims to answer the leadership dilemma of how the sense of community and psychological climate predict and drive psychological empowerment in the global virtual team (GVT) in a rapidly changing environment, where the key dilemma is whether the future workplace is completely virtual or a flexible hybrid model has more advantages.

The quantitative research confirmed that psychological empowerment, the sense of community, and psychological climate showed a strong correlation and co-dependency on each level of the hierarchy. This result confirmed that psychological empowerment is a multidimensional phenomenon in a virtual team as well and a combination of job meaningfulness, recognition, clear roles and responsibilities, civility, engagement, and the situation-adapted leader-follower relationship is able to compensate social isolation and structural changes in personal relationships in global virtual team. The finding suggests that the hybrid model does not have more advantages than the entirely virtual team in order to maintain the high level of psychological empowerment in individuals' perceptions.

Keywords: Global virtual team, empowerment, sense of community, psychological climate, trust

### 5.1. Introduction

Virtual work has a broad spectrum of advantages, changes engagement and collaboration, increases flexibility and ensures a cost reduction (Kunte, Bhattacharya and Neelam, 2020). The positive economic impact leads more and more companies to consider keeping this way

of work a partial (hybrid) or exclusive virtual solution. The transition was accelerated by COVID pandemic since 2020.

The new dilemma of international leadership and organizational behaviour is whether to force teams back into the office or consider remote working as the new norm in workplaces. This research is one of the first empirical studies that pursues a holistic model of a new post-pandemic organization from an international management point of view, investigating the psychological empowerment perception in this rapidly changing environment where the key dilemma is whether the future workplace is face-to-face or virtual, as two independent manifestations of the workplace, or a flexible approach (hybrid model) has more advantages. Empowerment is one of the key leadership and organizational behaviour theories of recent decades. It has a great academic literature which supports understanding in various industries and settings like multinational enterprises (MNE), healthcare, services and production industry, to mention the most important territories.

Empowerment is a rising topic in the virtual team literature as well, as this is considered this is considered as a critical antecedents of virtual team success (Gilson *et al.*, 2015). Scholars have seldom investigated psychological empowerment in a virtual team (Crossman and Lee-Kelley, 2004; Kirkman *et al.*, 2004; Kunte, Bhattacharya and Neelam, 2020), even though the two fundamental dimensions of empowerment, the job context and the job content (Ford and Fottler, 1995) change in a virtual workplace environment. Therefore there are many open questions related to psychological empowerment in virtual teams (Kirkman *et al.*, 2004; Seibert, Wang and Courtright, 2011) , as the dynamics of the collaboration are different in the virtual teams than in face-to-face teams due to physical separation. This physical separation requires robust and sustainable empowerment where the team members receive the appropriate level of decision-making. However, physical separation may lead to a perceived social isolation as well (Kirkman *et al.*, 2002; Ambos *et al.*, 2016; Prasad, DeRosa and Beyerlein, 2017; Zoonen van and Hoeven ter, 2021) especially where the separation is combined with cultural diversity (Muethel and Hoegl, 2010). The long-term effect of isolation on the predictors of psychological empowerment is a rarely studied area in the virtual team's literature. Consequently, this study seeks to answer the question of how strong or weak the psychological empowerment perception of the members of the global virtual team (GVT) is.

Currently, there are surprisingly few publications examining the predictors and catalysts for psychological empowerment to determine whether the interactions that have been shown to

affect psychological empowerment in face-to-face teams also play a role in a virtual team. Due to the isolation of the virtual team members, the structural dimension and relational dimension of the social capital (Nahapiet and Goshal, 1998) which describe the interpersonal connection among the people in the organization, changed in the context of the GVT (Harvey, Novicevic and Garrison, 2005; Sarker *et al.*, 2011; Gao *et al.*, 2016).

This paper is built on the assumption that psychological empowerment is not an isolated phenomenon (Seibert, Wang and Courtright, 2011) but the social and workplace changes may have a negative, decreasing impact on it. We investigated two representative antecedents of psychological empowerment, where we assumed that virtuality may have a negative impact and may be an explanatory factor in the decline in empowerment. As the sense of community and psychological climate are based on psychological perceptions, our research question was whether these predictors could exert their effects on psychological empowerment despite structural changes in personal relationships in virtual workplace. In our conceptual model (Figure 5.1) we selected these two fundamental predictors to investigate how the sense of community and psychological climate interact and drive psychological empowerment assuming that the separation in virtual work may change these predictors.

In order to have a full picture, we added position to the model and office presence (full home office or partial home office) as potential catalyst of psychological empowerment. The aim of adding position to the model was primarily to exclude the bias as the authors assumed that position itself does not ensure higher psychological empowerment in a virtual team, as opposed to its impact in face-to-face organizations.

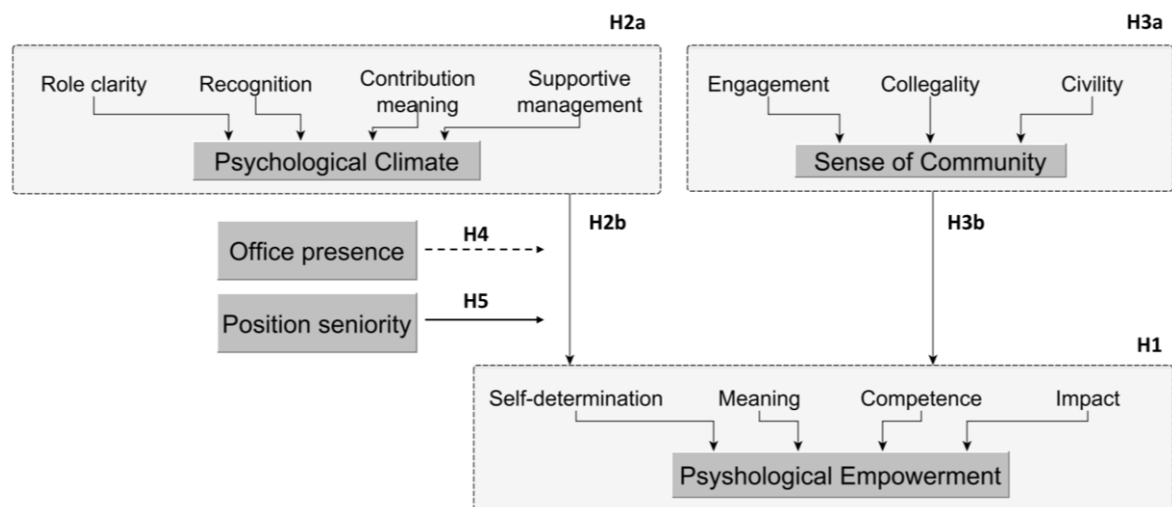


Figure 5.1 Conceptual model for the study

## 5.2. Literature review

With the development of computer-mediated communication (CMC), organizations, regardless of whether their teams collaborate face-to-face or in remotely working virtual teams, experience new team engagement. Organizational changes (Berry, 2011; Weimann *et al.*, 2013; Plotnik, Hiltz and Privman, 2016; Seetharaman *et al.*, 2019) are intensified by the revolution of the internet-based and mobile communication (Powell, Piccoli and Ives, 2004; Schulze and Krumm, 2017) together with the advancement of digital tools and communication technologies. Previous organizational research demonstrates that CMC transforms many spectrums of communication, knowledge sharing and collaboration (Corò and Grandinetti, 2001; Zornoza, Orengo and Peñarroja, 2009; Wei, Thurasamy and Popa, 2018). The development of CMC and the financial pressure on cost reduction have accelerated the spread of virtual work (Franke and Luthje, 2003; Kunte, Bhattacharya and Neelam, 2020). This transformation was speeded up by the promise of a virtual way of working: financial efficiency and cost reduction while ensuring a better access to the resources especially to human resources (Horwitz, Bravington and Silvis, 2006). CMC rewrote the way of communication and fundamentally changed the perception of the workplace. This change broke down the paradigm of the workplace and enabled teams to work together while geographically separated or partially separated (Bjørn and Ngwenyama, 2009). CMC allowed the development of the purely virtual team (where CMC is the exclusive way of communication) and the hybrid virtual team (where CMC is combined with face-to-face interactions) (Kirkman *et al.*, 2004; Cousins, Robey and Zigurs, 2007; Kock and Lynn, 2012), although CMC changed the way of communication and engagement of the co-located face-to-face team as well.

The concept of a virtual team has a rapidly growing significance in literature, as it has become a more general way of working, especially in MNE in the last decades. Virtual teams in MNEs are emerging organizational phenomena associated with greater flexibility, cultural diversity (Anawati and Craig, 2006; Hoffmann and Baracscai, 2020) and ensure broader access to resources (Franke and Luthje, 2003; Horwitz, Bravington and Silvis, 2006; Germain and McGuire, 2014; Kunte, Bhattacharya and Neelam, 2020). Despite these valuable insights, scholars agree on the negative perception of group identity in virtual teams and changes in the social interactions (Vahtera *et al.*, 2017). Increasing amount of research demonstrates less positive impact of the new phenomenon: changes in the nature of interactions and the physical distance may entail social isolation, slow down and reduce the

frequency of communication, while transferring human relations, and influencing the development of social capital in the organizations (Nahapiet and Goshal, 1998; Robert, Dennis and Ahuja, 2008; Koles and Nagy, 2014; Widjaja *et al.*, 2017). A dominant part of the researchers agree that virtual teams present challenges, especially for social capital, and the development of interpersonal collaborations and relationships (Ashley Fulmer and Gelfand, 2012; Kauffmann and Carmi, 2019; Handke *et al.*, 2020; Hoffmann and Baracscai, 2020).

### **5.2.1. Go beyond trust**

Presumably this duality is the reason why prior research focused on trust as critical to the development of group cohesion, which places the topic at the center of interpersonal and intrapersonal level research related to virtual teams. In a virtual environment, similarly to face-to-face teams, trust is a central element of knowledge transfer, ensuring non-competitive interactions, supporting networking, and building social capital (Collins *et al.*, 2017; Davison *et al.*, 2017; Villena, Choi and Revilla, 2019). The fact, that the trust in virtual teams has a different dynamic than in face-to-face teams (Ford, Piccolo and Ford, 2017; Zakaria and Mohd Yusof, 2020) results that a vital part of literature investigates this phenomenon (Gilson *et al.*, 2015). Nevertheless, as Gilson emphasizes, limited pieces of literature and empirical studies deal with predictors, mediators and moderators of successful collaboration and relationships beyond trust, like psychological empowerment compared to face-to-face team's literature of international management and organization behaviour. Despite the fact that isolation is associated with virtual working (Kirkman *et al.*, 2002); a feeling that is observed in the relationship of the co-workers and their interactions with their supervisors (Sutanto, Kankanhalli and Tan, 2015), the sense of community and the perception of the psychological climate and its impact on empowerment are a rarely researched area of the literature on virtual teams.

### **5.2.2. Psychological empowerment**

Academics of organizational researchers and practitioners define empowerment as a critical examination construct. The theory of empowerment is examined from an interdisciplinary approach, in interaction among several disciplines (Darbellay, 2015) such as organizational behaviour, management, community psychology, political science, social work, health studies, education, and social welfare (Prati and Zani, 2013). Empowerment at work is an extensively applied concept in the organizational studies (Zimmerman, 1995). An extended



part of empirical research had a systematic investigation on the individual level of empowerment, the organizational or team empowerment, and the community level of empowerment (Zimmerman, 1995; Kirkman and Rosen, 1999; Rothman *et al.*, 2019). The concept of psychological empowerment refers to the individual level of empowerment, although all of these levels are interdependent (Zimmerman, 1995). Psychological empowerment reflects the employees' perceptions of the environment where they work, and describes their ability to influence or shape this environment and their roles in it. (Zimmerman, 1995; Rothman *et al.*, 2019). To fulfil this role of empowerment it is the necessity to share knowledge with the employees so that they can contribute to the performance, and to give them authority to make decisions that impact organizational outcomes (Ford and Fottler, 1995). Ford's empowerment definition is multidimensional, a combination of the decision authority in job context and content, where empowerment is a balance, especially from the leader's point of view, to give authority without losing control over the decisions made by the authorized individuals.

The multidimensional specification is a leading motif of psychological empowerment models. Previous studies demonstrate that the measurement of psychological empowerment is difficult, as it manifests on a personal level, based on different skills, perceptions, beliefs, competencies, perceived control, motivation controls, awareness and organizational participation (Spreitzer, 1995; Druskat and Wheeler, 2003; Peterson, Speer and Hughey, 2006; Joseph, 2020). The coping behaviour, the perception and detection of these listed components are not static constituents, and they fluctuate according to the internal impacts in time (Zimmerman, 1995). Spreitzer (1995) constructs the psychological empowerment model as four distinct dimensions: meaning, competence, self-determination and impact. The model validates all constraints and contributes to the overall understanding of psychological empowerment (Spreitzer, 1995). Since this model is predominantly considered to be the universally approved method of the research of psychological empowerment by scholars, our research and conceptual model were built and executed accordingly.

At present, research on psychological empowerment has garnered the most attention to face-to-face organization; however, there are far fewer studies of psychological empowerment in virtual dispersed teams (Kirkman *et al.*, 2004; Kunte, Bhattacharya and Neelam, 2020). These studies on psychological empowerment in virtual teams observe that psychological empowerment is a fundamental antecedents of virtual team success (Gilson *et al.*, 2015) and

is positively related to consumer satisfaction, trust, commitment, and team process improvement (Crossman and Lee-Kelley, 2004; Kirkman *et al.*, 2004; Cousins, Robey and Zigers, 2007; Kunte, Bhattacharya and Neelam, 2020). The usage of computer-mediated communication itself means higher empowerment for the members of virtual organizations: social platforms allow the employees to express their motivation, optimism, commitment, or disagreement (Zakaria and Mohd Yusof, 2020). For the individual, the main advantage of working in a virtual team is associated with higher flexibility, lower control and higher responsibility, which results in higher motivation and empowerment (Hertel, Geister and Konradt, 2005). If the virtual team members are not empowered to make decisions, the competitive advantage associated with the technology-mediated immediate answer to demands will be lost (Horwitz, Bravington and Silvis, 2006).

Given our interest in the characteristics and development of psychological empowerment within workplace settings, several studies investigate the relationship between empowerment and its predictors. Current literature discusses different ways to define and conceptualize the predictors of psychological empowerment, where organizational identification (Prati and Zani, 2013) and team leader behaviour (Druskat and Wheeler, 2003) are appointed as critical factor of psychological empowerment since the consequences of empowerment are frequently associated with effectiveness, job motivation, mental health and organizational commitment (Cordery, Mueller and Smith, 1991). Our research addresses this gap to investigate psychological empowerment and two predictors: the sense of communities and psychological climate in virtual teams.

### **5.2.3. Psychological climate in the workplace**

Workplace climate is defined by Kahn (1996) as a psychologically meaningful environment for the employees, which engages them to allocate more time and effort to the organization's work. Psychological climate assets are the workplace perception deriving from the personal value system (Parker *et al.*, 2003) and the person's sense of their own organizational well-being (James and James 1989). A prominent part of literature argues that when the employees perceive the environment positively, and their psychological need is perceived to be satisfying, they are more willing to identify their personal goals in line with the goal of the organization as they feel safe in this environment (Khan, 1990; Brown and Leigh, 1996). Empirical studies have shown that psychological climate refers to the relationship between the workplace and individuals but not to the environment itself. Psychological climate is characterized by representing the work environment to the individual, and the structure and

processes that materialize in the organization (James *et al.*, 2008). Psychological climate is more about how the employees perceive the environment and how this perception mediates their behavioural responses and attitudes (James and James, 1989; Parker *et al.*, 2003). The perception of the individuals shows variation due to the individuals' preferences in situations and interactions among members (James and James, 1989). Thus, the current mainstream approach that psychological climate, which originates from different perceptions among the employees, may express significant deviation even within the same team (Brown and Leigh, 1996; James *et al.*, 2008). The manifestation of psychological climate is multidimensional (Brown and Leigh, 1996; Carless, 2004) and includes factors such as recognition, self-expression, contribution, meaningfulness, supportive management and role clarity (Toprak and Karakus, 2018; Mozgovoy, 2022).

Previous studies on psychological climate suggest that the components of psychological climate, such as supportive management, role clarity, contribution and recognition (Brown and Leigh, 1996), are indicators of safety, meaningfulness, and satisfaction in the workplace and contribute to engagement. Some prior research on psychological climate in co-located teams has increasingly substantiated that psychological climate has a direct impact on motivation, performance, work attitude (Parker *et al.*, 2003), employee efforts, work involvement, and work performance ability (Brown and Leigh, 1996) to prevent or alleviate job stress (Dollard and Bakker, 2010; Mozgovoy, 2022). A few quantitative and qualitative studies on psychological climate observe that psychological well-being, adaptation to the organizational changes, and lower employee turnover are associated with psychological climate (Parker *et al.*, 2003; James *et al.*, 2008). Furthermore, psychological climate mediates the leadership impact on organizational commitment, comprising inclusion, worker inspiration, execution, and work fulfilment. (Angriani, 2017; Kawiana *et al.*, 2021).

Previous literature has acknowledged that psychological climate is an interface and a predictor of psychological empowerment (Kirkman and Rosen, 1999). Studies have confirmed that a supportive psychological climate positively correlates with empowerment and results in high involvement in decision-making. Role clarity, as a psychological climate component, is associated with empowerment, while feedback is associated with the meaningfulness component of psychological climate (Bartunek and Spreitzer, 2006). At the same time, empowerment has a mediator role between job satisfaction and psychological climate as well, which indicates a two-way effect between psychological climate and psychological empowerment (Carless, 2004). Prior studies indicate further understanding of

psychological climate and psychological empowerment while their roles are becoming even more attractive in a virtual environment. The psychological climate domain is thoroughly explored in the co-located, face-to-face organizations, nevertheless underexplored in the virtual environment, similarly to other research with behaviour outcomes (Gilson *et al.*, 2015). Reflecting on recent topics, we find a research that supports the impacts of psychological climate on self-resilience and organizational citizenship behaviour in virtual teams during the pandemic lockdown after two months of remote working (Suratman *et al.*, 2021). Given the lack of prior insight, this research aims to validate the correlation and the moderating effect between psychological empowerment and psychological climate in GVTs, built on the existing knowledge in face-to-face teams.

#### **5.2.4. Sense of community**

Regarding the construct of the definition and the evolution of sense of community research, many similarities were observed between psychological empowerment and psychological climate, the two domains that were discussed earlier. Sense of community is also an interdisciplinary domain and it is a key phenomenon of social science, religion (McMillan and Chavis, 1986), community psychology (McMillan and Chavis, 1986; Peterson, Speer and Hughey, 2006; Hanna and Cagan, 2009), education, public health (Boyd and Nowell, 2014), organizational behaviour and business (Klein and D'Aunno, 1986; Speer *et al.*, 2013; Christens and Lin, 2014; Zoonen van and Hoeven ter, 2021) just to mention the most representative implication territories. In early definitions, sense of community was associated with the common bond with others (Glynn, 1981), which later McMillan and Chavis (1986) constituted as a multidimensional concept of (1) membership (meeting the needs of belonging to the community), (2) influence (perceiving an individual's ability to influence the community), (3) need (of the person whose personal and organizational needs are identical) and (4) emotional connection (the beliefs of the shared values). Sense of community is an emotional connection, based on common items such as history, feeling of belonging, experiences within a given community, where the members feel that they belong to that community and influence it or the matters of its members (McMillan and Chavis, 1986). The early research of sense of community focused on the social science and the extension of the domain to the workplace, based on the principle that the member of the society whose behaviour and attitude are associated with the community, is functioning more competently and with higher performance. Previous organizational research demonstrates that workplace sense of community refers to the employees' sense of identification,

participation, contribution, sense of ownership, and membership (Klein and D'Aunno, 1986; Peterson, Speer and Hughey, 2006; Hughey *et al.*, 2008; Prati and Zani, 2013; Speer *et al.*, 2013; Garrett, Spreitzer and Bacevice, 2017). Recent papers indicate that sense of community is a strong predictor of organizational well-being and organizational citizenship (Purkiss and Rossi, 2007; Suifan, 2015; Boyd and Nowell, 2017). Wilke and Speer (2011) describe sense of community as a collective, group-based belief system that is combined with a strong social support (Wilke and Speer, 2011). The review of the management and psychological literature suggest that sense of community is associated with a collective identity, shared routines, engagement, a positive identity, the acceptance of responsibility, the responsibility and capability of developing the organizational assets, collegiality, organizational identity, and civility in the workplace (Wilke and Speer, 2011; Boyd and Nowell, 2014, 2017; Garrett, Spreitzer and Bacevice, 2017; Arnold *et al.*, 2020).

The prior research has attracted significant attention of both academic research and practitioners to investigate the interconnection between empowerment and sense of community in face-to-face organizations. Prior empirical studies confirmed that sense of community predicts and contributes to the evolution of empowerment and significantly predicts intrapersonal empowerment (Peterson and Speer, 2000; Peterson, Speer and Hughey, 2006; Hughey *et al.*, 2008; Wilke and Speer, 2011; Speer *et al.*, 2013; Christens and Lin, 2014; McMahan *et al.*, 2020). On the other hand, sense of community is described as an outcome of empowerment: access to a wide range of information and the feeling of being well-informed are principles of decision delegation, and empowerment is also a strong component of sense of community in diversity management (Speer *et al.*, 2013).

A significant part of the sense of community research presents a positive impact of the phenomenon on the organizational coherence and on the different job dimensions, such as perceived meaningfulness of the job, complexity, and openness to feedback, which increase the sense of community perception of the jobholders and lead to trust and cooperation (Klein and D'Aunno, 1986; McMillan and Chavis, 1986; Hughey *et al.*, 2008; Arnold *et al.*, 2020). However, research considered the potential adverse effects of sense of community. According to Klein (1986) high sense of community in a sub-group could be a potential risk to the organization, as it may result in isolation and potentially has a negative impact on building boundaries between teams and may drive individuals or even groups away from the organization. Isolation makes sense of community an interesting phenomenon within the virtual team research domain. Isolation is an emerging challenge for contemporary

workplaces together with hot-desking, open-plan office and co-working office place (Garrett, Spreitzer and Bacevice, 2017; Arnold *et al.*, 2020; Zoonen van and Hoeven ter, 2021) although few studies address this phenomenon in virtual team. Prior studies often show group fragmentation and subgroup rivalry decreasing collectivism in virtual teams (Jimenez *et al.*, 2017; Vahtera *et al.*, 2017) but the distributed work has a positive implications in this respect (Jackowska and Luring, 2021). It leads us to investigate more nuances about the consequences of virtual work with regard to collaboration among team members.

It is important to declare that the sense of community domain in virtual communities is a new research territory, and Sense of Virtual Community (SOVC) has growing literature; however, virtual gamers are in the primary focus of this research, the cyber-communities and communities formed on social media and not individuals in virtual workplace. In order to prevent the confusion of these two domains, we excluded SOVC related papers from the literature review. In this research, we used the current sense of community in the workplace as a starting point and, following this workplace line of reasoning, investigated the correlation between psychological empowerment and sense of community in virtual teams.

### **5.3. Theoretical framework and Hypothesis**

Scholars find that the geographic distance results in changes in the social capital in GVT compared to the co-located face-to-face teams and the social distance may negatively influence the interpersonal relations (Sheng and Hartmann, 2019). These changes require new roles and competencies in the virtual organization to help overcome physical boundaries and support collaboration (Eisenberg and Mattarelli, 2017; Kunte, Bhattacharya and Neelam, 2020).

The starting point of this research is that psychological empowerment which defined as the collective belief of the team members about their authority (Kirkman and Rosen, 1999) may be more significant in virtual work. The change in the workplace design influences the individuals and their perception about the collaboration in workplace. Previous qualitative research demonstrates that the team members feel themselves highly trusted on a personal level in virtual team, and the trust was clearly manifested in the perception of empowerment, self-governance and freedom (Crossman and Lee-Kelley, 2004). However, limited quantitative research has measured psychological empowerment in virtual team. In this study, we propose and empirically test that each dimension of the psychological empowerment ((Spreitzer, 1995) shows a high level in GVT, although many predictors may

be injured during the virtual collaboration This statement may provoke a question: what does 'high level or right level' mean regarding psychological empowerment? Empowerment is the ideal state for well-performing organizations to achieve, where the point of decision and governance are the right level. The right level of empowerment means that the decision making is delegated to the lowest level of the individuals, a low level where the required information and knowledge are ideally available (Spreitzer, 1995) to make decisions. Although scholars make efforts to 'measure' empowerment and the perception of psychological empowerment, this ideal point as Ford (1995) emphasized, is a degree rather than an absolute number, as too high a level of the empowerment leads to losing direction on the collective level.

Empowerment presumes and results in an organizational behaviour, where the corporate goal dominates, and the direction of work corresponds with the corporate and team goal. The first aim of this study is to measure how strong or weak the psychological empowerment perception of the members of the cross-cultural GVT is. Thus, we presume that:

*H1: All the four dimensions of psychological empowerment (Spreitzer, 1995) positively correlate and contribute to psychological empowerment in GVT.*

Psychological empowerment does not exist in isolation, many predictors and moderators influence it in the workplace (Rothman *et al.*, 2019). Although scholars do agree on the relevance of psychological climate and sense of community in organization and identify both as a predictor of psychological empowerment in face to face team (Hughey *et al.*, 2008; Christens and Lin, 2014), ), surprisingly a limited number of studies investigate this impact in a virtual team. The reason for selecting these two predictors is rooted in our research question that although empowerment is critical for virtual working, virtuality may have a negative impact and may be an explanatory factor in the decline in empowerment due to the changes of the structural dimension of social capital. As sense of community and psychological climate are based on basic psychological perceptions, our second research question was whether these catalysts could exert their effects on psychological empowerment despite structural changes in personal relationships in the workplace. Beyond the fundamental research, we work towards a holistic model on how psychological climate and sense of community moderate and interact with psychological empowerment (Figure 5.1.). We thus postulate that:

*H2a: Four components of psychological climate (Brown and Leigh, 1996) positively correlate and contribute to psychological climate in GVT.*

*H2b: Psychological climate is positively related to psychological empowerment in GVT.*

*H3a: Three components of sense of community (Arnold et al., 2020) positively correlate and contribute to sense of community in GVT.*

*H3b: Sense of community is positively related to psychological empowerment in GVT.*

The third research question aimed to investigate the leadership dilemma of choosing between fully virtual work, partial virtual hybrid or co-located entirely face-to-face work. This dilemma is not new but has intensified more than ever after the post-pandemic period. Keeping remote working has a clear advantage in terms of cost reduction but current literature cannot define the extent to which the risk of losing the fundamental value of collaboration, in our case empowerment perception, is posed by encouraging individuals to work entirely from home. In order to fulfil this literature gap, we added fully virtual work and hybrid work to our conceptual model as a predictor of psychological empowerment. As the CMC is the main platform of communication in each workplace set up, our hypothesis is that:

*H4: There is no correlation between the team members' empowerment perception and their presence in the workplace (hybrid work versus virtual work) in GVT, where CMC is the primary forum of knowledge sharing and decision making.*

In order to have a full picture of predictors, we added the position to the model. As described earlier, the aim of adding this dimension was primarily to exclude the bias that position does not ensure higher psychological empowerment in virtual team. Human capital variables such as age, education, and seniority displayed a small positive association with psychological empowerment (Seibert, Wang and Courtright, 2011). However, evidence indicates that the seniority, tenure and the place of the individual in the hierarchy increase psychological empowerment (Ergeneli, Ari and Metin, 2007). However, as opposed to the impact in face-to-face organizations, this is not validated evidence in virtual team.

Wilkinson (1998) acknowledged that due to the empowerment, the role of the managers is transforming from the owner of the power to the coach and facilitator, but this process is not confirmed in dispersed teams either (Wilkinson, 1998). At the same time, shared leadership is more beneficial and effective in virtual teams, than the hierarchical leadership (Hoch and Kozlowski, 2014; George, Gibson and Barbour, 2022), which may support the strengthening of the psychological empowerment. Following this line of reasoning, we presume that:

*H5: No significant correlation between position and psychological empowerment among non-managers, managers, and senior managers in GVT.*



## **5.4. Method**

### **5.4.1. Sample and data collection**

The research setting for this study was to investigate psychological empowerment, sense of community and psychological climate in a larger MNE GVT context. The survey participants were the employees of an MNE in the headquarter in the Netherlands. The team works in a knowledge-intensive industry and the investigated group members are responsible for the strategy and innovation. The multicultural organization is geographically dispersed across 26 countries (commuting or living in the Netherlands). Until March 2020, the team had worked in a hybrid model (Cheng *et al.*, 2016). Individuals predominantly worked from home but almost every team meeting was personal in the office within the global team (2-3 working days per week), while all interactions with the local teams of the subsidiaries were virtual. During the lockdown, the office was closed for 14 months. In this period, the primary methods of communication included conference video calls as the exclusive way of meetings (WebEx, Meets), emails, chats (Workplace, WhatsApp), and phone calls. The team was familiar with the usage of these tools as it was the way of interaction with the subsidiaries in the previous years. Their CMC capabilities further improved with the usage of the new virtual tools to assist collaboration in virtual meetings and virtual brainstorming (Klaxoon, Miro etc.). In May 2021, the office was re-opened on a voluntary basis (for the employees who had difficulties working from home), but the team operated as a completely virtual team via CMC during the research period.

The questionnaire was distributed in November 2021 (after six months re-opening) to 241 employees, and 126 valid responses were obtained (the response rate was 54%). An online survey was applied to collect answers and the length of the survey was approximately 10 minutes. The first step for the respondents was to identify their position in the organization. The positions included assistants, managers, senior managers, and directors; and their typical office attendance in the six preceding months (Table 5.1). In order to increase the response rate and the number of accurate responses, complete anonymity was ensured, and no demographic data were collected, as these data have no contribution to the hypothesis.

### **5.4.2. Measures by questionnaire**

The questionnaire was a combination of three questionnaires based on prior quantitative research. Spreitzer's (1995) four-dimension psychological empowerment scale was applied to measure psychological empowerment: meaning, self-determination, competence and

impact. The measure of sense of community was based on the simplified version of Arnold's (2020) employee perception of their sense of community in the workplace, composed of three components: Engagement, Collegiality, and Civility (two questions per component). Four components were used to measure psychological climate: Supportive management, Role clarity, Contribution and Recognition (Brown and Leigh, 1996). We used a 7-scale Likert scale from 1, "strongly disagree," to 7, "strongly agree" for all domains to simplify the answers for the respondents. The questionnaire was pilot tested with 16 respondents (eleven managers and five directors) in April 2021 to assess and determine whether the informants comprehended the survey questions. Based on their feedback, some selected items were simplified and minor changes in the wording were made.

Descriptive statistics were used to summarise the characteristics of the sample. Internal consistency was measured using Cronbach's alpha coefficients. Item-total correlation (ITC) and inter-item correlation (IIC) analyses were also calculated. A multiple linear regression was used to predict the Empowerment score based on psychological climate and sense of community. It is important to note that psychological climate and sense of community showed a relatively high correlation, but it was lower than 0.7. Furthermore, based on collinearity diagnostics, VIF and Tolerance were acceptable. Moderation analysis was performed with Hayes' PROCESS macro for SPSS (Model 1, Hayes, 2022). The level of significance was set a priori at 0.05. Statistical analysis and visualization were conducted using IBM SPSS Statistics for Windows, Version 25.0 (IBM Corp. Released 2017. Armonk, NY, USA: IBM Corp).

## **5.5. Result**

### **5.5.1. Characteristics of the sample**

Based on position, the employees were non-managers (19.8%, n=25), managers (34.1%, n=43), senior managers (26.2%, n=33), and directors (19.8%, n=25). 62.7% (n=79) worked from home, and 37.3% (n=47) went to the office minimum 1 day/ week. The frequency distribution of the typical office presence in position. (Table 5.1).

	Type, %(n)		Total
	Work in office minimum once a week	home office	
non-manager	48(12)	52(13)	100(25)
manager	25.6(11)	74.4(32)	100(43)
senior manager	42.4(14)	57.6(19)	100(33)
director	40(10)	60(15)	100(25)

Table 5.1: The frequency distribution of the typical office presence in positions

Source: own research result.

### 5.5.2. Reliability of the questionnaire factors

Examining the reliability of the factors (psychological empowerment, psychological climate and sense of community), we calculated inter-item correlation (ICC) and corrected item-total correlation (ITC). Cronbach was applied to measure the internal reliability. Cronbach alpha for psychological empowerment scale was 0.869 (based on standardized items), ICC and corrected ITC see in Table 5.2. Cronbach alphas for subscales were between 0.735-0.892. Psychological empowerment total score was 38 to 77 ( $M = 63.5$ ,  $SD = 9.0$ ) supporting H1.

Cronbach alpha for psychological climate scale was 0.852 (based on standardized items), ICC and corrected ITC see in Table 5.3. Cronbach alphas for subscales were between 0.680-0.772. psychological climate total score was 29 to 70 ( $M = 55.4$ ,  $SD = 9.0$ ) supporting H2a. Cronbach alpha for sense of community scale was 0.787 (based on standardized items), ICC and corrected ITC see in Table 5.4. Cronbach alphas for subscales were between 0.541-0.664. Sense of community total score was 10 to 42 ( $M = 33.6$ ,  $SD = 5.2$ ) supporting H3.

Subscales	Meaning		Competence			Self-Determination			Impact		ITC	
	1	2	3	4	5	6	7	8	9	10		11
1	–											0.592
2	0.588	–										0.708
3	0.341	0.382	–									0.460
4	0.324	0.288	0.787	–								0.405
5	0.175	0.367	0.477	0.516	–							0.389
6	0.366	0.413	0.231	0.154	0.200	–						0.533
7	0.283	0.369	0.249	0.268	0.381	0.558	–					0.571
8	0.397	0.327	0.139	0.154	0.209	0.562	0.481	–				0.490
9	0.457	0.587	0.213	0.137	0.164	0.354	0.341	0.303	–			0.668
10	0.476	0.567	0.313	0.266	0.288	0.377	0.481	0.361	0.671	–		0.742
11	0.458	0.586	0.255	0.178	0.193	0.396	0.413	0.359	0.767	0.772	–	0.728

Table 5.2: Inter-item correlation (ICC), corrected item-total correlation (ITC) in Empowerment (A), Psychological Climate (B), and Sense of Community (C) factors

Source: own research result.

Subscales	Recognition					Contribution		Role clarity		Supportive Management		ITC
	1	2	3	4	5	6	7	8	9	10		
1	–											0.568
2	0.527	–										0.647
3	0.414	0.582	–									0.534
4	0.240	0.466	0.521	–								0.481
5	0.492	0.455	0.322	0.318	–							0.629
6	0.423	0.426	0.365	0.337	0.503	–						0.594
7	0.364	0.421	0.384	0.363	0.461	0.482	–					0.587
8	0.395	0.321	0.193	0.078	0.384	0.380	0.310	–				0.444
9	0.459	0.447	0.277	0.227	0.475	0.352	0.293	0.720	–			0.500
10	0.351	0.293	0.229	0.095	0.171	0.200	0.080	0.388	0.484	–		0.360

Table 5.3: Inter-item correlation (ICC), corrected item-total correlation (ITC) in Psychological Climate factors. Source: own research result.

Subscales	Civility		Engagement		Collegiality		ITC
	1	2	3	4	5	6	
1	–						0.592
2	0.483	–					0.708
3	0.378	0.519	–				0.460
4	0.446	0.580	0.453	–			0.405
5	0.363	0.374	0.216	0.348	–		0.389
6	0.431	0.205	0.308	0.248	0.370	–	0.533

Table 5.4: Inter-item correlation (ICC), corrected item-total correlation (ITC) in Sense of Community factors. Source: own research result

### 5.5.3. Regression model for psychological empowerment

The prediction model was statistically significant,  $F(2.118) = 91.088, p < .001$ , and accounted for approximately 60% of variance of psychological empowerment ( $R^2 = 0.607$ , adjusted  $R^2 = 0.600$ ). Psychological climate ( $t(123) = 7.926, p < 0.001$ ) and sense of community ( $t(123) = 3.438, p < 0.001$ ) were significant predictors of psychological empowerment. Based on standardized beta coefficients, psychological climate had a stronger effect ( $\beta = 0.591$ ) on psychological empowerment compared to the effect of sense of community ( $\beta = 0.256$ ).

#### 6.5.4 Test of moderating effect of office presence and position

H2b and H3b proposed that similarly to the face-to-face organization, the psychological climate and sense of community are moderators of psychological empowerment. As figure shows the prediction of psychological empowerment by psychological climate ( $F(3.118) = 54.868, p < 0.001, R^2 = 0.583$ ), and by sense of community ( $F(3.119) = 26.542, p < 0.001, R^2 = 0.401$ ) was significant as expected. Office presence (home office vs. work in the office minimum once a week) did not show a moderating effect. Unconditional interactions between psychological climate and office presence ( $R^2$  change = 0.0116,  $p = 0.073$ ), and between sense of community and office presence were non-significant ( $R^2$  change = 0.0008,  $p = 0.696$ ) supporting H4 (Figure 5.2, Figure 5.3).

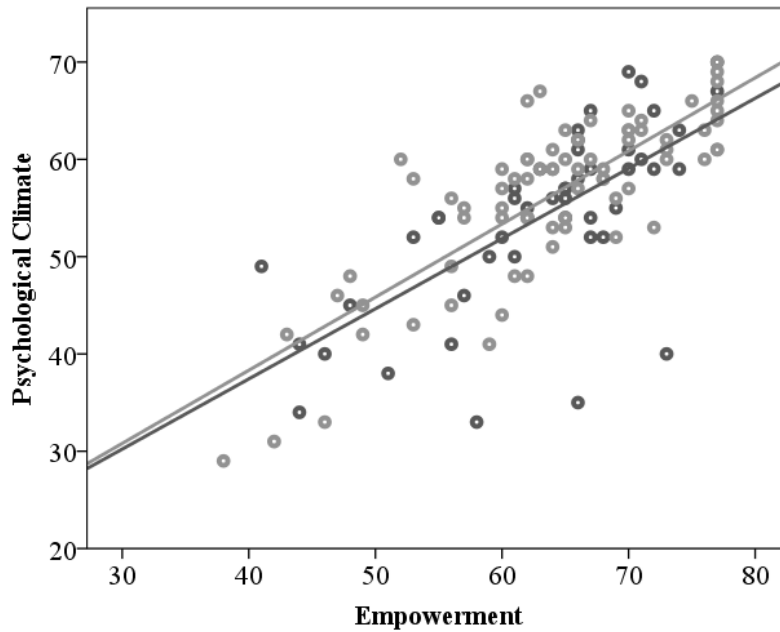


Figure 5.2: Moderating effect of office presence in the prediction of Psychological Empowerment by Psychological Climate.

Notes. Dark gray: work in the office minimum once a week ( $R^2 = 0.464$ ), Light gray: home office ( $R^2 = 0.650$ ). Source: own research result.

B.

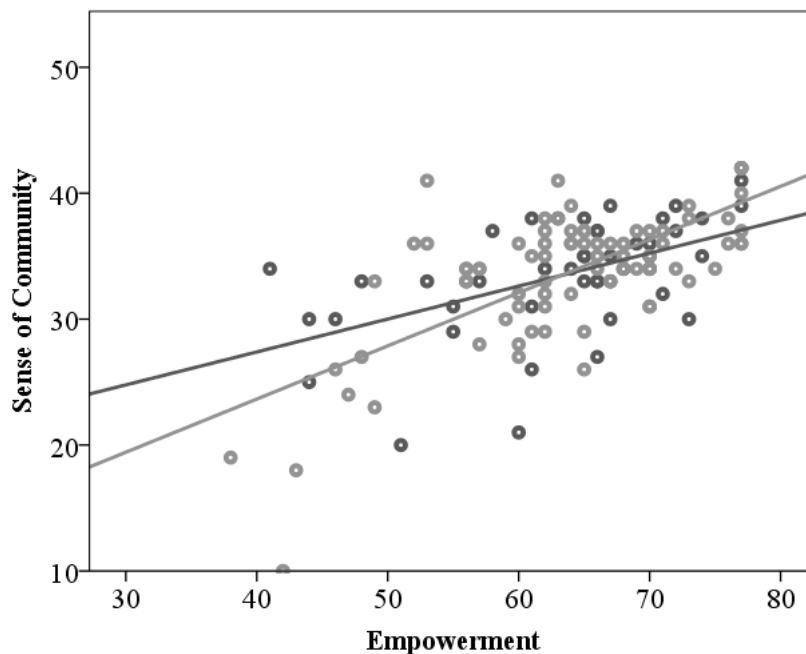


Figure 5.3: Moderating effect of office presence in the prediction of Psychological Empowerment by Sense of Community. Notes. Dark gray: work in the office minimum once a week ( $R^2 = 0.267$ ), Light gray: home office ( $R^2 = 0.476$ ). Source: own research

result.

H5 was supported by figures as group position (non-manager, manager, senior manager, director) did not show a moderating effect on psychological empowerment. Unconditional interactions between psychological climate and office presence ( $R^2$  change = 0.004,  $p = 0.709$ ), and between sense of community and office presence were non-significant ( $R^2$  change = 0.008,  $p = 0.619$ ) (Figure 5.4, Figure 5.5).

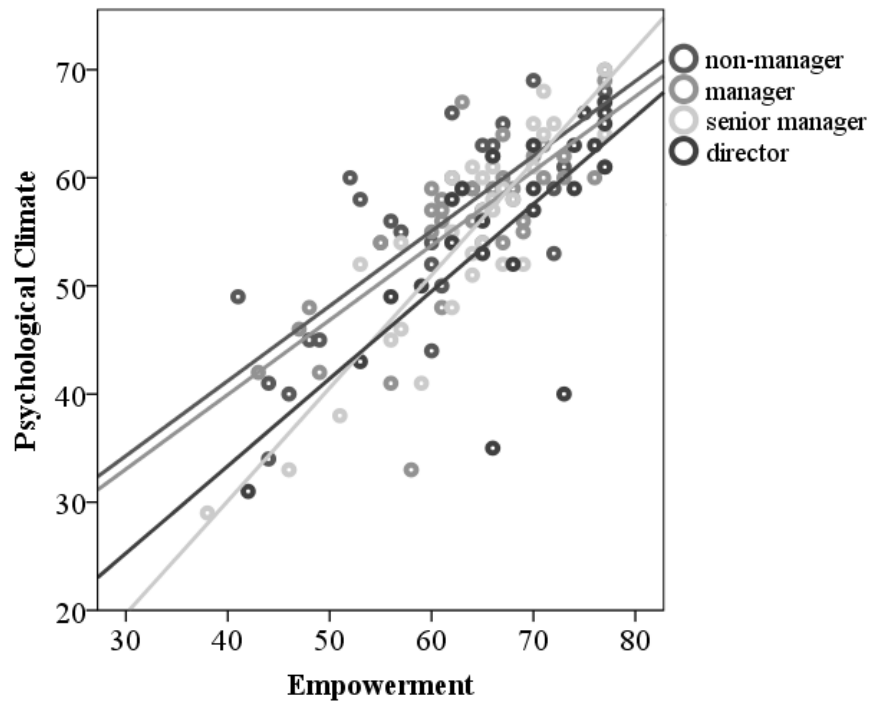


Figure 5.4: Moderating effect of position in the prediction of Psychological Empowerment by Psychological Climate. *Notes.* Linear  $R^2$  for non-manager 0.570, manager 0.553, senior manager 0.805, director 0.520. Source: own research result.

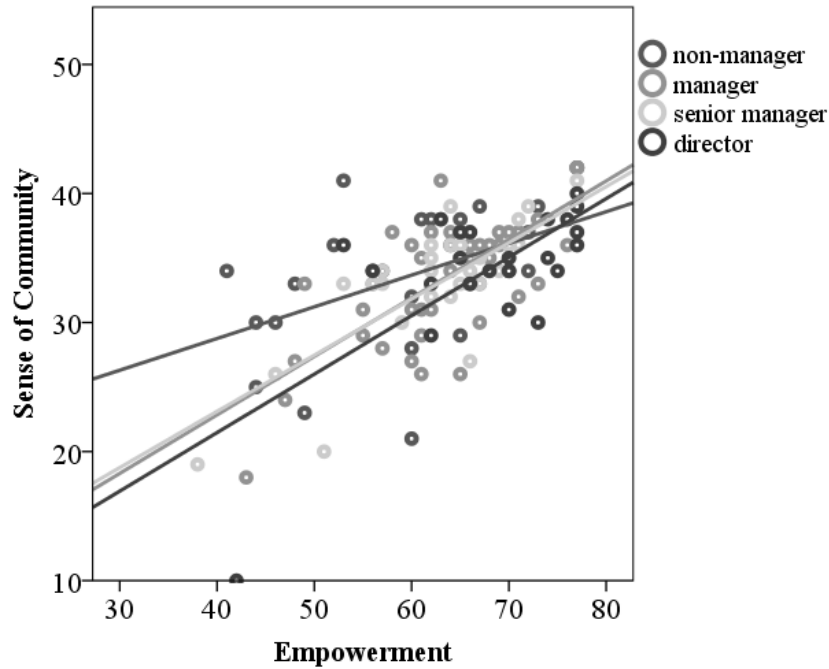


Figure 5.5: Moderating effect of position in the prediction of Psychological Empowerment by Sense of Community (B). *Notes.* Linear  $R^2$  for non-manager 0.215, manager 0.508, senior manager 0.578, director 0.454. Source: own research result.

## 5.6. Conclusions

This paper examines the level of psychological empowerment and their predictors, sense of community and psychological climate in a GVT where one part of the team members worked entirely virtually while the other part in a hybrid model. The aim was to answer the dilemma of the post-pandemic organization from an international management point of view, whether the future workplace is virtual, or a flexible approach (hybrid model) has more advantages. This research confirms that psychological empowerment, sense of community, psychological climate, showed a high correlation in the study group. Like in face-to-face teams, we confirmed that sense of community and psychological climate are predictors of psychological empowerment in a virtual team. This strong codependency shows that a change in either area could move the other two factors in a positive but in a negative direction as well. Alternatively, developing an area can further strengthen and stabilize others. Each investigated argument had a high level as well, while we confirmed that psychological empowerment, sense of community and psychological climate determine the high performing virtual team.

As detailed in the introduction and literature review, virtual work is often associated with isolation which could even negatively affect sense of community and psychological climate



according to the classical view. However, based on the results of the research, we reported high values in both phenomena. The answer, to resolve the apparent contradiction of remote working and psychological climate is embedded in the elements of the definition of psychological climate. The psychologically meaningful environment is not exclusively a physical environment that the person experiences every day as reality. This is a multidimensional phenomenon, a combination of meaningfulness, recognition, transparency of roles and responsibilities and management style. These building blocks no longer require physical connection and influence on the individuals, these values can be conveyed through the corporate narrative, policies, culture, and values. These results confirmed a very early research finding that virtual team identity can be strong if the team members evaluate themselves as a significant part of a team, as individuals working on a task contributing to a project (Spears, Lea and Lee, 1990). Our result evaluates sense of community in a similar way. Based on the results of the research we can state that civility, engagement, and collegiality perception showed a high level in a virtual team and at a virtual workplace. The challenge is the level of consciousness of the management and to recognize the importance of these factors in the intellectual capital of the organization in order to maintain the high level of psychological empowerment in individuals' perceptions in a virtual team.

Position seniority and tenure, the person in the hierarchy is also an interesting issue for psychological empowerment, which is also a rarely studied factor and virtual work makes this even more interesting. The answer to the previously outlined research question is that psychological empowerment's influence is fundamental to efficient corporate operations in virtual teams, but organizational seniority cannot be an influencing factor for psychological empowerment. The corporate mission and vision, the maintenance of sense of personal contribution, the clear and consistent roles and responsibility are independent of personal encounter and physical coexistence. However, their consistent communication and reinforcement of behavioural values in common are critical to assure the perception of psychological empowerment in a virtual team. These building blocks act not only on the level of the director but on the level of the entire organization and may explain why we have observed high levels of the investigated attributes on all levels of the organization. As we discussed earlier, virtual working required special competencies, more precisely, certain competencies are more important in a virtual team. These competencies which are required lead to empowerment, on each level of the hierarchy, and at the same time virtual working may amplify empowerment as well.

Compared to face-to-face way of working, the nature of the interaction changed in the virtual team, where the leader is not available at every moment of the processes and each point of decisions. The lack of immediate interaction has two impacts: firstly, the role of the leader changes. During virtual work, the classic boss-subordinate relationship is transformed. Ideally, an empowering leadership role will emerge, where the manager will act more as a mentor through regular one-on-one or group meetings. The supportive management component has an important implication for empowerment and psychological climate as well, as it provides a psychologically safe environment for subordinates to try and learn without a sense of failure and error, and further motivates the employees to try new methods to make decisions without the feeling of being overcontrolled (Brown and Leigh, 1996). Secondly, the delegated decision contributes to the perception of empowerment on all levels of the company. Earlier we discussed the dilemma of ‘right and high level’ of empowerment (Ford and Fottler, 1995) which means that the decision is delegated to as low a level of the hierarchy as possible while the individuals have the appropriate competencies and decision autonomy. This result is also shown by our research where no significant difference was observed among the psychological empowerment of assistants, managers and senior managers based on position seniority.

One decade ago, technological constraints were some of the main barriers of virtual team work and knowledge sharing (Rosen, Furst and Blackburn, 2007). That time emailing was the primary tool of communication, followed by phone calls. Virtual work was associated with diminished non-verbal communication and longer (or the lack of) decision making process due to the increased usage of technology (Martins, Gilson and Maynard, 2004). Thanks to the improvement of computer-mediated collaboration, in particular the tools of the video-based meetings already widespread by the mid-2010s, this problem may have less influence on psychological empowerment. Remote working competencies are contributors of the successful collaboration that we perceived on a high level in a GVT. The lack of evidence leads to the dilemma that has been observed over the years about how much it is worth preferring offices and raises the question of the long-term sustainability of virtual work. Even the literature on the description of virtual teams does not clearly distinguish between the fully virtual and hybrid models, and it is not clear when it is advantageous to meet in the office and when its effect is neutral.

This is the first empirical study where psychological empowerment was investigated among virtual team members and hybrid virtual work was compared in the same organization, using

the post-pandemic period as a lab for research. The result confirmed that the personal presence in the office has no significant impact on psychological empowerment in GVT compared to the team members' psychological empowerment who worked remotely. As the entirely investigated model was balanced and all predictors of psychological empowerment (psychological climate and sense of community) showed a high correlation and value, the personal meeting did not influence the model.

## **5.7. Discussion**

Moving to a virtual operation model is a critical and fundamental management decision which requires a fundamental change in the organization's set up and processes. This preparation phase includes the development of remote working competencies, creation of the new processes, roles and responsibilities, governance, and the modification of the employee recruitment process in line with new expectations. This process was unexpectedly broken during the pandemic, which created a new laboratory to understand virtual work better. Many companies, especially multinational enterprises were partially ready for this new way of working, as CMC was a norm and a daily routine for them, especially for the GVT where the hybrid virtual and full-virtual work were a rapidly growing phenomenon in the last two decades. On the other hand, organizations who worked face-to-face earlier, faced a dilemma whether to keep this new way of work as a new norm, or move rapidly back to the original set up. We use the post-pandemic period as a laboratory comparing the effects of fully virtual work and hybrid work on psychological empowerment. The empirical test confirmed that each dimension of psychological empowerment and its predictors, psychological climate and sense of community show a high level in a virtual team regardless of position seniority.

Reviewing the literature, there are many mixed opinions about virtual work. The financial benefit of remote work is clearly seen, so many companies partially implemented it in the last decade, but at the same time they find it difficult to decide whether to go into a fully virtual team, due to the lack of evidence. At the same time, there is a major dilemma about how beneficial or risky it is to maintain the exclusively remote work set up, and how beneficial it is to force employees to return to the office, at least one day per week. Employees' opinion is also divided, depending on the industry, the collaborative nature of work, the time spent traveling to work, the personality, and so on. The article does not aim to fill these robust gaps, but our goal is to answer the dilemma of whether there is a measurable difference in terms of psychological empowerment perception between these

two approaches. As this finding shows, there was no difference in psychological empowerment, sense of community and psychological climate between the teams, those who regularly went to the office in comparison with those team members who did not go to the office during the investigated six-month period.

### **5.8. Limitation**

We develop a conceptual model about psychological empowerment in GVT, which considers the alignment of psychological climate and sense of community in relation to working from home or from the office.

This study may have three possible limitations. The first concern is that there are very few quantitative studies on psychological empowerment which observed its predictors in a virtual team. Due to this we faced difficulties conceptualizing our model. The second concern is a methodological limitation. Although all questionnaires we used in this research were validated, but primarily in face-to-face organization, as currently there are no dedicated and validated questionnaires for virtual teams. We estimated that the investigated phenomenon is built on similar arguments as in face-to-face teams, while we emphasize that scholars face limitations with this methodological approach. During the literature review, we looked for virtual team specific questionnaires, but these questionnaires were dedicated exclusively for communities in social media or gamer. As the virtual workplace is a new norm for many organizations, the review and validation of the current questionnaires in virtual reality is a research territory for the future.

The cultural bias and different perspectives have a potential impact on the result of the paper. The research was done among the members of GVT who are responsible for innovation and strategy. We recommend repeating this research among other functional teams as well, to receive a comprehensive picture of the applicability of the result and reduce the cultural limitation that comes from the organizational culture. During data gathering we used an English questionnaire, as English is the common language in this GVT. However, this may contribute to some errors as part of cultural bias too.

## **6. Role of mission statement in creating collective identity and embedding trust and collaboration in organizational narrative**

### **Congress paper**

Hoffmann, P<sup>1</sup>. and Baracscai Z<sup>2</sup> (2022). 'Role of mission statement in creating collective identity and embedding trust and collaboration in organizational narrative', in: Benke, M., Schmuck, R., Riedelmayer, B., (ed) *3rd Ferenc Farkas International Scientific Conference: „Management Revolutions”*: Conference Proceedings pp: 338-347.

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### **Abstract**

Building a common corporate identity is a generally recognized opportunity for an organization to strengthen its common sense internally. Identity has an impact on the development of socialization in the organization and helps stakeholders accept and learn the norms and the company culture on both individual and collective levels. Externally, corporate identity management helps differentiate the company and provides a competitive advantage while building the collective values within the supply and the value chain. Corporate identity is communicated in the mission and the vision statement, where history, organizational values, culture, and ethical values predict the perception of the organization. The qualitative analysis of six corporate mission and vision statement aims to evaluate how companies use the most common social narrative methods to establish a favorable image and how the companies' mission statement supports personal identification, strength trust, accelerate knowledge sharing, ensure collective goals and identity building within the organization.

We identified many good examples how companies use the main elements of social narrative science in building their stories. Regarding the story type, function, and knowledge embodied each statement fulfils their fundament goals, and narratives convey value as describing organizational purpose, expected behaviours and values. On the other hand, a significant gap was observed in consistency and conscious narrative building. Statements

are not clearly targeted stakeholders, the persona of narrator is not clear, which may inhibit personal involvement and responsibility.

Appropriate corporate identity appoints questions like "Who are you?" and "What is your role in the world?". Only those mission and vision statements can fulfil their role that are able to answer to these questions while help the stakeholders' attachment to the organization. These mission and vision statements connect to the employees and support them to tell this story as their personal narrative.

Keywords: organization identity, social narrative, mission, vision, social system theory

## **6.1. Introduction**

The narrativity has a significant role in building individual and collective identity. In the last decades, this territory has become a research area of psychology, social science, and health care. Surprisingly, less research is available in organizational behaviour. However, social identity has a significant impact on collaboration, knowledge sharing, building collective learning capacity, and it acts as a catalyst of inter-organizational knowledge transfer. Based on the social learning theory, we can acknowledge three principles: first, it is not possible to separate the individual from the social; second, individuals are self-motivated to learn through observation and interactions; and the context has the leading role in shaping identity (Pratt *et al.*, 2010). According to the social system theory, the system, which is a self-producing or autopoietic system of communications (Luhmann, 1995), is composed of persons or groups who interact and mutually influence each other's behaviour. The organization is a community of real people with their own stories, history, experiences, and values, which build in and together with their hopes and histories for the future. These personal stories and the company mission formulate the organizational narrative and context, which together with the rules and regulations serve as a starting point for organizational identity. The power of the narratives lies in the fact that the strong stories can motivate people to transmit it without any observation of the stimulus. "If the narrative is strong enough to generate a salient emotional response, it can produce a strong reaction" (Schiller, 2019, p. 71). The main question of this study is whether the basic elements of the social narratives are applied or not in the formulation of the companies in their mission statements, in the age of 'narrative economy'.

## **6.2. Literature review**

### **6.2.1. Role of the social narratives in the identity of multinational organizations**

Identity is recognized as an effective tool to support and increase competitive advantage and researched by more academics and practitioners.

Initially, corporate identity was concerned with logos, company visuals and product design (van Riel and Balmer, 1997). The identity is explained by communication, behaviour on the market, and symbolism, supporting the organization to reach the desired corporate identity by narrowing the gap between the ideal and the realistic. The favorable organization's identity and corporate identity management have recently become a significant focus for scholars.

Corporate identity is the collective understanding of the organization as one entity and is thus interpreted as the Manifestation in the corporate-level vision and mission. The initial expectation is that the corporate mission and vision statement will align with the strategy and operations (Melewar and Karaosmanoglu, 2006). These statements bear a strong emphasis placed on cultural values, behaviours, ethics, and organizational history. The vision targets the broad audience of the stakeholders and creates the collective perception of corporate identity.

Balmer (2002) defined the generally accepted features of corporate identity. First, he emphasized that corporate identity is a multidisciplinary topic (Balmer and Greyser, 2002). Second, the narrative which supports corporate identity is a set of unique characteristics like history, culture, philosophy, communication and reflects the industry where the firm operates. Third, it connects to the personality of the organization.

As the investigation of corporate identity moved towards the transdisciplinary approach, seven dimensions were associated with it: corporate communication, corporate design, corporate culture, behaviour, corporate structure, industry identity, and corporate strategy (Melewar and Karaosmanoglu, 2006). Melewar describes these attributes as independent dimensions, but we see theoretical interdependency among many items, as industry identity may influence and determine corporate strategy, which influences corporate structure and culture. Corporate culture may influence behaviour and corporate identity, while corporate identity could be a predictor of culture and behaviour. In identity formulation, the vision has an important role, which is defined as a cognitive process where social engagement is more important than the conceptual structure itself, and this process provides a resource for the

members to learn (Cook and Brown, 1999; Brown and Duguid, 2001). This shared thinking helps the members identify and internalize corporate identity and lead culture and behaviour. An active link is detected between corporate narrative and corporate identity (Cornelissen and Harris, 2001; Ingenhoff and Fuhrer, 2010; Montuori, 2016). However, company has to be aware that this relationship can only partially controlled, and a significant portion is formatted in an uncontrolled manner. Identity narrative is the communication with stakeholders with whom the organizations have an interdependent relationship (van Riel and Balmer, 1997) and internally, communication create a cohesion and one identity among personal diversity and values. This is the reason why it is essential to emphasize that the organization's identity narrative is considerably different from marketing communication, as the identity narrative targets internal stakeholders (company employees). The external stakeholders in the supply chain or professional network are the secondary target audience of identity narratives during the intra-organizational communication which helps trust building and collaboration with them. Obviously, the organizational narrative influences the external evaluation and image of the company. However, we consider the role of influencing the employees' behaviours more important than the impact on the external world. This approach is in line with Olins's (1990) definition, which sees the aim of the vision and mission of the company as a main principle based on which the management of the enterprises communicates amongst the external and internal stakeholders to establish a clear image and a favourable reputation (Olins, 1990).

The other aim of identity communication is to ensure that the employees are highly motivated and develop an internal culture of unity. Corporate cultures are represented to stakeholders mainly through employee behaviour and controlled and uncontrolled communication. The harmony between the controlled mission vision statement and uncontrolled communication makes sense when the employees interact with external stakeholders (Moingeon and Ramanantsoa, 1997).

The corporate visual identity system is composed of five main elements: the organization's name, slogan, logotype/symbol, colour, and typography. The design states that slogans can have a powerful effect on stakeholders' perceptions of the organization and can help remind the employees of the corporate mission (Moingeon and Ramanantsoa, 1997).

### **6.2.2. The role of multinational companies' mission and vision statements**

Company culture is formed through persuasive communication as the employees are central to culture, especially in multicultural, remote teams where the organic growth of the shared



values of participants is strongly questioned. The organization narrative is a "reproduction of knowledge, beliefs, attitudes, ideologies, norms, or values of a group of society as a whole" (Van Dijk, 1995, p. 125). The social narrative demonstrates an essential function in the organization. Each workplace has a contemporary repertoire of its stories (Czarniawska, 2010). It helps the development of the relations the collective identity, which is an essential element of the personal identity. The companies with diverse structures should emphasize distinguishing overall corporate identity from the brand identities, on the benefits of corporate culture, and take company identity as an internal manifesto (Bart and Baetz, 1998; Braun *et al.*, 2012). This impact is the reason why the employees are the key target audience of the vision statement of the multinational enterprises to support the identity and the positive organic shared common sense. However, the management task to create an intimate understanding of the mission and vision of their organization is considered the foremost step to effective external communication.

### **6.2.3. Type of corporate narrative and its role in knowledge transfer**

Boje (1991) defined a story as the transmission of experience and knowledge between two parties. It is a well-structured interaction between the storyteller and the listener (Boje, 1991). Benjamin (2006) defined narrative as a way to move knowledge from one party to the other and help the listener of the story perceive reality. Following this thought process, Simmons (2006) structured the critical instruments of the organizational narratives to be able to fulfil this aim. The "Who I am", "Why I am here", "Values in action" and "Vision" narratives can communicate and clarify the reason for what the company stands for. The „Teaching" narrative helps the audience internalize new capabilities or skills to create a meaningful future. "I know what you are thinking" is less typical for the organizational narrative. This is more an attitude or a strategy of the storyteller, making people wonder, disarming them, and addressing hostile listeners by acknowledging their opinion (Simmons, 2006).

### **6.3. Method**

The aim of this social narrative evaluation project is to analyse companies' mission and vision statements to capture how these contribute to collective identity building, common sense, and the common values of the given community.

The world's top 6<sup>3</sup> food companies' mission and vision statements were analysed to see how they can fulfil their roles in creating substantial value and identity for internal stakeholders. We downloaded their mission and vision statements from the company webpages (the full text), including the explanation of the statements that were the material of this research. Each statement's full text was put to a word clouds program (<https://wordart.com/>) and compared the keywords with the original short version of the mission (Figure 6.1). In step two, each story was analysed and coded by one of the authors to have a consistent view and prevent coding bias. For the story type element, only one category was allowed; for the element of story and type of knowledge and functions, multiple categories were allowed to be assigned.



Figure 6.1: Word-clouded mission of the world's top 6 food companies

Source: own editing

<sup>3</sup> <https://qtcrecruitment.com/top-10-worlds-largest-food-beverage-companies-in-2018>; downloaded: 12-12-2019.

## **6.4. Result**

### **6.4.1. Holistic, unified content**

A strong relationship between the mission statement and the keywords was observed only in three statements from the six (1, 2, 5). Sometimes, the message was confusing (4, 6), and no connection was visible. In one case (5), the most mentioned words are connected to the statement, but the translation of the synonymies destroys the transition of the meaning. The keywords of statement 3 connect to the statement if we accept and agree that innovation, quality, and integrity reflect the "growing a better world" sentence. Statement 4 seems fuzzy and confusing, with no precise wording, or even a vague mission statement, as the correlation of food (the product of the company) and the "sustainable living commonplace" may be too far away from each other.

### **6.4.2. Narrative architecture**

We analysed the relation between the story type, function, and knowledge embodied in the story (Appendix 8.2.). Each statement fulfils its function as value creation behaviours, and norms. This function is not surprising, as the strength of the corporate statement narratives is that they convey values by describing expected behaviours, which reflect values to deliver and explicate the desired consequences. Knowledge sharing is associated with experience (2 statements) and history (2 statements). Each statement points out the organization's purpose and function, but there are many different ways to explicit them. The function is most associated with Sharing knowledge (3 statements) followed by getting individuals to work together (2 statements). Unexpectedly, functions such as sparking organizational change, building trust, taming the grapevine, and building future were only used by one statement at a time, losing one of the fundamental purposes of the mission statements to strengthen trust and collaboration.

Three of the investigated statements use the "who I am" narrative, which helps the listeners emotionally identify with the narrator and makes it trustworthy (Simmons, 2006). The "Why I am here" narrative helps the audience understand the storyteller's mission; the "Values in action" turn the mission into a concrete action plan and lead the listener to the desired direction. The impact of "Teaching" is similar to "Value in action," although the voice of tone is different, which may reduce the acceptance of the story. The advantage of the "Teaching" narrative is that it communicates and makes sense of new competencies and skills in meaningful ways, which may help the organization to reach its goal (Table 6.1).

	S1	S 2	S 3	S 4	S 5	S 6
“Who I am”	x		x			x
“Why I am here”		x				
Vision						
Teaching				x		
Values in action					x	
“I know what you are thinking”						

Table 6.1: The key instruments of the organizational narratives

Source: own research result.

### 6.4.3. Targeting internal audiences: personalization

Supporting personal identification and creating a link between the collective and the individual levels are essential contributors to establishing and experiencing unity with the company goal and culture. We investigated the six statements from this perspective; only the minority target both external and internal audiences. One statement reflected a substantial identity issue on the part of the management. It talked about itself as the "large organizations like *name of the company*" or "at the *name of the company*, we believe that global food and retail companies can play an important role". This general wording may destroy the emotional connection between the company mission and employee identity. They position themselves instead of differentiating themselves by communicating personality attributes via mission and vision statements. Company identity and personality are not sufficient to stand out from the competitors. Brand personality might be important in terms of stakeholders' confidence in the respective company, but the achievement of uniqueness must be based on inner commitment. However, some good examples can be observed, where the company positions its goal to be the biggest company and defines the expected behaviour in the mission statement for the internal audience. The defined patterns may improve the involvement and personal responsibilities to reach the collective goal.

### 6.5. Conclusion

All investigated statements emphasize the same characteristic. All of the keyword research brought out relatively similar results: the word "trust" was used only three times in three statements among nearly 2000 words, "honest" was mentioned only twice. The word "collaboration" was not used by the companies. The most common synonyms (as a partner,

partnership, joint work, work together, association, alliance, relationship) of collaboration were not mentioned either.

In general, all the investigated missions and visions considered the companies' role in the global market as non-specific. A company's corporate vision statement should indicate the direction of organizational development, the expected behaviour of the employees, and differentiate the company from the competitors to support unity. Each statement desires satisfied consumers, but all of them are weak to support employees on how they can achieve this aim. "It is common for people to find themselves lost in the narrative" (Brophy, 2009, p. 34), and statements, which do not help to navigate and define the role of the individual in the organization, cannot fulfil their roles. Corporate identity refers to how the organization presents itself to its stakeholders and how the individuals present themselves as the common of the organization. Appropriate corporate identity appoints questions like "Who are you?" and "What is your role in the world?". Only those mission and vision statements can fulfil their role that are able to answer these questions. Afterword these corporate narratives can connect to the employees and support them to tell this story as their personal narrative.

This study made a significant contribution to the validation of the social narrative analysis on corporate narrative and raised many new territories for future research. The small sample size is one of the weaknesses of this research, and future research is required to generalize the main learning. It is not clear yet how this narrative is internalized by the employees, and the correlation between the effective narrative and the internalized narrative has not been analysed either. Future research may focus on the internalization of the narrative, how a corporate statement triggers a 'word-of-mouth contagion' (Schiller, 2019, p. 13), and how motivated people could make corporate narratives more contagious.

## 7. Conclusion

The appreciation of human knowledge and sharing it as a value is a fundamental part of all cultures. The advantages and paradoxes of knowledge can be observed not only in today's managerial dilemmas, but also in folk wisdom, and we can conclude that the judgment of knowledge sharing was never coherent. Gábor O. Nagy (1993) the Hungarian linguist, known for his phraseology research, pronunciation explanations, and word history publications, collected 26 proverbs concerning knowledge and learning. Considering some examples for related proverbs such as knowledge is power, four eyes see more than two, he exchanges his knowledge for pennies, he hides his knowledge under a bushel, a good priest learns until his death, and a wise man learns from other people's misfortunes (O. Nagy, 1982, pp. 334, 542, 631, 662, 684), we can state that all of them could be translated to today's shared thinking and problem territories like knowledge sharing, its management and utilization which are also the dilemmas of current management and organizational behaviour. Organizational culture strongly determines the success or failure of knowledge management, and trust reinforces and mediates it (Butler, 1991; Levin and Cross, 2011; Ragab and Arisha, 2013). "Trust is the expectation that arises within a community of regular, honest, and cooperative behaviour, based on commonly shared norms, on the part of other members of that community. Those norms can be about deep 'value' questions like the nature of God or justice, but they also encompass secular norms like professional standards and codes of behaviour" (Fukuyama, 1995, p. 26). Culture, cultural differences and organizational hierarchy, all contribute to trust, and thereby promote knowledge sharing. A broad spectrum of research deals with this diverse topic of how the different moderators influence collaboration and trust in an organization.

Virtuality raises this problem territory to a new perspective, as virtual work changes each dimension of social capital: the structural, relational, and cognitive social capital. This dissertation discusses how virtuality changes collaboration and trust, as virtual work has fundamentally mutated the formulation and the development of social capital. We collected the comprehensive knowledge of relational and structural social capital transformation in a cross-cultural virtual team and created the new conceptual model of collaboration in a virtual team with the application of transdisciplinary methodology (Figure 1.1).

Before presenting our main learning and the conceptual model of virtual team collaboration, it is important to mention that we discovered two significant literature gaps during the literature review. These indirectly contributed to the creation of our model, as they helped

us narrow down and better define our research area. The lack of a unified definition of the virtual team was the first gap. Based on the literature, we set up a new model for the classification of virtual teams based on time dimension, territorial dimension and the way of collaboration. The application of this three-dimensional model helped to classify the virtual teams examined in the publications. This precise model of the regional virtual team (cluster) archetypes contributed to re-structuring the current literature and helped to define new knowledge gaps for further research. Beyond the academic level, it may help practitioners to better understand reality.

The second deficiency was related to the cultural diversity of virtual teams. Scientists treat this phenomenon as a fact, but we cannot find any research that would have proven this diversity in the organizational structure or in the hierarchy. Based on the analysis of employee data from an MNE's regional virtual team, we confirmed the cultural diversity on all levels of the hierarchy in cross-cultural virtual teams. With statistical analysis we proved that cultural diversity leads to the change of the structural dimension and ties of social capital.

### **7.1. Main finding and comparison of thesis with hypothesis**

We confirmed *Hypothesis 1* by a literature review, that the virtual work is a new manifestation of the workplace supported by a notable economic benefit, represents significant cost reduction and competitive advantage for the enterprises. Virtual work destroys the paradigm of industrial economy, according to which a reserved and separated place (factory, office) is required to reach productive assets in order to work with them. We conclude that geographic diversification is fundamental for MNEs to reduce operational risks and ensure a better access to the human capital, but the lack of awareness of cultural differences may pose a risk to the operation.

With statistical analysis we verified the cultural diversity on the entry level of the organization, as well as the change of the structural dimension and relational dimensions of social capital (*Hypothesis 2*). Correlation analysis confirmed that an employee's position is independent of nationality, location, or the number of employees in countries.

By a literature review we investigated the levels of coexistence of different cultures: inter-, multi-, cross- and transculturalism. The conclusion is that all team members must be aware of cultural differences and the threat on collaboration and trust. Cultural awareness is one of the most important competencies for experts in MNE.

*Hypothesis 3* was investigated by a quantitative method, and the correlation analysis proved that internal control regulates all processes that we define as well-structured (finance, operation, logistics etc.). Internal control cannot regulate the ill-structured processes (human behaviour). Trust is strongly linked to human behaviour, and is irreplaceable by control. It makes organizations vulnerable, as collaboration and knowledge sharing closely belong to the individuals' decision. Build on the result of the correlation analysis we conclude, that trust is an important element of collaboration, but we have to go beyond trust to compensate for all the changes of social capital. This research highlighted that virtual work is associated with isolation where the trust alone is not enough to describe the leader-follower relations. Our *Hypothesis 4* was that robust empowerment provided for team members to make decisions that affect organizational outcomes, is one of the required behaviours in virtual team. The result of our quantitative research on psychological empowerment and its predictors (psychological climate and sense of community) showed a high level of empowerment in virtual team, and a high co-dependency of the predictors. The regression model confirmed *Hypothesis 4*, that the lowest possible level of decision-making authority contributes to the effectiveness and collaboration in a virtual team. According to the result, the main component of the psychological empowerment and its predictors such as job meaningfulness, recognition, role clarity, civility, and the situation-adapted leader-follower relationship are able to compensate social isolation.

The last research hypothesis dealt with the cognitive dimension of social capital. We found that the company mission and vision are a catalyst of building a common corporate identity in a virtual team, which serves collaboration and collective values in a virtual workplace (*Hypothesis 5*). The corporate mission statement has an influence on the formulation of corporate identity which directly shapes organizational culture, beliefs, behaviours and values. The organizational narrative can create a link between the collective and individual narratives and helps the internalization of values.

## **7.2. Conceptual model of collaboration: transculturalism, empowerment and collective identity**

This dissertation aimed to prepare the new conceptual model of collaboration in cross-cultural virtual teams, related to changes in social capital compared to face-to-face teams. In the preparation of the model our starting point was that globalization leads to cultural globalization. Cultural globalization resulted in organizational diversity where trust has a special role to maintain and improve collaboration.



The first step was to identify (1) how globalization leads to the change of human capital. We conclude that diversification is a fundamental tool for MNEs to reduce operational risks, but it generates a new risk originating from cultural differences. The fiscal impact of globalization is so significant on the profit generating ability of companies and in the access to resources that MNEs do everything to minimize the resulting risks. Scholars agree that experts and managers of MNEs must be aware of cultural differences in order to minimize its potential negative effect. The development of CMC has broken down geographical boundaries and led to the development of cross-cultural teams of people who - in extreme cases - work in different time zones and never meet in person. An important lesson from the literature review is that cultural diversity in a cross-cultural virtual team brings significant benefits, but exploiting it requires new knowledge and competencies from all team members on all levels of the hierarchy. That is why in this organizational model, not only managers but all group members must be aware of cultural separation and the threat of prejudice. Knowledge, knowledge management and trust - which forms the attitude and willingness of knowledge sharing - can be the competitive advantage that replaces the 'old' economic theory about the countries' comparative advantage. After examining the levels of coexistence of diverse cultures (inter-, multi- and cross-culturalism), we came to the conclusion that in cultural globalization, transculturalism can provide the right balance to support effective cooperation and understanding of cultural differences without stereotypes and prejudice, which would slow down or destroy collaboration. We conclude that transdisciplinarity can be the method of dialogue between cultures. Adapting the ontological axiom of transdisciplinarity, we deduce that two (or more) cultures may generate the system of system, the culture of culture (Nicolescu, 2014, p. 170), leading to a company culture as a fusion of the cultures of individuals and going beyond them. Consequently, multiculturalism is the first building block of our final conceptual model.

Formulating our model, we hypothesized that (2) trust can be the second base of the conceptual model which will describe the key elements of collaboration in a cross-cultural virtual team. Our research question was to ascertain the importance of trust and define which part of the human behaviour fully belongs to trust in a virtual team. Although an impressive part of literature investigates trust in virtual teams, an important lesson of the systematic literature review was that the dominant part of these papers studied university students. Our research is part of the rare research, which was run in a business environment, and contributes to our understanding of the importance of trust in MNEs. Our starting point was

to divide tasks into well-structured and ill-structured processes and investigate how internal control is able to cover both territories. Our assumption was that trust is only necessary if the control cannot regulate all the processes, including human behaviour. Human behaviour is influenced by beliefs and values, while knowledge sharing, and the willingness of collaboration are ill-structured processes that are impossible to control. Previous studies investigated trust and distrust but have not investigated trust and control in a virtual team. Our correlation analysis confirmed that internal control regulates all processes that we define as well-structured (finance, operation, logistics etc.) but internal control cannot regulate the ill-structured processes (Appendix 8.1). It makes organizations vulnerable, as collaboration and knowledge sharing closely belong to the individuals' decision. Our conclusion was that trust is not replaceable by control and regulation. On the other hand, trust and control are not opposites, rather they complement each other, and the high control and high trust can be present in an organization at the same time. We were convinced that a prominent level of trust and control is a fundamental characteristic of virtual teams, but we did see that trust itself does not give a definitive answer to our thesis question. The reason for this is to be found in changed decision-making and leader-subordinate roles.

As we have already established, virtual work requires different competencies, or competencies are given different importance in a virtual team than in a face-to-face organization. The virtual team is associated with isolation, which puts not only the peers but also the leader-subordinate relationship in a different perspective. Physical distance and the pressure of immediate personal contact can slow decision-making down, which impairs efficiency. That is why we stepped further, and empowerment became the focus of our research. Empowerment did not replace trust in our research, rather we built on our results related to our further trust research, since trust is a mediator and catalyst for empowerment. Since the individual was the subject of our investigations in this phase of the research, we narrowed our topic down to psychological empowerment, which examines the individual's perception of empowerment. It is important to see empowerment in a wider context and reiterate that psychological empowerment describes the ability of the individual to influence their environment, and it is a multidimensional phenomenon, and – beyond trust – sense of communities and psychological climate catalyse and predict it in virtual teams. Our regression model demonstrates that - similar to the face-to-face teams – psychological empowerment showed a high correlation with sense of communities and psychological climate. Our hypothesis was confirmed that each component of psychological empowerment

is high in a virtual team and is an important predictor of the successful collaboration in a virtual team. The strong co-dependency shows that the change of any component of the model can move all other components to a positive or a negative direction. Virtuality and remote working influence all levels of the organizational hierarchy, as the change of social capital affects the entire team. The correlation analysis of the quantitative research confirmed this hypothesis and measured an equally high level of psychological empowerment on the assistant, manager, and senior manager levels. These results referred back to the previous learning, that virtual team requires (more than in the face-to-face team) particular competencies on all levels of the organization. It underpinned the importance of recruitment in a virtual team and the search for these competencies during the selection of team members and leaders. The role of the leader is transformed in a virtual environment to mentoring team members with the right level of autonomy. Indeed, isolation is one of the biggest risks of collaboration in a virtual team, and is a fundamental part of this phenomenon, but our result confirmed that a meaningful job, recognition, right engagement, clear roles and the adapted leadership can compensate for the potential impact of this disadvantage. This research answers the dilemmas of scientists and practitioners, whether exclusively remote work and fully virtual teams could be as effective as hybrid teams. In terms of empowerment, our statistical analysis demonstrated that there is no significant difference between the perceptions of fully virtual teams and hybrid teams.

We worked towards a holistic model from an international management perspective on virtual team collaboration, and we have confirmed transculturalism as a fundamental element from team's perspective and psychological empowerment from the person's perspective. The collective, corporate level was the missing point from our model, and how to embed these values into the organizational culture and identity.

Luhman's social system theory inspired this (3) part of the conceptual model. Luhman defined social systems as autopoietic systems of communication. In these systems individuals interact with each other and rebuild their personal narratives and create organizational identity narratives with the intercommunication of corporate mission statements. Corporate identity is the self-presentation of an organization (van Riel and Balmer, 1997) and shows a strong interdependence with the self-presentation of individuals. Our research confirmed that the corporate mission statement has an influence on the formulation of corporate identity which directly shapes organizational culture, beliefs, behaviours and values. With the conscious application of the tools of social narrative science,

the organizational narrative can create a link between the collective and individual narratives and facilitate the internalization of the expected and preferred values and behaviours. As we confirmed earlier, a meaningful job and strong company mission catalyse the perception of empowerment in a virtual team. The internalized corporate mission improves employee retention, motivation, employee satisfaction, and emotional connection. Emotional connection confirms collective identity, based on common items such as collective history. Meaningfulness is a moderator of sense of community (see 5.2), which influences psychological empowerment and is interrelated with the cognitive dimension of social capital. Via the controlled mission and vision statement the management can influence the uncontrolled communication of team members, and organizational culture and behaviour.

Four years ago, when I started my studies, the cross-cultural virtual team was an emerging but relatively rare phenomenon. In the past two years, every organization, institution, and all individuals have experienced - if only for a few weeks - this operating model. This experience rewrote our opinion about virtual teams. Both employers and employees see its positive effects, such as flexibility and greater satisfaction, however, we also see its dangers, such as isolation and slower decision-making, and these days it has made the investigation of virtual teams one of the most interesting topics of international business management. As explained above, we aimed to prepare the conceptual model of cross-cultural virtual teams and how to minimize the effects of changes in social capital. Based on systematic literature review, quantitative and qualitative analyses, it can be concluded that transculturalism, empowerment, and collective identity together answer this problem territory.

Based on these conclusions, further studies can redirect the investigation of virtual team research. As we created a new model of team classification, further systematic literature review can restructure the current publications to divide virtual team literature to subcategories. Transculturalism is an exciting topic for further research to compare its impact on organizational culture with multi- or cross-culturalism. Transculturalism is not an absence of culture, the implementation of this domain into organizational research could complement the current cultural models.

Statistical analysis confirmed that a hybrid team does not show any advantage in psychology empowerment compared to a fully virtual team. Comparing the empowerment in a virtual team and in a face-to-face team is a great area for further research. Based on the literature review we observed comparable results, but a systematic empirical analysis could confirm this result. Indeed, as the virtual team is associated with significant cost saving, 'working

from anywhere' is a strategic dilemma for many enterprises, and attractive to employees. This paper answered the dilemma between hybrid and fully virtual teams, but we could not answer the questions of whether or not to replace face-to-face teams.

The topic of collective identity and its formulation via social narrative seems to offer a blank page for academics. Narrative analysis is an integral part of social sciences and psychology, the organizational behaviour has not yet discovered this area. It does not investigate yet how the corporate narrative is internalized by employees, and the correlation of the effective narrative and the internalized narrative has not been analysed.

### **7.3. Limitation**

This dissertation may have three possible limitations. The first concern is that very few quantitative studies observed the impact of social capital changes in virtual teams. The definition of a virtual team itself is not clear which may cause some bias in literature review. The second concern is a methodological limitation. Although all applied questionnaires were validated, but primarily in face-to-face teams, as currently there are no dedicated and validated questionnaires for virtual teams. We estimated that the investigated phenomenon is built on similar arguments as in face-to-face teams, while we emphasize that current academic research faces limitations with this methodological approach. During the literature review we looked for virtual team specific questionnaires, but these questionnaires were dedicated exclusively for tribes in social media or gamers. As a virtual workplace is a new norm for organizations and international management the validation of the current questionnaires in virtual reality is a research territory for the future. Cultural bias and different perspectives of different cultures can potentially affect the result of the dissertation.

### **7.4. Directions for future research**

The research was done among the knowledge workers of a cross-functional virtual team (strategy and science). We recommend repeating this research among other functional teams as well in order to receive a comprehensive picture of the applicability of the result and to reduce the cultural limitation resulting from the organizational culture. During data gathering we used an English questionnaire as it uses a common language. However, this may contribute to some errors as part of cultural bias too.

This research contributed to the better understanding of cross-functional virtual teams demonstrating the fundamental impact of social capital changes. Built on the combination

of existing evidence and the result of quantitative and qualitative research, the new conceptual model was validated which may fill a significant knowledge gap and open a new research territory for academics. This dissertation has a significant implication for practitioners as well, and by the evidence-based understanding of their reality, we provided applicable solutions leaning on improving collaboration and knowledge sharing in cross-cultural virtual teams.

## 8. Appendix

Appendix 1: MNE grouped the control point: only one point control human assets.

	Manage Human Assets	Control the Enterprise	Source to Pay	Manage Logistics	Plan & Execute Production	Order to Cash	Manage Business & Financial Performance	Master Data	Grand Total
<b>Administer</b>									
Payroll accounts	1								1
<b>Administer Total</b>	<b>1</b>								<b>1</b>
<b>Ensure IC &amp; compliance w/ regulations</b>									
Internal Control Perf		1							1
Process documentation		1							1
SOD		1							1
Confidentiality		1							1
Anti-fraud pgm		1							1
Internal Control mgmt		1							1
<b>Ensure IC &amp; compliance w/ regulations Total</b>		<b>6</b>							<b>6</b>
<b>Manage Business Risks</b>									
(blank)		1							1
Insurance guidelines		1							1
DANgo deficiency mapping		1							1
<b>Manage Business Risks Total</b>		<b>3</b>							<b>3</b>
<b>Manage Supplier Contracts</b>									
Hedging			1						1
<b>Manage Supplier Contracts Total</b>			<b>1</b>						<b>1</b>
<b>Process Requisitions &amp; PO</b>									
one-time vendor			1						1
<b>Process Requisitions &amp; PO Total</b>			<b>1</b>						<b>1</b>
<b>Process Receipts (information flow)</b>									
Outstanding PO G&S			1						1
<b>Process Receipts (information flow) Total</b>			<b>1</b>						<b>1</b>
<b>Process Supplier Invoices &amp; Payments</b>									
Invoices double booking			1						1
3-way-match G&S			1						1
Payment terms reconciliation			1						1
DPO monitoring			1						1
Blocked invoice for quality - Milk			1						1
Blocked invoice for quality - R&P			1						1
3-way-match -Milk			1						1
3-way-match - R&P and FG			1						1
Blocked invoices monitoring			1						1
Payment justification			1						1
<b>Process Supplier Invoices &amp; Payments Total</b>			<b>10</b>						<b>10</b>
<b>Manage Inventories</b>									
Obsolete/damaged inventories				1					1
<b>Manage Inventories Total</b>				<b>1</b>					<b>1</b>
<b>Manage Costing &amp; Performance</b>									
(blank)					1				1
<b>Manage Costing &amp; Performance Total</b>					<b>1</b>				<b>1</b>
<b>Manage Trade Terms</b>									
Accruals consistency						1			1
Off invoice rebate						1			1
<b>Manage Trade Terms Total</b>						<b>2</b>			<b>2</b>
<b>Invoice &amp; Manage Receivables</b>									
Receivables controlling						1			1
DSC monitoring						1			1
<b>Invoice &amp; Manage Receivables Total</b>						<b>2</b>			<b>2</b>
<b>Manage Customer Complaints</b>									
Cust claims accruals						1			1
<b>Manage Customer Complaints Total</b>						<b>1</b>			<b>1</b>
<b>Manage and report business and financial performance</b>									
(blank)							2		2
Management Accounting							1		1
Remote ops supervision							1		1
Ext auditors opinion							1		1
Bank reconciliation							1		1
Manual accruals justification							1		1
Timely invoice processing							1		1
Cut-off							1		1
Bad debts analysis							1		1
Lease commitments							1		1
Master Data access rights (G/L)							1		1
Off BS commitments							1		1
Litigation financial impact							1		1
Monthly close process							1		1
Fin. statements compliance							1		1
Direct posting							1		1
G/L reconciliation							1		1
Interco reconciliation							1		1
Tax compliance							1		1
B/S review							1		1
Access to Magnitude							1		1
<b>Manage and report business and financial performance Total</b>							<b>22</b>		<b>22</b>
<b>Manage Fixed Assets</b>									
eCAR mgmt							1		1
Impairment							1		1
Fixed assets inventory							1		1
Assets disposal/retirement							1		1
Assets classification							1		1
Assets depreciation							1		1
<b>Manage Fixed Assets Total</b>							<b>6</b>		<b>6</b>
<b>Manage treasury and cash</b>									
(blank)							1		1
Payments autorisation							1		1
Cash management							1		1
Banking relations							1		1
Alternative financing schemes							1		1
ePayment							1		1
Foreign currency transactions							1		1
Security of payments							1		1
Petty cash							1		1
Group Hedging Policy							1		1
Cash collection							1		1
Corporate Cards							1		1
<b>Manage treasury and cash Total</b>							<b>12</b>		<b>12</b>
<b>Manage Master Data</b>									
Master Data access rights (bank data)								1	1
<b>Manage Master Data Total</b>								<b>1</b>	<b>1</b>
<b>Grand Total</b>		<b>9</b>	<b>13</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>40</b>	<b>1</b>	<b>74</b>

Table 8.1. List of controls per functional groups. Source: own research result.

Appendix 2. Narrative architecture: functions and knowledge embodied in corporate narrative

	S 1	S 2	S 3	S 4	S 5	S 6
Values	x	x	x	x	x	x
Behaviors	x	x	x	x	x	x
Norms	x	x	x	x	x	x
Experiences		x			x	
History		x		x		x
Purpose, function	x	x	x	x	x	x
· Spark organizational change		x				
· Build trust			x			
· Get individuals to work together		x				x
· Transmit values						
· Tame the grapevine				x		
· Share knowledge	x	x		x		
· Create a future				x		

Table 8.2 Functions and type of knowledge embodied in the narratives

Source: own research result.



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