

BUILDING VIRTUAL ORGANIZATIONAL RELATIONSHIPS IN THE ERA OF SOCIETY 5.0

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Purpose: The article aims to present the role of technology in the process of building interpersonal relationships, taking into account a comparison of the characteristics of virtual and face-to-face relationships. To achieve the paper's aim, the following research questions were posed: Which devices are used in relationship building? Which relationship characteristics are characteristic of virtual relationship building?

Methodology: The method used for the study was a survey, the technique of which was an online survey, and the research tool was a questionnaire, created in Google - forms. The objective was realized through a survey, carried out within the field of virtual relationship building.

Findings: The results of the research indicate that laptops, phones and smartphones are key tools used in the process of building organizational relationships, which may indicate their high functionality and versatility in the context of remote working and communication. Among the characteristics that characterize remote working, respondents included the opposites (those perceived as positive) of stationary work and pointed to limited sensory experiences and emotions, lack of a sense of proximity, and reduced mutual understanding and trust. The survey also notes that, of some factors, those favouring remote working included access to IT infrastructure, clarity of objectives, effective motivation to limit indicated long contact building time, bureaucracy or costs for the employee. On the other hand, bureaucracy and selected economic factors were seen as neutral.

Research limitations/implications: The survey was targeted at a small number of students in the Faculty of Management. In addition, the research should be broadened to include an expert interview and target the survey at entrepreneurs and their employees. It is also worth investigating whether the presence of stimulating and inhibiting factors have the same impact on building face-to-face and virtual relationships.

Research implications: The study can contribute to a better understanding of the dynamics of contemporary interpersonal relationships, both in virtual and face-to-face contexts.

Practical implications: The article points out what role modern technologies play in "Society 5.0" and how their appropriate use contributes to building interpersonal relationships.

Originality/value: Provides information on building virtual organizational relationships.

Keywords: relationship building, virtual relationships, relational factors, relationship characteristics.

Category of the paper: Research paper.

1. Introduction

Relationship building in enterprises is a key element of their functioning. Relationships can be analyzed in various contexts (Drewniak et al., 2020) direct (interpersonal, organizational - about 2,500,000 results in the search engine "Google Scholar") and virtual (about 1,140,000 results in the search engine "Google Scholar"). The very fact of the number of results of indications can testify to their role and importance for the functioning of organizations, which is confirmed by the interest of researchers (Huynh, Hua, 2020; Mlokosiewicz, 2015; Santoro et al., 2020; Szydełko, 2014).

The notion of society 5.0 has been evolving since 2015 as part of Japan's strategic development plan, intending to integrate digital and physical areas so that technology serves humans in achieving well-being (Ferreira, Serpa, 2018). The document points to the rapid changes taking place not only in Japan but also globally, highlighting the key role of science, technology and innovation in the pursuit of sustainable development. The plan is a signpost to the prosperity of Japan and the world. Chapter 2 of the plan introduces the concept of "Society 5.0" or "super-intelligent society", in which advanced information and communication technologies are used to create a high quality of life for citizens through innovative services and solutions (Council for Science, Technology and Innovation, 2016). In such an arrangement, organizations are to be formed with digitization as their overarching task.

2. Community Development in the Context of Relationship Building – a review of the literature

In organizations, business and information systems are to become one using digital solutions as the basis for creating a story of value creation in building relationships with society as a whole (Pearce, Gaffney, 2020). The stages of development of society and its characteristics are shown in Table 1. Each earlier model of society has had its impact on the development of the next one and thus contributed to the formation of "Society 5.0", based on digitization in which advanced technologies are used, inevitably and dynamically transforming the virtualization of the workplace. The concept has gained international attention as a model for countries pursuing sustainable development and using technology to improve the quality of life.

Table 1.
Shaping Society 5.0

| Society Model | Characteristics |
|---|---|
| 1.0 A society based on hunting | The main goal of the society is to survive in a nomadic lifestyle. Use of primitive skills (hunting, gathering, stone and/or bone tools). Non-productive society |
| 2.0 Land-based society | The main goal of the society is to develop agriculture in a settler lifestyle. To take advantage of land opportunities and barter (gemstones) to be self-sufficient |
| 3.0 Industrial-based society | The main goal of the society was mass production through the development of factories and production machinery. Economics (profit, income, wage) was used, which emphasized material goods-a context was created: labour-capital-land |
| 4.0 Information-based society | The main goal of society is to use technology in the context of creating innovative organizational solutions. Development of the Internet of Things. Used information as a key aspect of development |
| 5.0 A Society Based on Artificial Intelligence | The main goal of human development is to use artificial intelligence and integrate cyberspace with the physical dimension. Focus on human well-being and the use of artificial intelligence (AI) |

Source: own compilation based on (Narvaez Rojas et al., 2021; UNESCO, 2021).

The vision of society 5.0 is being developed and adapted to new technological and social problems/challenges. In the face of global issues such as the COVID-19 pandemic, climate change and social inequality, the idea seems increasingly relevant to the future direction of societies around the world, but it requires the cooperation of governments, industry, academia and societies. The final shape and results will largely depend on how the idea is implemented and adapted in practice.

In the context of building virtual business relationships, access to digital technologies can facilitate communication, because it allows contacts independent of place and time. However, there is also a danger in this area from the blurring of the boundaries of professional and personal life. Creating and maintaining relationships through digital technologies, began to gain importance with the development of the Internet and communication technologies. The development of the Internet began in the 1970s and 1980s when the first services were offered through chat rooms and email. By the end of the 1990s, the Internet was already in widespread use and the first instant messaging and social networking sites began to form virtual relationships. People began to build personal and professional relationships via the Internet, regardless of spatial distance (Leiner et al., 2009; Townsend, 2001). At the beginning of the 21st century, smartphones and mobile applications appeared, which significantly translated into the range of possibilities for building virtual relationships (Vijayalakshmi, Raikar, 2021). Greater interaction and staying connected online became possible through a wide range of apps, video or streaming platforms (e.g., WhatsApp, Messenger, Snapchat, YouTube, Zoom, Teams).

Building virtual relationships is undoubtedly a challenge for companies and their employees, as it requires not only knowledge of online communication tools, but also the development of new interpersonal skills, adaptation to the changing conditions of remote work, and maintaining engagement and motivation at a distance. However, regardless of the changes, each relationship, whether built in the real or virtual sphere, has its characteristics (shown in Table 2).

Table 2.
Factors for building relationships

| Factors | Features | |
|-------------------------|--|--|
| | Face-to-face relationships | Virtual relationships |
| Communication | Rich non-verbal communication (body language, eye contact, facial expressions). Understanding the context and adapting to the situation. Affective communication | Limited nonverbal communication. Written, video and audio communication. Distractors are present. This may require additional explanation because participants do not share the same space |
| Trust | Personal interaction and experience. Protected privacy. Trust is built with a specific, tangible person. Adherence to socially acceptable norms Requires consistent and reliable online behaviors | Conversations may be recorded. Exposed to misunderstandings due to lack of non-verbal context |
| Technology | Technology provides support for relationship building, meetings require coordination of space and time (and costs associated with getting to the meeting location) | Reliable platforms, with clear interfaces, the ability to connect with people regardless of location and time. High dependence on the reliability of infrastructure |
| Organizational culture | Clear rules and management structure influence expectations for behaviour and interaction. Willingness to take on challenges determined by identification e- community at work | Sense of "freedom", and flexibility in working hours. Lack of feeling of social ties with employees |
| Management of employees | Embedded in the culture of the organization - degree of centralization/decentralization. Contributes to organizational change by increasing motivation to engage in change among co-workers. Managers have continuous access to employees. Work outcomes visible | Proactive engagement and use of digital tools to monitor and support teams by managers. Work monitoring limited Adapt to cultural and structural influences. Work effects are visible through reports provided, etc. |
| Engagement | Based on personal interaction and physical presence. Focus on action in the here and now. | Require structured activities that promote relationship building - use of interactivity and media. One can be involved in multiple tasks simultaneously |
| Adaptability | Dependent on circumstances. Require constant monitoring of the environment. Changes are easier to notice and implement. | Require greater flexibility, due to the dynamic nature of technology and virtual work environments. More difficult to adapt to changes. |

Source: own compilation based on (Blanco-Fernández et al., 2022; Espíndola et al., 2021; Flieger, 2023; Gogan, 2008; Kimble, 2011; Lehmann, 2007; Słupska et al., 2020; Squicciarini et al., 2011; Wawrzynek, 2023).

The factors indicated in Table 2 are interrelated and can affect the strength and quality of both face-to-face and virtual organizational relationships. The changes taking place make it crucial to understand in which direction the nature and quality of organizational relationships are transforming. Given this, it becomes equally important to determine the interpersonal aspects of collaboration using various communication tools.

3. Research Methodology

The purpose of this study is to present the role of technology in the process of building interpersonal relationships, taking into account a comparison of the characteristics of virtual

and face-to-face relationships. To achieve the purpose of the thesis, two research questions were posed:

1. Which devices are used in relationship building?
2. Which relationship characteristics are characteristic of virtual relationship building and which are characteristic of stationary relationships?

The survey was a pilot study and was conducted on professionally active students of the Faculty of Management at Bydgoszcz University of Technology in June 2023. The main survey will target approximately 300 employees of small and medium-sized enterprises. Students of the Faculty of Management participated in this survey. The selection of students for the pilot study was convenient, due to the availability of students for classes and the fact that some of the classes are conducted remotely. The students were chosen because they reconcile both study and work. In addition, some students are pursuing classes remotely. The study covered three research areas - young employees' perceptions of aspects of remote work, ergonomics of remote work and building virtual relationships. The article presents the last element of the completed study. The study used a survey method, the technique of which was an online survey, while the research tool was a questionnaire, created in Google's tool - form. The survey questionnaire was created based on literature studies in both Polish and foreign languages. The questionnaire consisted of five sections - an introduction, which outlined the research objectives, an assurance of anonymity, and information related to completing the questionnaire. The next three sections were related to the scope of the research areas. The virtual relationship-building section contained 4 closed-ended questions on virtual relationship-building tools, characteristics that constitute virtual and stationary relationships, and factors affecting the ability to build virtual relationships. In addition, respondents were asked an open-ended question to identify barriers to building virtual relationships. The last part of the questionnaire consisted of demographic and social questions, based on which respondents were characterized (Table 3).

Table 3.

Distribution structure of respondents by selected demographic and social characteristics

| Gender (number) | | Age (years) | | | Place of employment (number) | | Type of contract (number) | | | |
|---------------------------|-------------|-------------------|------------------------|-------------|------------------------------|---------------|----------------------------------|-------------------|----------------------|--------------------|
| K | M | 18-29 | 30-39 | 40-49 | private sector | public sector | employment contract | civil law | contractual contract | |
| 26 | 27 | 44 | 7 | 2 | 50 | 3 | 34 | 16 | 3 | |
| Length of service (years) | | | Place of work (number) | | | | Level and mode of study (number) | | | |
| Up to 1 year | from 1 to 5 | More than 6 years | large city | medium city | small city | village | SS I ⁰ | SN I ⁰ | SS II ⁰ | SN II ⁰ |
| 16 | 28 | 9 | 33 | 6 | 13 | 1 | 18 | 11 | 3 | 21 |

Source: own elaboration based on the results of the survey.

4. Research Results and Discussion

Students who were working were asked to fill it out. Sixty-three students participated in the survey, while 53 correctly completed questionnaires were allocated for analysis. The results obtained are presented using the structure index (Bak et al., 2020; Zimny, 2010).

Respondents were asked which tools they use when building organizational relationships. The results obtained are shown in figure 1.

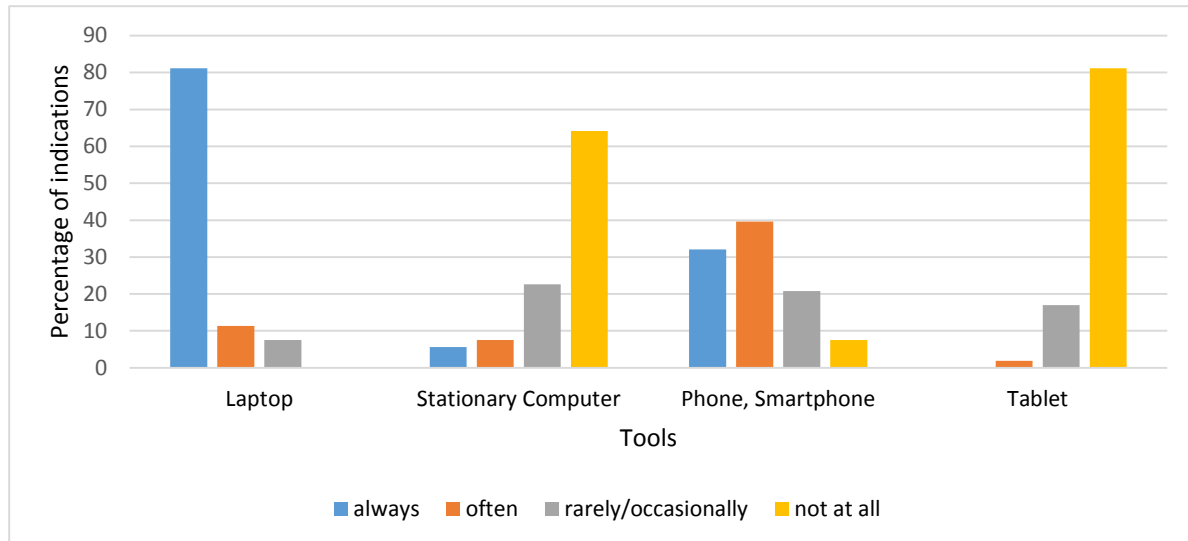


Figure 1. Tools used to build relationships [%].

Source: own compilation based on the survey results.

As can be seen in Figure 1, laptops are a key tool used in the process of building organizational relationships, which may indicate their high functionality and versatility in the context of remote work and communication. The majority of respondents (81% of indications) always use laptops, underscoring their dominant role as the preferred device for working and maintaining professional relationships.

Phones and smartphones are also widely used, albeit to a slightly lesser extent (92% of respondents), suggesting that they are an important but complementary tool for remote work, probably due to their mobility and ease of access to communication functions. On the other hand, tablets and desktops are noticeably less popular among respondents as tools for building organizational relationships. As many as 81% of respondents do not use tablets at all, which may indicate their limited functionality or less convenient user interfaces in terms of the required communication and teamwork. Similarly, 64% of respondents do not use desktops, which may reflect a growing preference for mobile and flexible forms of work that laptops and mobile devices offer.

Respondents were also asked to indicate which qualities are characteristic of building relationships in remote work and which are characteristic of relationships in desktop work. Respondents were presented with 15 pairs of factor - characteristics that were their opposites. The results obtained are shown in figure 2.

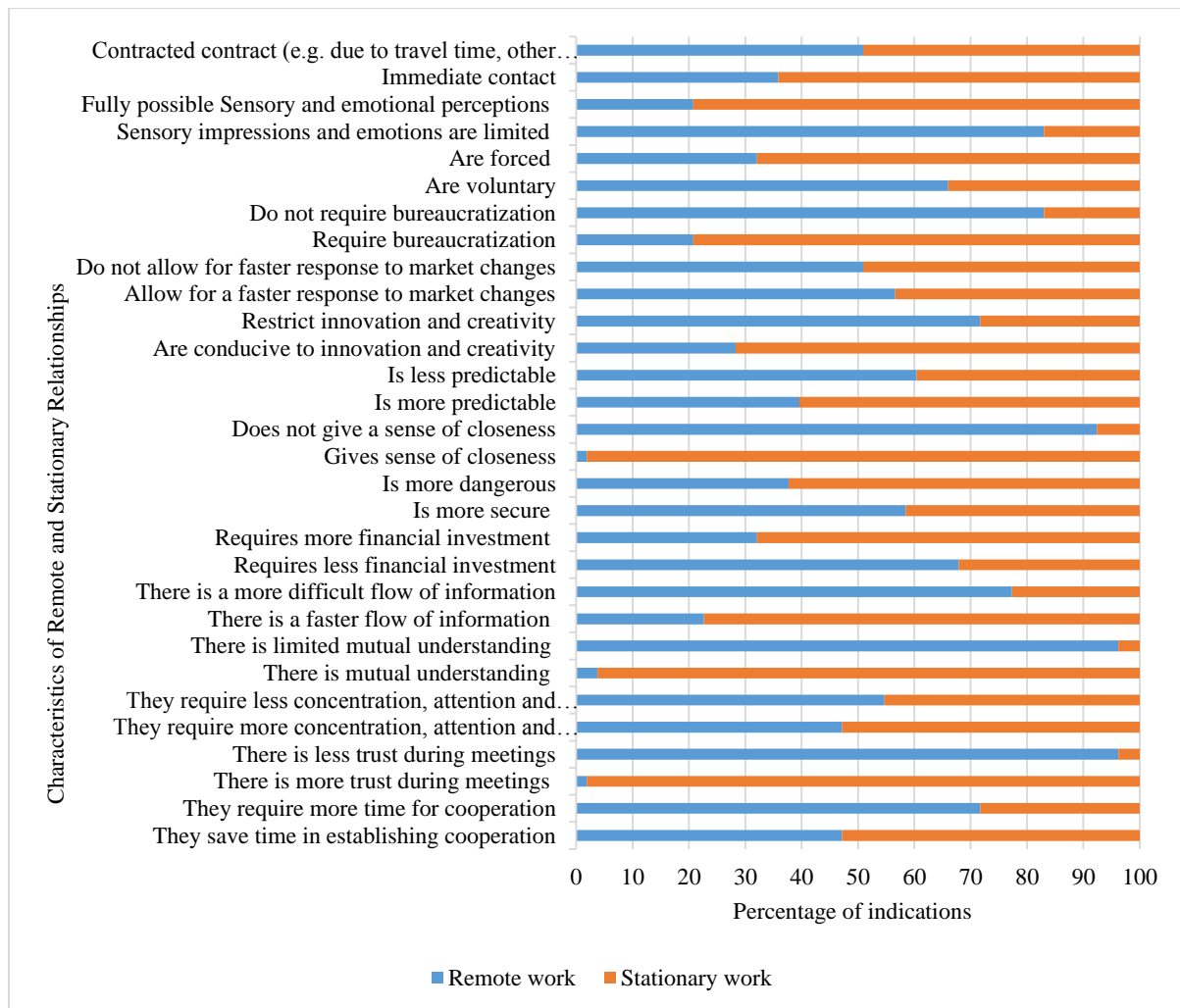


Figure 2. Characteristics of relationship building in remote work and stationary work [%]

Source: own compilation based on the results of the survey.

Based on the data presented in Figure 2, it can be noted that:

- Remote work may be perceived as less effective in building trust and understanding: The results show that almost all respondents (96% of indications) believe that remote work is characterized by less trust in meetings and limited mutual understanding. This may indicate communication and interpersonal challenges resulting from the lack of face-to-face contact.
- There is a noticeable lack of a sense of closeness in remote work (92% of indications), which may affect the quality of interpersonal relationships and sense of community among remote workers.
- Responses indicate a significant reduction in sensory and emotional experiences (83% of indications) in remote work, which may be the reason for difficulties in fully understanding and empathizing with colleagues.
- Remote work appears to reduce bureaucratic requirements (83% of indications), which may suggest greater flexibility and less formal procedures.

- Working remotely seems to hinder information flow (77% of indications) and require more time to collaborate (72% of indications), which may be related to the need to manage communication in distributed teams.
- Remote work limits innovation and creativity (71% of indications), which may reflect the lack of spontaneous exchange of ideas that often occurs in a desktop environment.
- Stationary work seems to be much better at fostering trust, a sense of closeness and mutual understanding, as evidenced by very high percentages of indications (98% and 96% of indications).
- Stationary work allows full sensory and emotional perception (79% of indications), which can contribute to stronger and more integrated interpersonal relationships.

Both remote and stationary work have their advantages and disadvantages in terms of responsiveness to market changes and demands for concentration, attention and commitment, indicating the complexity and non-linearity of the impact of work form on these aspects.

Respondents were also asked to indicate (up to 3) barriers to building relationships in remote work. 3 people entered no barriers, indicating that there were none, while 50 people showed a range of barriers, which could allow for a list of 26 unique barriers. Analyzing the respondents' answers, there are several recurring barriers to building relationships in remote work, as shown in Table 4.

Table 4.
Barriers to building relationships in remote work

| Barrier category | Number of indications | Interpretation |
|--|-----------------------|---|
| Communication | 49 | Lack of face-to-face contact is the most frequently mentioned barrier. Respondents emphasize that the inability to meet face-to-face, lack of eye contact and lack of physical presence hinder relationship building and communication. Difficulties in communication, including understanding the content conveyed, formal style of speech, difficulty in describing problems, language barrier and problems with non-verbal communication are frequently mentioned. |
| Work organization | 28 | Varying work hours, difficulty fitting into the schedules of others, passive participation in meetings, and the need to separate work and private life are cited as impediments |
| Isolation and lack of social interaction | 23 | Respondents note that the lack of informal interactions, a sense of belonging, spontaneity and the opportunity to talk freely negatively affects interpersonal relationships. |
| Technological | 19 | Many responses point to internet problems, poor connections, internet outages, technical infrastructure problems and hardware limitations as barriers to remote work. |
| Other | 6 | Barriers such as anonymity, information overload, company policies, conservative attitudes of superiors, or limitations on making new contacts are also mentioned. |

Source: own compilation based on survey results.

Communication difficulties are particularly evident in remote work, where the majority of interactions take place via written messages or video calls. The lack of face-to-face contact can lead to misunderstandings, and difficulties in expressing, interpreting emotions and understanding the content being conveyed. Remote work eliminates the possibility of being physically present, which has a major impact on interpersonal relationships. Direct contact is often considered essential for building trust, understanding non-verbal signals and creating strong team bonds. Lack of opportunities for spontaneous conversations or observable reactions can lead to feelings of isolation and hinder effective collaboration. Issues such as unstable internet connections, equipment failures or unfamiliarity with communication tools can significantly impede smooth workflow and communication. These are barriers that can lead to frustration and delays in completing tasks. Remote work can lead to a sense of isolation, as employees are cut off from daily interactions with co-workers. The lack of informal conversations and spontaneous meetings can affect the sense (or rather, lack thereof) of belonging to the team and organization. Different time zones, work schedules and individual approaches to tasks can make coordination and collaboration difficult. In addition, working remotely requires employees to be more self-disciplined and able to manage themselves on time, which many find extremely challenging. Barriers identified as others can affect how remote work is perceived and managed within an organization, as well as how employees can engage with their tasks.

Respondents were also asked to rate relationship-building factors in remote work. Of the 21 factors, respondents selected those that favour, or hinder virtual relationship building as well as those that are considered neutral. The results obtained are shown in figure 3.

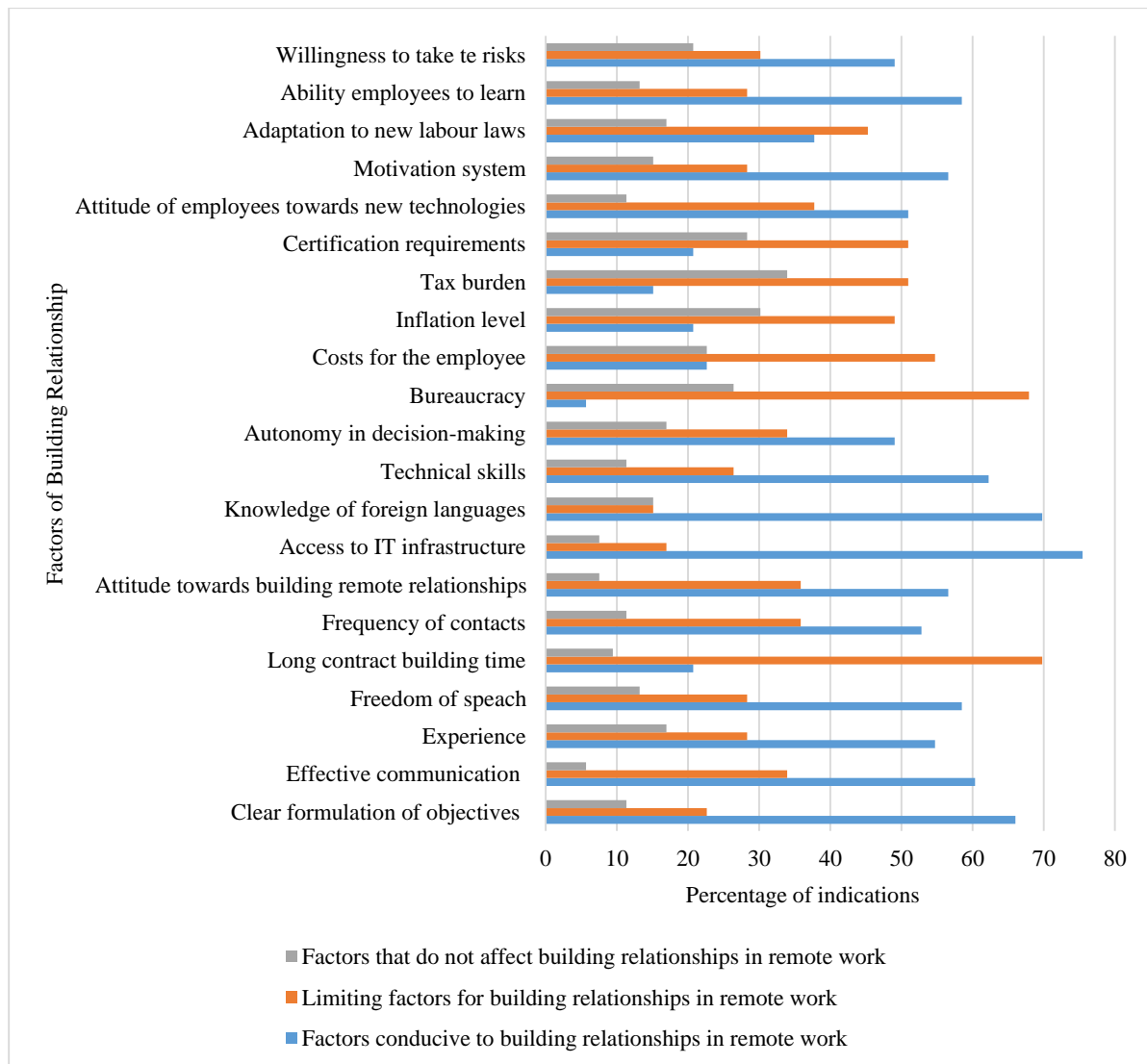


Figure 3. Factors and their impact on relationship building [%].

Source: own compilation based on the survey results.

The results presented in Figure 3 show how survey participants perceive various aspects of remote work and their impact on relationship building. Among those conducive to building relationships in remote work, respondents indicated:

- Access to IT infrastructure (40 indications- 75%) and language skills (37 indications – 69%) are the most frequently cited by respondents in this regard. Access to high-speed Internet, appropriate hardware and software is essential for making video calls, sharing files and managing projects online. Respondents' indications may suggest that employees value the ability to communicate easily and effectively, as well as access to technological tools that support it. Foreign language skills are important in international work environments, where communication with stakeholders from different countries takes place daily. In a global remote work environment, the ability to communicate in different languages is invaluable. It helps break down cultural barriers and gain a better understanding between employees from different parts of the world.

- Clear goal formulation, effective communication, experience, free speech, attitude toward building remote relationships, technical skills, motivation system, and employees' ability to learn are also considered important, with indications above 30 responses (60%-66%). Clarity of goals and expectations are key to ensuring that all team members are focused on the same results. This helps avoid misunderstandings and ensures that everyone knows what is expected of them. Open and regular communication is essential to build trust and foster cooperation. Effective communication helps solve problems, share ideas and keep the team together. Experienced employees can support the process of overcoming the challenges of working remotely. Experienced employees can better handle unexpected problems and can act as mentors for less experienced colleagues. An organizational culture that encourages freedom of speech allows employees to express their opinions and ideas, which can lead to innovation and greater engagement. Positive attitudes toward remote work and a willingness to build relationships remotely are important for team building. Employees who are proficient with modern information technologies (platforms, apps) can spur collaboration, share knowledge and build lasting organizational relationships. Technical skills are essential for effective use of available tools and technologies. Incentive systems that value and reward employees for their contributions can significantly affect their commitment and willingness to build relationships. In the rapidly changing world of remote work, the ability to continuously learn and adapt is critical. Employees who are willing to learn new skills and adapt to changing conditions can better collaborate and develop relationships. Indications may suggest that employees value clarity of expectations, openness to communication, opportunities for growth and participation in an organizational culture that supports motivation and continuous learning.
- Autonomy in decision-making and risk-taking are considered less important and still influential, with scores above 25 indications (49%), which could mean that employees value a degree of independence in remote work. Employees who feel empowered to make decisions and take risks may be more creative and willing to explore new ways of working together.
- Bureaucracy (3 indications, 5%) was considered the least important enabler.

On the other hand, factors limiting relationship building in remote work are:

- Long contact-building time (37 indications - 69%) is often considered a limiting factor, which may reflect the difficulty of building lasting relationships devoid of face-to-face contact. Remote work often eliminates the opportunity for spontaneous interactions, which in a traditional work environment helps build relationships quickly. Lack of face-to-face contact can lead to slower development of trust and understanding between co-workers, which is essential for effective collaboration.

- Bureaucracy (36 indications 67%), costs for the employee (29 indications 54%), inflation levels (26 indications 49%), tax burdens (27 indications 50%), and certification requirements (27 indications 50%) are also considered by survey participants as significant obstacles, suggesting that the administrative and financial aspects of remote working may negatively affect employee relationships. Bureaucracy can be seen as a constraint due to the complexity of processes and procedures, which are more difficult to manage remotely. This can include difficulties in accessing information, approving documents or communicating between departments, which can hinder the fluidity of work and relationship building. Employees may incur additional costs associated with working remotely, such as home office equipment, and higher energy or internet bills. These additional financial burdens can affect their job satisfaction and relationship with their employer. Economic factors can affect employees' ability to maintain an adequate standard of living, which in turn can affect their overall mood and ability to build positive working relationships. Certification and training requirements may be more difficult to meet in a remote working environment, which can lead to frustration and isolation among employees who may feel less competent or less valuable to the organization.
- Effective communication and autonomy in decision-making (18 indications each 33%) were considered less important barriers, but still important barriers, and their presence in this category may indicate that they can be challenging in certain circumstances. Effective communication, although considered an enabler, can be a barrier in situations such as technological problems, time differences between teams or when team members are not used to remote communication. Autonomy, on the other hand, can be limited in remote working if there are no clear guidelines or if employees do not feel safe without direct support and validation from supervisors or colleagues. Language skills (8 indications 15%) and access to IT infrastructure (9 indications 16%) are rarely considered as barriers. Interestingly, they are often considered as enablers for the development of remote relationships. Although they are key, they can become constraints when employees lack adequate language skills or when the IT infrastructure is inadequate, making smooth communication and collaboration difficult. This can mean that the same factors that are usually considered helpful can be challenging in certain circumstances (for example, when the infrastructure is inadequate or when language barriers are too high).

Respondents cited factors that do not affect relationship building when working remotely:

- Bureaucracy (14 indications 26%), inflation levels (16 indications 30%), and tax burdens (18 indications 33%) were the most frequently indicated factors as having no impact, which may indicate that employees do not consider them to be important in their daily remote work or relationships. Although bureaucracy was also cited as a limiting

factor, for some respondents it had no impact on relationship building. This may suggest that some employees have accepted bureaucratic processes as an integral part of the job and do not see them as an obstacle to relationships or that they have sufficient tools to manage them. Economic factors, on the other hand, may not directly affect day-to-day interactions and relationship building when working remotely but may have a lasting impact on employees' job satisfaction and loyalty. Their neutral stance may indicate that employees understand that these are external factors over which they have limited influence. Certification requirements may be considered neutral because some employees may not experience their direct impact on their ability to build relationships, especially if they are well managed by the organization.

- Effective communication (3 indications 5%) was rated by respondents as having the least impact, which is surprising given its importance in the other categories. This may suggest that the majority of respondents considered communication to be very important, but few felt it did not have an impact on relationship building. Furthermore, for some employees, communication may already be so well integrated into remote working that they do not see it as an element that can be improved or developed.

5. Summary

Researchers in various aspects of the organization recognize the importance of communication in the process of building relationships. Y. Kim strategically places internal communication with employees in the aspect of the occurrence of a crisis in the organization (Kim, 2021). In turn, N. Yusuf, C. Mustafa and B. Mohamad note that transparent communication is the most essential element in changing the negative impact of perceptions of organizational culture to a positive impact on corporate reputation (Yusuf et al., 2018). R. Berkley and G. Watson place communication in the aspect of the superior-subordinate relationship (Berkley, Watson, 2009). Effective communication is an important element in building relationships in remote work. Although some respondents consider it a limiting factor, others find it conducive. The quality and effectiveness of communication tools have a direct impact on the quality of relationships between employees, so these tools must be intuitive and customizable, enabling effective information exchange.

Modern technologies (VR - virtual reality, AR - augmented reality, blockchain, AI - artificial intelligence, cloud computing) are opening up new possibilities for the use of the Metaverse (collective virtual space) in the context of integrating virtual relationships in not only professional but also personal life (Huo, Feng, 2021; Shannon, 2023; Wynn, Jones, 2023; Ziolkowska, 2017). Over the past 50 years, a range of tools and modes of interaction have emerged - from simple forms of text-based communication to multimedia interactions in the

virtual realm. Technical skills are important in the context of remote work. Employees need to be proficient with the available technologies, which allows them to effectively build relationships in a remote work environment.

Global workplace changes, tools and technologies that allow and at the same time facilitate remote work are taking on a new meaning. Computers, which have replaced typewriters with high-tech laptops and smartphones, have become not only everyday objects but also express modern professional flexibility. One gets the impression that digitization in the field of work has become a necessity (Digital Care, 2022a, 2022b). Technical problems, such as Internet problems and other failures, are reported by respondents as barriers to building relationships in remote work. Therefore, the reliability of communication tools plays a key role, and Internet or tool failures can lead to frustration and make it difficult to build trust and a sense of community.

The premise of "Society 5.0" is not only changes in the way people perform their professional duties but also changes in human interaction supported by technology. Online functioning devices are an integral part of human daily life, affecting productivity or well-being. Adaptation to new conditions and interactivity of devices are used to ensure the productivity and well-being of those performing tasks for companies in adapting to different work environments (Krzyścin, Socha Dariusz, 2022; Sekhkowska, 2019; Bukowska, 2022). Frequency of communication, implemented with the use of communication tools, is considered by respondents to be a factor conducive to building relationships while working remotely. These tools allow frequent and easy interactions, which can help maintain and strengthen relationships between employees. The approach to building relationships remotely and the use of communication tools are very important. If employees actively seek to build relationships remotely and make optimal use of communication tools, this can contribute significantly to creating lasting bonds.

As shown in many reports (Confederation of Leviathan, 2023; Nachyna, 2022; Özgüzel et al., 2023; Piecuch, Kibil, 2020; Saad, Jones, 2021) until the introduction of lockdown, remote work was implemented optionally (in IT or international teams) because it was also difficult for employees and managers to adopt. The pandemic period became a turning point for the development of digital tools and technologies, and thus the beginning of the development of a new society that combines the ideas of Society 5.0 with the innovations of Industry 4.0. This makes it possible to function in a reality in which advanced information technologies and industrial automation make it possible to shape a reality that contributes to the quality of life, economic development and sustainability on a global scale (Bradú et al., 2022; Jahanger, Usman, 2023). Remote work appears to pose unique challenges for employees and organizations in terms of relationship building and communication management, while stationary work, despite the burden of higher bureaucracy, can foster interpersonal understanding and collaboration. These findings can serve as a basis for developing strategies to improve communication and relationship building in remote work environments.

The results of the survey highlight the importance of technology, communication and transparency in the process of building relationships in remote working and indicate that administrative and financial aspects can be challenging. At the same time, it is understood that some factors may have a different impact depending on the individual experience and context of remote working. Factors that foster relationship building when working remotely include clarity of communication, availability of appropriate tools, an organizational culture that encourages openness and engagement, and employee skills and attitudes that encourage adaptation and collaboration. For these factors to work, the organization must create an environment that supports and develops them. Factors limiting relationship building when working remotely often relate to both organizational aspects and individual employee challenges. All these obstacles can affect the ability to work effectively in a team, the sense of belonging to the organization and overall job satisfaction.

To overcome these limitations, organizations should invest in better technological infrastructure, training programs to improve employees' technical and language skills, support and mentoring systems, and in developing an organizational culture that promotes openness, trust and collaboration despite the lack of immediacy of face-to-face contact. In addition, it may be important to create transparent procedures and minimize bureaucracy to give employees more autonomy and faster decision-making. Improving communication and creating a sense of community among remote workers can also help to overcome isolation and build lasting, healthy working relationships. Neutral factors may indicate areas that are currently satisfactory or not considered necessary for building relationships when working remotely. However, it is important to note that their neutrality does not mean that they are unimportant; they may simply have less direct impact than other, more important factors. Organizations should continue to monitor these areas to ensure that they are not overlooked or begin to harm employees in the future.

Communication tools in remote working are essential for building organizational relationships. Their effectiveness, reliability and the way employees use them have a direct impact on how these relationships are formed and maintained. To be effective, these tools need to be supported by the right infrastructure, technical skills training and an organizational culture that promotes and supports remote communication.

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