

Sharing Knowledge in Multi-Generational Teams in Remote Working Conditions During the Covid-19 Pandemic

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Abstract: The economic crisis caused by the coronavirus pandemic has contributed to changing the philosophy of managing a multi-generational team. The COVID-19 pandemic is accompanied by a general atmosphere of uncertainty, which creates a sense of chaos and disorganization. Its effects are felt by numerous organizations from many industries. Entrepreneurs have the opportunity to maintain business continuity by implementing remote work. Companies are increasingly opening up to remote work, seeing many new opportunities in it that they want to actively use. Hence, there is an urgent need for companies to develop effective actions that will motivate a multi-generational team to share knowledge, strengthen its skills and competences in this area, and build commitment to ongoing work for optimal performance of permanent duties. Although it requires more effort, especially from the managerial staff, remote implementation of the duties entrusted to multi-generational teams may prove effective in achieving business goals thanks to the knowledge and experience of specialists. Team management in the covid reality has taught Polish managers that in order to stimulate people to be active in sharing knowledge, it will be crucial to show care for the needs of employees and integrate them with the goals of the organization. This approach underlies how companies manage multi-generational teams efficiently in the Covid reality and will pay off in the future. The considerations in the article were based on literature studies and the analysis of the results of surveys conducted from March to November 2022 on a group of 258 people representing all generations. The first part of the study is of a theoretical nature and discusses the factors determining the efficient sharing of knowledge in multi-generational teams in conditions of remote work forced by the epidemiological situation. The second part of the study concerns pilot studies conducted in Polish companies in order to obtain and analyze the opinions of employees regarding the conditions for sharing knowledge in the situation of remote work, which came suddenly. This article is an attempt to answer the question of whether belonging to a specific generational group has a positive effect on the transfer of knowledge during a pandemic. Obtaining a cross-sectional nature of the considerations is a contribution to further and extended research in the field of the issues raised.

Keywords: Knowledge, Knowledge sharing, Multi-generational team, Remote work, Covid-19 pandemic

1. Introduction

The COVID-19 pandemic has affected many areas of human activity, making it necessary to adapt to new environmental conditions. One of the areas where changes took place was professional work. Work could be performed remotely. Moving her from the office to her home resulted in a reduction of relations with the members of the employee team. For the effectiveness of work in remote teams, it is crucial to provide them with space to share knowledge and experience.

The analyzes presented in this study were conducted on the basis of the available literature on the subject and our own quantitative research. The chi2 statistic was used to conduct the study. The results of the conducted analyzes are presented in the further part of the article. The research tool used was a questionnaire. The questionnaire was distributed via e-mail using the CAWI technique. The analysis of the survey results was carried out from March to November 2022 on a group of 258 people representing all generations. When deciding on the selection of the research sample, the method of purposive selection was used for the sake of the participation in the study of people belonging to different generational groups, performing their professional duties remotely during the pandemic.

2. Literature Review

2.1 The Essence of Knowledge Sharing

L.C. Witherspoon, J. Bergner, C. Cockrell, D.N. Stone (2013) represent the approach according to which, in the modern knowledge-based economy, sharing it is the most important process of knowledge management. As noted by the U.W. Borgoff and R. Pareschi (1997) "knowledge that does not flow, does not grow and eventually grows old, thus becomes obsolete and useless, unlike knowledge that flows, and because it is acquired and exchanged, it generates new knowledge". According to A. Rudawska (2013), knowledge sharing is a typical situation of cooperation in which the benefit associated with achieving the desired results is obtained depending on the actions taken by the sender of knowledge and its recipients. These activities have been included in the definition proposed by E.D. Darra and T.R. Kurtzberg (2000), according to which, during the sharing of knowledge, a learning process takes place in the recipient as a result of using the experience of

the knowledge provider. According to the suggestion of the aforementioned authors, knowledge is shared through the interaction of one individual with another, which consists in learning aimed at acquiring knowledge by the recipient of this knowledge. B. Rychta (2022) emphasizes after T.H. Davenport and L. Prusak (2000) that knowledge sharing consists in the transfer of knowledge and its dissemination on at least a two-way level, where trust becomes the basis of the relationship between people participating in this process. During this process, which is voluntary and often spontaneous, individual knowledge, previously hidden in the mind of a given person, is revealed (Pietruszka-Ortyl, 2011), and consequently results in a change in the level of knowledge and behavior of the provider and recipient of knowledge (Rychta, 2022). I. Michalik (2019) notes after M. Morawski (2017) that in the process of knowledge sharing, which is based on interpersonal relations between employees, it is transferred based on the experience gained, skills tested in practice, personal views, and professed values.

2.2 Multi-Generational Teams and Knowledge Sharing Within an Organization - A Theoretical Perspective

Multi-generational teams are part of functioning organizations. Representatives of four generations work together in them (Mazur-Wierzbicka, 2015):

- baby boomers (born in the years 1945 - 1964) started their professional life at the turn of the 1970s and 1980s,
- generation X (born in the years 1965-1980) grew up during the economic collapse in the 1970s, and their entry into professional life took place after 1989,
- generation Y (born in the years 1981-1994, the so-called millennials) brought up in times when the Internet came into common use,
- generation Z (born after 1995, post-millennials), whose constant presence in virtual reality has led to the inability to distinguish it from the real world.

Due to the fact that the formation of their system of values, attitudes and behaviors took place in different economic and political conditions, each of these generations requires understanding the different reasons for their actions (Skowronek, 2022). Regardless of their age diversity, common goals resulting from the essence of the work of multi-generational teams should be referred to, which, having diverse knowledge and experience, should be aware of the opportunity to strengthen the organization's position on the market (Smolbik-Jęzmięć, 2017). The key to successful cooperation within an age-diverse team is to create conditions and an atmosphere of partnership conducive to the exchange of knowledge and experience (Jarzębowski, 2022). In order for an organization to improve the exchange of knowledge, it is necessary to tighten intergenerational cooperation, which requires the following conditions to be met:

- “non-judgmental, openness to otherness, acceptance of the diversity of attitudes, experiences and appearance, curiosity of other people, willingness to get to know each other;
- openness to mutual listening and reciprocity learning;
- creating an atmosphere of "being together", not educating, teaching;
- breaking age stereotypes, vigilance against stereotypes and dominance;
- building a sense of commitment to each other and to the environment;
- taking care of integration, looking for common "spaces" (passions, experiences, etc.);
- full participation of every generation (Wiktorowicz, 2020)”.

In the first place, the employer should ensure that all the above conditions are met, contributing to ensuring the flow of knowledge and experience between employees of different ages. Older employees pass on the secrets of the profession, institutional memory, company traditions to the younger ones, while the young ones pass on new theoretical knowledge and skills related to new technologies (Midor, Zasadzień and Szczęśniak, 2015)

2.3 Remote Work in The Context of the Covid-19 Pandemic

In the era of the covid-19 pandemic, companies faced the challenge of reorganizing their everyday life and adapting to the current situation. Remote work has turned out to be a new reality for many employers and employees, in which they have to learn to function. As it soon turned out, this is not only a technical challenge, but also a relational one (Prasołek and Kiełbratowska, 2021).

In the literature on the subject, remote work is defined as work performed at any distance from the place where its effects are expected or where it would be performed under the traditional employment system, using available IT and telecommunications techniques. Its main attribute is that the employer receives results

specific work, and the worker - beyond the gain of time and funds to travel to the company's headquarters - it has a certain contact of combining work with other activities and needs (Wiśniewski, 2014). Although the positive effects of remote work are noticeable, communication and effective the ability to manage a team of employees in the context of their effective knowledge sharing (Dojwa-Turczyńska, 2021).

In a situation of a pandemic threatening the lives of people all over the world, it was possible to work remotely under the so-called the covid law of March 2, 2020. The time of spreading the pandemic allowed employees to take a stance on this work organization model. Article 3(4) of the Act of March 2, 2020 details the employer's obligation to provide subordinates with the tools and materials necessary to perform remote work (Journal of Laws 2020, item 374).

3. Methodology

Since March 20, 2020, a state of epidemic has been in force in Poland due to the outbreak of COVID-19. This situation has contributed to a change in the way work is performed. The aim of the conducted research is to show how the COVID-19 influenced the sharing of knowledge among people from different generations working remotely. The answers provided by the respondents were analyzed in terms of belonging to a generational group.

Respondents from all over Poland took part in the survey. The characteristics of the research sample are presented in Table 1.

Table 1: Characteristics of the Research Sample

Generation	Women	Men	N = 258
Baby boomers	11	7	18
X	23	11	34
Y	57	39	96
Z	84	26	110
Total	175	83	

Source: Own research

For the given research sample, the χ^2 test of independence was performed. On its basis, it was assessed whether the nature of the answer to the question asked depends on the respondent's belonging to the young generation (Y and Z) or the older generation, referred to as the Baby Boomers generation and Generation X. The null hypothesis (H0) assumes that belonging to a given generation does not affect the answer, while the alternative hypothesis (H1) indicates that the answer depends on belonging to the selected generation. The test was carried out for the significance level $\alpha=0.05$.

For the purposes of the conducted research, the following research hypotheses were formulated and verified:

H1: Employees of older generations experienced more incentives to share knowledge while working remotely in the covid reality compared to employees of other generations.

H2: With age, employees feel barriers to the exchange of knowledge and experience when working remotely in the covid reality.

4. Results

To verify the research hypotheses, correlations between the following were developed and analyzed:

- *activities of the management staff encouraging employees to exchange knowledge in remote working conditions in the pandemic reality, and belonging to a generational group.*
- *barriers to the exchange of knowledge among employees of different generations during remote work, and belonging to a generational group.*

Encouraging employees of different generations to actively participate in knowledge sharing is a basic condition ensuring the effectiveness of this process within the organization. The results obtained are presented in Table 2 below. The results presented in it show that there is no statistically significant correlation between the analyzed variables and inform that this research hypothesis is false.

Table 2: Management Activities Encouraging Employees to Share Knowledge in Remote Working Conditions During Covid-19

Specification	Baby boomers	X	Y	Z	ch2 critical= 16.919 chi2 stat = 3.69	df= 9 a = 0.05	Hypothesis
equipping employees with equipment enabling the transmission of information and online communication	77,7%	91,1%	92,7%	88,1%	0.71	0.05	H0
holding regular online team meetings	61,1%	58,8%	84,3%	80%	0.71	0.05	H0
Allowing employees to have non-work-related conversations at allotted times	44,4%	38,2%	36,4%	43,6%	1.46	0.05	H0
virtual meetings over coffee after work	66,6%	76,4%	95,8%	92,7%	0.81	0.05	H0

Source: Own research

The analysis of the research results leads to the conclusion that employees belonging to each of the generational groups experienced a high degree of incentives from the management to share knowledge while working remotely. This tendency clearly indicates the trust shown to subordinates and the perception by superiors of the benefits resulting from the exchange of experiences between employees "from different eras". By equipping employees with communication equipment, the management staff clearly focuses their attention on enabling them to cooperate for the efficient flow of information, because it is conducive to achieving the set goals. Respondents belonging in particular to the Y and Z generations point to the initiative of virtual meetings over coffee after work for a reason. This type of activity may be important enough to strengthen relations between employees and trigger greater motivation in them to share knowledge and experiences. As the vast majority of employees of the Y and Z generations have noticed, employers promote online team meetings, organized with the aim of regularly sharing valuable knowledge with each other, allowing the company to stand out from its environment, and thus enable efficient functioning in the covid reality. In last place were activities related to the consent of superiors to conduct conversations not related to work at the appointed time. The lower popularity of this type of incentives to exchange knowledge may result from the fear that the time spent during working hours on conversations not related to work may be wasted time.

The results presented in Table 3 show that there is a statistically significant correlation between difficulties in sharing knowledge and belonging to a generational group. Hypothesis 2 was confirmed.

Table 3: Barriers to knowledge Exchange Among Employees of Different Generations in Remote Working Conditions During Covid-19

Specification	Baby Boomers	X	Y	Z	chi2 critical= 21,026 chi2 stat = 34.62	df= 12 a=0,05	Hypothesis
resistance to the use of modern methods of remote communication	61,1%	26,4%	7,29%	3,63%	10.31	0.05	H1

Specification	Baby Boomers	X	Y	Z	chi2 critical= 21,026 chi2 stat = 34.62	df= 12 a=0,05	Hypothesis
no direct communication	64,7%	70,5%	40,6%	41,8%	2.46	0.05	H1
risk of loss of data and confidential information	33,3%	8,82%	1,04%	41,8%	11.58	0.05	H1
distractions - activities of other family members	44,4%	17,6%	13,54%	3,63%	5.5	0.05	H1
poor quality of the Internet connection and network equipment making it difficult to exchange files and transfer information	83,3%	61,7%	30,2%	42,7%	4.77	0.05	H1

Source: Own research

Based on the conducted χ^2 test, it can be indicated that there are personal barriers of employees and independent of them, which make it difficult for them to share knowledge with each other during remote work. The older the employees, the more often they feel reluctance to share knowledge due to the lack of skills in using modern methods of remote communication - BB (61.1%), X (26.4%). Employees of the BB (64.7%) and X (70.5%) generations, due to the inability to establish a face-to-face conversation, more often than younger employees see difficulties in establishing contact via the Internet in order to share knowledge with other people. Mainly employees from the BB group (33.3%) and Z group (41.8%) perceive conversations via messengers as an obstacle to the exchange of knowledge due to the risk of losing confidential information. The older generation of employees (BB - 44.4%, X-17.6%) are reluctant to share their knowledge with other people at work when family members are in their company. From the perspective of employees of all generations, those who use their own Internet equipment, its inefficient operation made it difficult to quickly exchange information with other members of the organization.

5. Discussion

The conducted research leads to the conclusion that working remotely was conducive to sharing knowledge in the covid situation, but not to a sufficient extent. The managerial staff should encourage employees to share knowledge through the use of instant messengers for online communication for the intergenerational exchange of knowledge. The essence of this aspect is pointed out by K. Kirchner, Ch. Ipsen, A. R. Andersen (2023), who believe that they can effectively communicate with employees. Digital tools turn out to be useful for organizing and conducting online meetings that enable frequent remote contact with employees, conducting discussions conducive to generating many new ideas facilitating the exchange of information. The opinions of the quoted authors are confirmed in this study, which shows that a significant percentage of respondents who have been equipped with equipment enabling them to communicate online with other team members send them important information showing what they are currently working on; share files to gain knowledge about the progress of tasks. It can be assumed, as indicated by this research, that Polish managers attach great importance in their online work to organizing regular team meetings that foster the ongoing exchange of information and working out joint actions in the context of bothering problems and important matters. Kirchner and N. Forsberg (2021) came to similar conclusions in the presented context, placing a strong emphasis on creating an alternative to the real environment, which can be a virtual space for knowledge exchange. It can be a good way to promote spontaneous cooperation in which employees willingly share their knowledge and share experiences. Management aware of its role in the knowledge exchange process should not forget to encourage employees to participate in virtual meetings over coffee. Being able to talk to each other freely during informal meetings will help to strengthen bonds in the team. The freedom to be together

and talk about everything would avoid many of the barriers to sharing knowledge that the participants of this study encountered. As emphasized by M. A. Rafique, Y. Hou and co-authors (2022), despite the fact that modern technologies have an impact on improving work efficiency, they must face some challenges, such as communication barriers. Remote work involves isolating employees. As a result of the lack of direct face-to-face contact, superiors may not see the problems faced by their subordinates, such as lack of motivation to share knowledge and low involvement in this process.

Referring to the aforementioned research by K. Kirchner, Ch. Ipsen, A. R. Andersen, it is worth noting here that due to the mandatory home isolation caused by the pandemic, employees experienced a lack of spontaneous interactions with their colleagues, which in turn contributed to the emergence of many problems related to the transfer of knowledge. The quoted authors observed that in the face of the pandemic situation, employees are less likely to focus on transferring their knowledge to others, thus closing the way for themselves and others to gain this knowledge.

Difficulties related to the exchange of information also result from the reluctance to use modern methods of remote communication. In order to prevent this, superiors should engage subordinates to cooperate on-line on the implementation of the tasks entrusted to them, in order to overcome resistance to the exchange of knowledge and active discussion. A. Jeran (2016) draws attention to an important area of remote work effectiveness that concerns technical issues. This aspect of remote work was also reflected in this research. For the dissemination of knowledge, "quality, reliability are extremely important and bandwidth of used connections (e.g. broadband Internet), as well protection of sensitive company data. The above factors were the reason for the difficulties faced by the respondents, regardless of their age, in the knowledge exchange process. Technical problems, such as: low quality of the Internet connection and network equipment constituted a barrier to the exchange of knowledge, and even an increased risk of data and confidential information loss.

To sum up, remote work should be performed in social and organizational conditions that minimize the feeling of uncertainty and social isolation. To this end, space should be created for the exchange of knowledge and experience in virtual teams performing remote work in order to counteract the feeling of social isolation and the lack of support in the implementation of this process.

6. Conclusions

The first part of the study made it possible to determine, from the employee's perspective, the type of actions taken by the management towards subordinates belonging to different generational groups to encourage them to share knowledge in remote working conditions during Covid-19. The results show that belonging to a generational group is negatively correlated with the activities of the management staff. This means that regardless of the age of the employees, the superior takes specific actions to encourage subordinates to be active in the field of knowledge sharing. The summary of the research results gives the opportunity to identify those activities that are conditioned by the form of employment that appeared in the regulations in 2020 - remote work. As a result of the pandemic, many companies have moved their activities online. Therefore, the employees were equipped with equipment enabling the transfer of information and online communication. Despite the lack of face-to-face contact, it is worth taking care of strengthening the bonds between employees. For this purpose, superiors regularly organize team meetings on-line, encouraging them to share information in the context of what is currently happening in the company. In addition, some companies allow employees to have non-work-related conversations at certain times. What's more, employee teams conduct conversations and share information during virtual meetings over coffee after work. This may indicate that they make a well-coordinated team. Although for some remote work has become a convenient form of employment, for others it turned out to be a challenge. The results from the second part of the study show that belonging to a generational group is positively correlated with the barriers that employees experience in the context of knowledge exchange during remote work. The hypothesis was confirmed that with age, employees experience difficulties in sharing knowledge and their experiences while performing their professional duties remotely in the difficult covid reality. The main barriers include: poor quality of the Internet connection and network equipment, which make it difficult to exchange files and transfer information; no direct communication; resistance to the use of modern methods of remote communication; activity of other family members, distracting attention during the exchange of knowledge; fear of losing data and confidential information.

The conclusions of this research provide feedback to the staff responsible for managing employees of different generations that employees notice their actions to share knowledge. Moreover, the analysis of barriers to the

exchange of information and sharing one's own experience with others should contribute to the search for and indication by employers of ways to reduce them.

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