

Digital Communication and Information Asymmetry in a Virtual Team Context

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Abstract - The report examines e-communications and the specific requirements related to the selection of effective media platforms adapted to the digital context. They have a direct impact on social and interpersonal relationships in a virtual team environment and an indirect impact (through work and technological processes) on the effectiveness of the virtual team structure. The focus is placed on the main challenges in a virtual context, related to the integration of synchronous and asynchronous communications in a single information structure (platform), which is adapted to the "symbiosis" of cultural diversity in the team. The virtual team's ability to develop and maintain a network of reciprocal social and personal relationships, norms, and trust that facilitate coordination and cooperation is analysed. The role of e-leaders is fundamental in the process of overcoming information asymmetry in a virtual context, as they use web-based technologies and systems as a lever to achieve an adequate level of communication that creates or maintains the necessary social dimensions. Communications tailored to team goals cannot occur without a certain level of trust in virtual teams.

Keywords - e-communications, media platform, virtual team, e-leaders, social capital, cultural and social differentiation.

I. INTRODUCTION

The phenomenon of virtual teams represents a new management paradigm in theory, yet it has demonstrated high effectiveness in social practice as a sustainable and adaptable tool. Information and communication technologies are transforming the economy, businesses, and societal institutions. New opportunities for generating and disseminating information are altering lifestyles, work dynamics, and modes of thinking. Demands escalate at every level, starting from the individual, extending to the team, and reaching the global scale. In contemporary economies, both global and national, risk and uncertainty prevail. Scientific research undergoes processes of conceptual evolution, attitude shifts, and revisions of accepted truths, all leading to the qualitative advancement of accumulated knowledge.

The rapid pace of globalization, international competition, and the evolution of information and communication technologies compel business organizations to adopt new management tools and methodologies. These enable them to capitalize on the potential of resources, technologies, and human capital within virtual environments from a distance. Virtual teams represent an appropriate organizational model in a VUCA environment and under continuous pressure for change [1]. They create conditions for a unique balance between the

business, the technical and social systems. Members of virtual teams have the power to modify the technical aspects of their work and daily social behaviour, thereby minimizing costs and maximizing immediate results.

Virtual teams operate within complex work environments. Team members are empowered to utilize diverse skills, execute interconnected tasks, make critical decisions, and receive adequate feedback on achieved outcomes. This combination satisfies individuals who seek independence, responsibility, and meaningful tasks.

The social needs of participants become evident in the process of virtual interaction facilitated by information and communication technologies. These technologies enable team members to maintain connections with external groups and identify individual attitudes and needs within virtuality, whether stemming from the nature of the task at hand or otherwise. Based on this foundation, team members structure technical tasks, allocate roles and responsibilities, while regularly seeking information on work-related matters.

The approach to the functioning of virtual teams is evolving. It focuses on intangible aspects such as processes and outcomes, roles in the economic environment, and impact on individuals.

In the report, e-communications and the specific requirements associated with selecting effective media platforms adapted to the digital context are investigated. They directly impact social and interpersonal dynamics within a virtual team environment and indirectly influence the effectiveness of the virtual team structure [1]. The focus is on the primary challenges in a virtual context, particularly the integration of synchronous and asynchronous communications within a unified information structure (platform), tailored to accommodate the "symbiosis" of cultural diversity within the team. The report analyses the virtual team's ability to develop and maintain a network of reciprocal social and personal relationships, norms, and trust that facilitate coordination and cooperation. The role of e-leaders is fundamental in overcoming information asymmetry in a virtual context, leveraging web-based technologies and systems (Web 2.0/Web 3.0) to achieve an adequate level of communication that encourages or sustains necessary social dimensions. Communications aligned with team goals cannot materialize without a certain level of trust within virtual teams.

II.E-COMMUNICATION AND VIRTUAL TEAM MANAGEMENT

Communication is an essential and inseparable aspect of management processes that should not be underestimated. As a social process, communication is intricately linked to the functioning of any group, organization, or society and stands as the most crucial part of a social system or organization. Communication is not merely the transmission of messages; it involves the complete cycle of understanding, encoding, transmission through some medium (channel), decoding of information by the recipient, and reaction through feedback. Communication within and outside the team is connected to the work process, the environment, the team structure, and the characteristics of its members.

Communication directly impacts all aspects of the work process in a virtual team environment. Its role in synchronizing activities and initiating changes is undisputed. In this regard, it is important to analyse the standards for assessing the effectiveness of interpersonal communications. In a virtual team environment, a primary criterion is the regular and open exchange of information and ideas. In the practice of virtual teams, this finds specific expression in formally regulated one-hour weekly online discussions. Additionally, when necessary, team members communicate synchronously or asynchronously every day. Through multimedia platforms, they share any issues that arise and freely consult with one another. They do not blame each other when errors occur but seek solutions to minimize the consequences. Based on this foundation, members of virtual teams build mutual trust, which is key to effective interpersonal communication.

On the other hand, in the process of communication, they develop additional skills (technical and/or functional) by analysing "best practices" within the team's activities. This positively impacts its work and effectiveness. Regarding resources, the effect is analogous and is associated with creating optimal conditions for their adequate utilization.

Traditional theories argue that the team's environment, structure, and individual member characteristics influence their communication with each other. It is asserted that the process is bilateral, and the impact is mutual [2].

Relevant environmental factors related to communication include the organization's culture, resources, qualification programs, information system, and relationships with management. Organizational culture shapes the opinions and ideas of team members, thus affecting the communication process. It can either create an environment of trust where team members are encouraged to communicate freely, honestly, and openly, or it can hinder the process, leading individuals to question others' motives and not reveal their true intentions.

At the same time, communication within the team shapes cultural attitudes. Ambiguous and inaccurate communication leads to misunderstandings and distrust, which in turn affects the organizational cultural profile.

Available resources are another characteristic of the environment that influences team communication. Inadequate computer systems reduce available communication channels. The physical location of team members can also increase or decrease information exchange.

However, the most crucial environmental factor, which is often underestimated by management, is the availability of means for qualification and development of communication skills. It is a fact that members of virtual teams require much more intensive communication than when operating in work groups. The reason is that initially they lack sufficient personal experience and formal qualifications necessary for effective communication. This necessitates organizations to conduct courses for acquiring and developing specific communication skills.

Studies show that communications within and outside the team are directly dependent on the organization's integrated information system. It is the means through which virtual teams receive not only internal but also external information related to identifying new technologies, markets, and competitors.

A high level of communication also assumes an adequate degree of awareness among team members. Based on this, they plan and initiate changes in the production structure, allocate tasks, and seek new technological solutions. This positively impacts the efficiency of the work process, creating conditions for team members to realize their full potential of knowledge, skills, and abilities.

The virtual team is not an abstract concept. Its existence makes sense when the team achieves concrete goals. A crucial stage in its formation is the allocation of roles and responsibilities for task execution. This is practically impossible without adequate communication.

In particular, the relevant structural factors of the team include common norms, size, composition, and its leader. Team norms are those activities and procedures within the team that arise and develop without being consciously planned. They can relate to how often and regularly the team conducts briefings, which impacts overall communication. Moreover, norms can, on one hand, require all team members to communicate freely and openly express opinions and evaluations, and on the other hand, allow the leader to dominate discussions and debates.

Common norms may involve using effective communication techniques during team briefings or creating conditions for misunderstandings and the spread of false information. Team norms set the expectations of team members for the quality and speed of information dissemination.

On the other hand, through communication, common norms evolve. Intensive exchange of ideas leads to the adoption of new practices in the work process, reflecting on team norms and causing them to change.

Another factor that affects communication is the size of the team. Larger groups increase the risk of communication breakdowns and problems. This is because in teams where many people work, the communication process is quite complex, and the possibility of misinterpretation of information, ideas, and messages is high. As the number grows, so does the potential risk of misunderstanding.

Another structural characteristic of the team, important for communication in a virtual context, is related to the role of the team leader. Not only must they master the basic management functions perfectly, but they must also encourage the communication process within the team. In one study, Brightman identified the characteristics of the team leader that stimulate communication [3]. These

include careful listening, adequate summarization of ideas and attitudes, avoiding over-criticism, encouraging expression of opinions and evaluations, and openly resolving contradictions.

Open and continuous communication positively impacts the decision-making process. Free exchange of information encourages team members to impartially analyse all viewpoints, leading to the formulation of a set of alternative options and procedures. The immediate result is an increased likelihood of making the most adequate decision when planning activities.

III.E-COMMUNICATIONS IN A VIRTUAL ENVIRONMENT – CHOOSING COMMUNICATION PLATFORMS AND TOOLS

Virtual communication is identified as electronic communication (e-communication), realized through computer systems and platforms. It represents an advanced technological means of transferring information between a source and a recipient, creating opportunities for action or content transfer beyond organizational boundaries through various forms. E-communication is characterized as an interactive, complex, and constraining process of interaction with all stakeholders involved. The exchange of information and knowledge increases the volume of interactions within the system. This can lead to data leaks and complex negotiations. Therefore, the organizational communication infrastructure impacts communication processes. The aim is to ensure virtual exchange with the selection of adequate tools that maintain high quality not only in communication but also in social and interpersonal relationships. The leader of the virtual team must address these challenges and be accountable for immediate results.

The type of platform is fundamental for communication effectiveness and quality. Two decades ago, the choice of communication tools in building virtual teams was largely associated with technological constraints.

Today, communication platforms offer richness and social presence that encourage interactions among members of virtual teams and positively influence social relations within the team. New technologies provide opportunities to integrate innovative software applications for video and audio communications, web-based training systems, and other solutions into the platform, transforming virtuality into physical reality in the communication process. The quality of the chosen tools is primary, but communication effectiveness is also influenced by factors such as trust level, interpersonal relationships, cultural differences, leadership, and management. Virtual communication serves as a means for temporarily coordinating actions and task execution, involving the transmission of visual signals and often being asynchronous.

Asynchronous communications are used for information transfer, while synchronous ones are for sharing knowledge, ideas, and content. In fact, synchronicity implies interactive communication based on information and communication technologies. This creates conditions for real-time feedback and introduces rhythm into virtual teams. The choice of communication platform (synchronous or asynchronous) is determined by the cultural model. Synchronous interactions are preferred by individualistic cultures with low uncertainty avoidance

levels, which utilize open (direct) communication. Asynchronous communication is characteristic of collectivist cultures with high uncertainty avoidance levels, which tend towards implicit (indirect) communication. This reduces cultural and linguistic differences. Communication quality and information exchange efficiency depend not only on technologies and platform characteristics but also on the level of social relationships within the virtual team.

The socio-organizational context of virtual teams requires different forms of communication tools. One group has the property of reducing "social environment signals," while the other allows the transmission of "high levels of nonverbal signals"[4]. Technological development offers a "portfolio of information and communication technologies (ICT)" and various tools: for example, podcasts and team classrooms, which create a virtual workspace for information exchange, direct synchronous communication, and interpersonal relationships [5]. Interactive tools develop a sense of community and stimulate collaboration in a virtual team environment. Chatrooms are usually used for informal communication, while discussion groups and forums are professionally oriented, providing continuous access to data and information.

The conclusion drawn is that members of virtual teams utilize different types of tools to achieve specific informational goals and flexible communication practices adapted to activities in a virtual context.

Leaders must continuously adapt technologies to contextual parameters by identifying the team's needs regarding communication tools based on the team composition and type of tasks.

The main criteria for selecting adequate tools include the accessibility of the communication system, the possibilities for reducing social distance, and the technology's ability to facilitate the exchange of ideas and information.

IV.COMMUNICATION AND SOCIAL CAPITAL - KEY CHALLENGES IN A VIRTUAL CONTEXT

Electronic communication creates and develops virtual relationships within the team, with interactions taking various forms based on two main factors: time and space [6]. The process is complex and directly dependent on social capital. In practice, this is the team structure's ability to develop and maintain a network of reciprocal social and personal relationships, norms, and trust that facilitate coordination and collaboration. Sharing values and norms alone does not produce social capital; a culture of trust and tolerance is also necessary. The ability to identify individuals' expectations within the group through online communication is a key factor for team effectiveness.

In a virtual environment, communication platforms should not only facilitate task execution and completion in the workflow but also stimulate interpersonal and social relationships, which are fundamental for knowledge transfer, creating a climate of collaboration, and reducing social distance. Identifying specific management levers for virtual communications is a fundamental challenge for contemporary management.

Corporate communications and interactions at global and local levels are instruments for transmitting management skills, values, and experience. In this way, culture is considered a qualitative resource of the organization for intensifying economic and managerial effectiveness as an important prerequisite for achieving team goals.

The main challenges in a virtual context are related to integrating synchronous and asynchronous communications into a unified information structure (platform) adapted to the "symbiosis" of cultural diversity within the team. Electronic communications imply lower levels of social presence, creating conditions for misunderstandings and ambiguity. Furthermore, reduced nonverbal and non-visual communication signals associated with technology use explain why virtual teams require more time for decision-making and providing feedback. This reveals two additional challenges for communication in a virtual context: the ability of objective facts to influence decision-making processes and the possibility of receiving real-time feedback. Providing and ensuring the quality of feedback is a key factor in resolving emotional conflicts in virtual teams. Overcoming information asymmetry in electronic communications is a tool for team excellence. This requires a balance between task-oriented communications and socio-emotional interactions. Group size further impacts the efficiency of the communication process. In team practice, this problem is addressed by subdividing into subgroups, aiming to create adequate conditions for intensive internal interactions and communications. However, the fact that the virtual team is divided into subgroups does not always guarantee the sustainability of the results. This necessitates the initiation of training and development programs for

interpersonal communication skills alongside the use of specialized software systems, especially in a multicultural environment. The immediate effects are new, higher levels of individual satisfaction and cohesion within the team.

Effective team management should focus not only on developing technical and functional skills but also on social interpersonal relationships, where communications are a key tool. To maintain effective team results, leadership must apply both technical know-how and a communication structure built on organizational norms and standards. The conclusion drawn is that the relationship between the leader's role, the strategy for socio-emotional communication, and the selected technologies are key components for minimizing information asymmetry in a digital context, stimulating collaboration, and enhancing the effectiveness of virtual teams.

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