

Measuring The Process of Knowledge Transmission and Absorption in The Organization

Katarzyna Szymczyk

Czestochowa University of Technology, Czestochowa, Poland

katarzyna.szymczyk@pcz.pl

Abstract: The aim of the paper is to identify the degree of knowledge sharing and measure the scale of behavior related to giving and receiving knowledge in the organization. The author of this study focuses on presenting and analyzing the results of a quantitative survey conducted among 131 academy employees. Academic teachers and non-academic staff participated in the study conducted in March-April 2024 based on a questionnaire developed by R.E. De Vries, B. Van den Hoff, and J.A. De Ridder in 2006. A five-point Likert scale was used to measure the knowledge transfer and absorption scale. The study results showed that the transmission of knowledge and its absorption generally occur evenly. This means that employees, on the one hand, share knowledge, but on the other hand, they are also willing to use and acquire knowledge from others. This may result from a specific behavioral model created because of the conditions imposed in the organization, or it was created due to the need for cooperation and co-help in sharing knowledge to facilitate and improve work. The presented study is preliminary and requires further development to enrich the actual knowledge-sharing subjects' theory and practice. Yet, the presented data can be useful in comparative analyses and other deepening studies on similar matters.

Keywords: Knowledge Management, Knowledge Transmission, Knowledge Absorption, Organization

1. Introduction

The concept of knowledge management in an organization, according to the universal definition in a narrow sense, is a set of activities aimed at identifying, preserving, disseminating, and using the explicit and implicit knowledge of the company's personnel to increase the efficiency and effectiveness of employees' activities. In a broader sense, this concept also considers employee motivation, sociological and social aspects, intelligence, and communication skills. Therefore, knowledge should be treated as the vital intangible resource of a given organization. Based on the acquired knowledge, an organization can learn and improve. It must not only gain knowledge, e.g., from the business environment but can also transfer it both within and outside the organization (Demarest, 1997; Kowalczyk & Nogalski, 2007; Yi, 2009; Karaś & Piasecka-Głuszak, 2013; Witherspoon et al., 2013; Kokot-Stępień & Krawczyk, 2023). Sharing knowledge is integral to the organization's performance (Yeboah, 2023; Asrar-ul-Hag et al., 2016; Yi, 2009). It occurs in two aspects: transferring and acquiring knowledge. Sharing knowledge in an organization potentially takes place differently in large, hierarchical, and complex organizations than in smaller organizations with less formalized structures and fewer employees. Sharing knowledge will be different in small and medium-sized enterprises than in large enterprises, which are strictly hierarchical corporations, and will be different in state institutions, associations, cooperatives, groups of mutual interest, etc. Any organization's flow of information and knowledge is crucial to its proper functioning (Asrar-ul-Hag et al., 2016; Witherspoon et al., 2013; Ipe, 2003). However, knowledge management and sharing may be more complicated and sometimes even more difficult in an organization with a complex structure. This is mainly due to the hierarchical levels that prevail. The knowledge exchange between company managers, starting from owners, managers, directors, and lower-level employees, may be slower, limited, or incomplete. In organizations with a simple structure in which owners or managers have closer contact with employees, the exchange of information usually runs more efficiently and faster. In the workplace, where access to knowledge and information often depends on management decisions, the company may contribute to a situation where employees do not have the necessary knowledge or do not know where to obtain it and might be less willing to share their knowledge. This happens, especially when there is high competition between employees in the workplace or when a given organization has not introduced an appropriate organizational culture based on building mutual trust, cooperation, and a sense of belonging to the organization. It is worth mentioning, however, that despite the limitations in acquiring and sharing knowledge among employees, they may still want to acquire and share knowledge with others to improve their work and develop the skills and competencies needed for their development. It is essential for company owners and managers that all employees have access to knowledge and can share it, and for this purpose, it is worth using tools to measure the scale of knowledge sharing. Measuring the scale of knowledge transfer and acquisition may help modify the strategy of managing personnel and information flow in the organization, which should ultimately bring tangible benefits for the organization's functioning from the inside to the outside.

2. Knowledge Sharing Measuring

In knowledge management, the issue of sharing knowledge between superiors and employees, between employees, and between employees and their superiors deserves particular attention. This issue can be considered in two ways: the process of transmission and absorption of knowledge. Recognizing and understanding the process of knowledge sharing and its measurement may help identify the degree of effectiveness of the organization's operation from the inside, understanding interpersonal relations, the level of trust between employees, and the intensity of cooperation as the potential causes of its lack in favor of unhealthy competition. The extent to which an organization functions as a team, a well-coordinated group, or even an organism of interconnected vessels may be intensely dependent on the skills, needs, and willingness to share knowledge, exchange information, and learn from each other. Sharing knowledge can benefit the organization by improving its functioning and strengthening it from the inside, ultimately translating into its functioning externally and allowing it to maintain or gain a competitive advantage. Therefore, every organization should learn to identify and measure the knowledge transmission and absorption process and take action to improve this process. The knowledge-sharing literature contains many studies worth mentioning. Much research concerns enterprises and industry, but many studies have also been conducted in public institutions like universities. It is worth noting the works of Cheng et al. (2009), Alhammad et al. (2009), Sadiq Sohail & Daud (2009), Zawawi et al. (2011), Fullwood et al. (2013), Chmielecki (2013), Wei Chong et al. (2014), Ramayah et al. (2014), Yasir et al. (2017), ÅšwigoÅ (2017), Akosile & Olatokun (2020), Javaid et al. (2020), Al-husseini & Abdel Baqi, 2023. In this study, the author discusses issues related to knowledge sharing, mainly its transmission and absorption. The author presents the analysis of quantitative research results based on a survey questionnaire conducted in 2024 on a group of high-, middle- and low-level employees of a state organizational unit - a university. Knowledge Sharing (KS) behavior scale developed by R.E. De Vries, B. Van den Hoff, and J.A. De Ridder in 2006 was used to prepare the survey questionnaire. Knowledge sharing considers knowledge transfer (donating) and accumulation (collecting) (De Vries et al., 2006). Donating and collecting knowledge are crucial in building organizational culture and job satisfaction. De Vries et al.'s knowledge-sharing model measures the level of transfer and accumulation of knowledge and allows for analysis of what knowledge-sharing practices look like in each organization, whether they are appropriately implemented, and whether a given organization adequately manages the knowledge-sharing processes. De Vries et al.'s model also allows for determining the extent to which the organization members are eager to give/donate and absorb/collect knowledge from other members. Considering the advantages of the above-mentioned authors' model, this study used it to measure the organization's transfer and absorption of knowledge.

3. Study

Quantitative research based on a survey questionnaire conducted in March-April 2024. The research sample included university employees, both academic teachers and non-academic employees. Knowledge Sharing (KS) behavior scale developed by R.E. De Vries, B. Van den Hoff, and J.A. De Ridder in 2006 was used to prepare the survey questionnaire. Knowledge transmission and absorption were measured using a five-point Likert scale. The questionnaire was emailed to the offices of the Deans of selected universities with a request to send it to employees. Ultimately, 131 people participated in the study. The return of surveys could potentially be higher, which is a reason to repeat the study, and the collected results should be treated as a preliminary study. The relatively small number of employees who participated in the survey may be due to the time the survey was conducted, namely the pre-Easter period. The other reason may be reluctance or lack of time to complete the survey. Considering this analysis is a preliminary study, the collected results may be helpful for comparative analyses in similar studies. The study included 57% women, 42% men, and 1% non-binary persons. Most respondents are employees who are academic teachers - 80% of the respondents, and the remaining 20% are employees who are not academic teachers. Not academic teachers are generally employed in administering a given faculty. The detailed distribution of respondents by job position is presented in Figure 1.

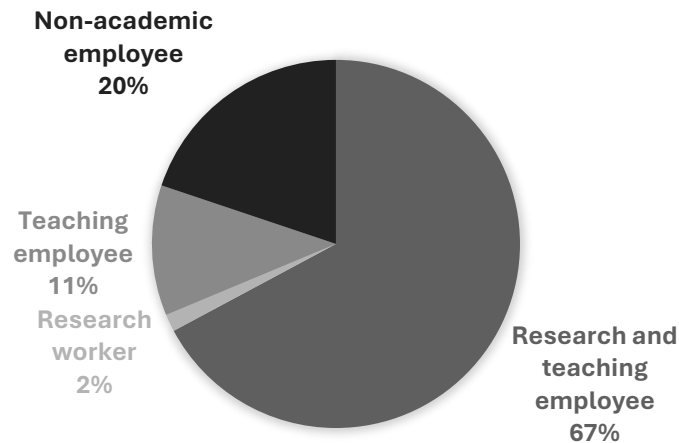


Figure 1: Division of respondents by form of employment

Most respondents in the research sample have been working for at least 16 years or longer. There were relatively few people working for six to 15 years—20%. Less recorded are people who have been working at the university for a short time and no longer than five years. Figure 2 presents a detailed breakdown of the collected results.

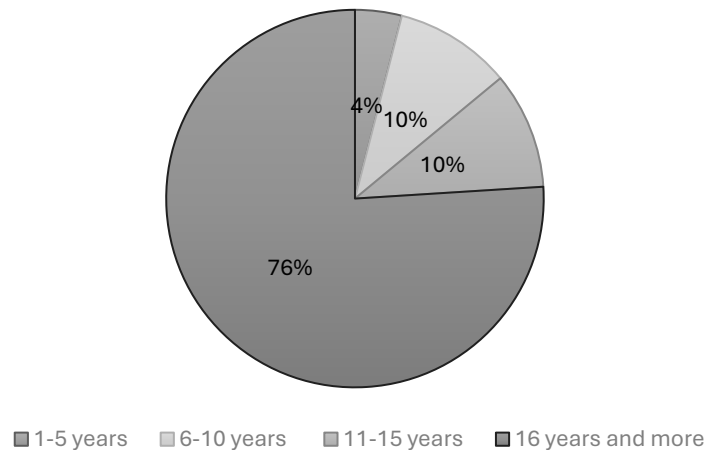


Figure 2: Percentage of survey respondents by length of employment

58% of respondents hold functional positions, and the remaining 42% do not have such. Teaching is a functional position, including heads of institutes, departments, laboratories, etc., deputies of these heads, deans, vice-deans, rectors, vice-rectors, chancellors and deputies, heads or directors of administrative units, etc.

4. Results

As mentioned, the survey questionnaire was prepared using the Knowledge Sharing (KS) behavior scale developed by R.E. De Vries, B. Van den Hoff, and J.A. De Ridder in 2006. The study aimed to determine to what extent employees of a given organization, in this case, a university, are willing to share their knowledge with their coworkers/collaborators and to what extent they can acquire knowledge from their coworkers. The survey contained a total of eight questions. It was divided into two parts. The first part concerned transferring knowledge to colleagues, while the second concerned acquiring knowledge from colleagues:

1. The Knowledge Transmission

When I learn something new, I share it with my coworkers.

I share all the information I have with my coworkers.

I think it's important that my coworkers know what I do.

I regularly tell my co-workers what I do.

2. The Knowledge Absorption

When I need some knowledge, I ask my co-workers about it.

I like to be informed about what my co-workers know.

When I need to learn something, I ask my co-workers about their skills.

When a coworker is good at something, I ask him/her to teach me how to do it.

The study was conducted in Polish. Knowledge transmission and absorption were measured using a five-point Likert scale:

1 - I strongly disagree

2 - I rather disagree

3 - I have no opinion/it's hard to say

4 - I rather agree

5 - I strongly agree

The questions included the concept of a collaborator, as in an organization such as a university, employees have contact with other employees, but not all of them remain in close contact; they cooperate, they take part in the same tasks, they stay in the same rooms and carry out the same or similar tasks. projects. Therefore, the study emphasized that the respondents expressed their opinion on sharing knowledge with people with whom they cooperate daily, are in the workplace, or are in relatively close contact with them rather than with other employees working in the same building.

4.1 The Knowledge Transmission

Almost 70% of the respondents admitted that when they learn something new, they share it with their colleagues. 21% had no opinion on this matter. 10% of respondents indicated that they do not share their acquired knowledge with their colleagues in such situations. The detailed distribution of respondents' answers is presented in Figure 3.

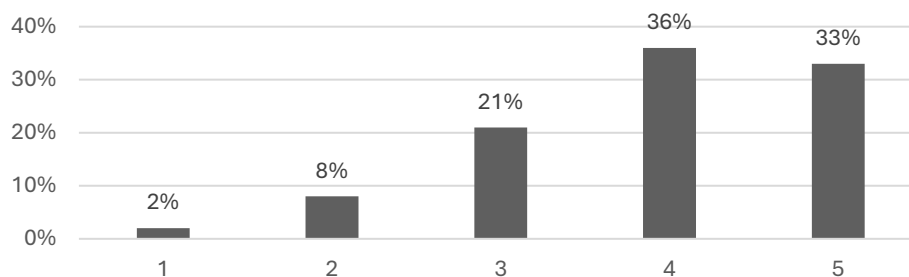


Figure 3: When I learn something new, I share it with my coworkers. N=131

57% of respondents said they share all their information with their coworkers. In this case, 20% had no opinion, while 23% admitted they were unwilling to share all their information with their coworkers. The detailed distribution of responses obtained from respondents participating in the study is presented in Figure 4.

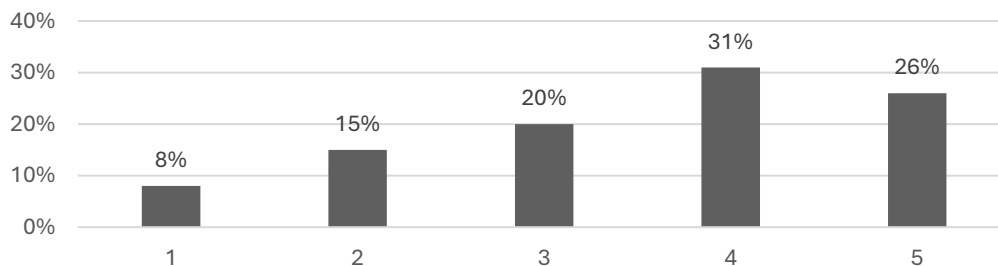


Figure 4: I share all the information I have with my coworkers. N=131

67% of respondents strongly agree or agree with the statement that it is important for co-workers to know what a given employee does. Figure 5 presents the detailed distribution of respondents' answers.

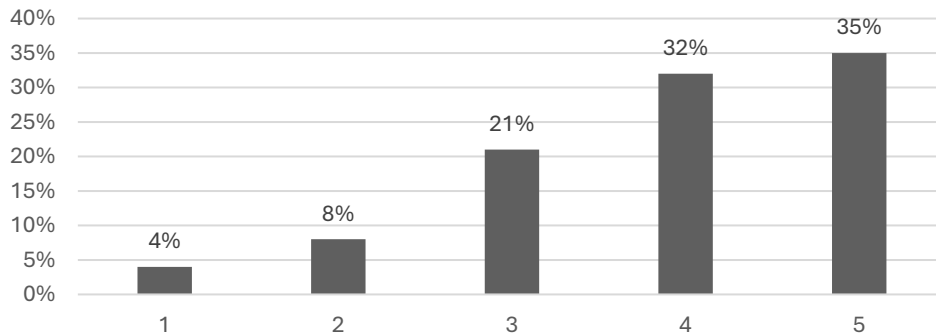


Figure 5: I think it's important that my coworkers know what I do. N=131

Regarding whether an employee regularly informs coworkers about what he or she does, 54% definitely or rather agreed, 24% have no opinion on this matter, 13% said rather not, and 9% said they do not regularly inform coworkers about what they do. deals with. The detailed distribution of responses obtained from respondents participating in the study is presented in Figure 6.

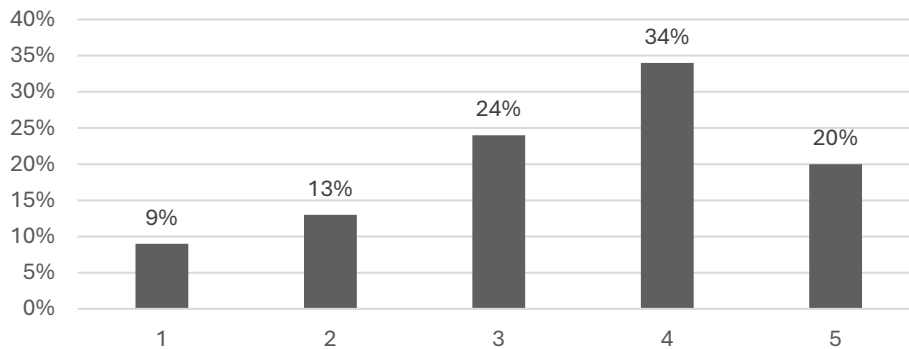


Figure 6: I regularly tell my co-workers what I do. N=131

4.2 The Knowledge Absorption

Most respondents admitted that they ask their co-workers if they need any knowledge. 31% of respondents strongly agree, and 44% agree that they turn to their coworkers for knowledge when they need to learn something. 6% of respondents said that when they need to acquire knowledge, they do not ask their coworkers about it, and only 2% admitted that they do not do it. 17% have no opinion on this matter. The answers obtained from respondents are presented in Figure 7.

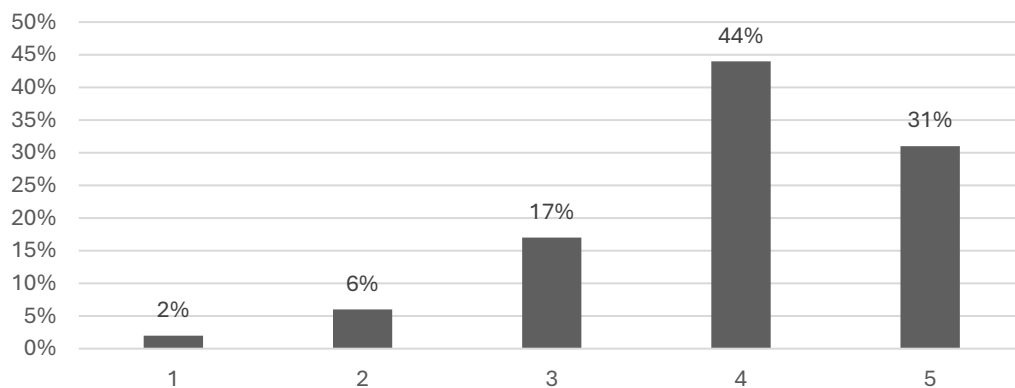


Figure 7: When I need some knowledge, I ask my coworkers about it. N=131

41% definitely, and 29% would rather be informed about what their coworkers know. 13% probably do not want such information, and only 2% do not want to be informed about what their coworkers know. 15% of respondents indicated that they had no opinion on this issue. The collected responses are presented in Figure 8.

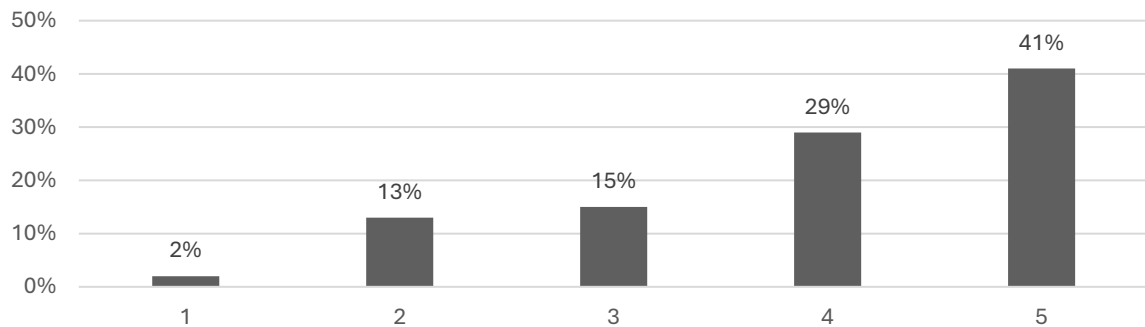


Figure 8: I like to be informed about what my coworkers know. N=131

60% of survey respondents admitted that if they need to gain knowledge and learn something new, they turn to their coworkers to learn about their skills. 20% of respondents had no opinion on this matter, 15% admitted that they disagreed, and 5% strongly disagreed with the statement that if they need to learn something new, they turn to their coworkers and ask about their skills. The collected responses are presented in Figure 9.

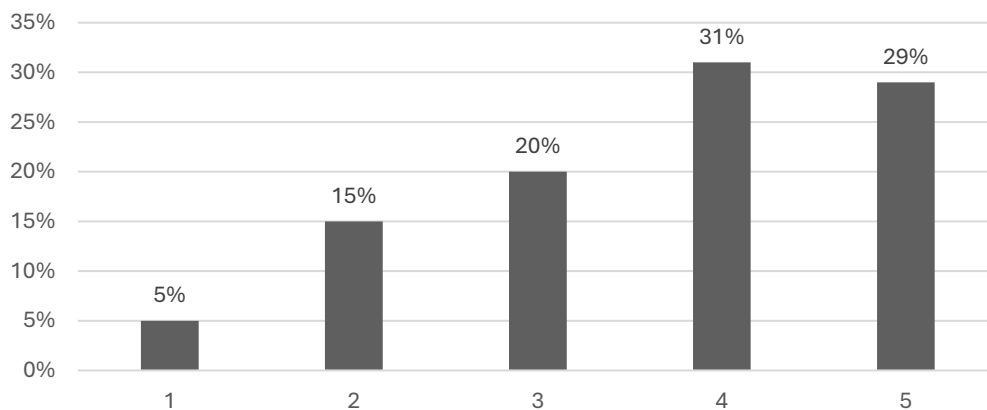


Figure 9: When I need to learn something, I ask my coworkers about their skills. N=131

54% of respondents admitted that they strongly agree, and 21% rather agree that if a coworker is good at something, they ask him or her to teach them what they know. 75% of study participants expressed positive opinions on this issue. 15% had no opinion on this matter. A total of 10% expressed reluctance to learn from others. Figure 10 presents the collected answers.

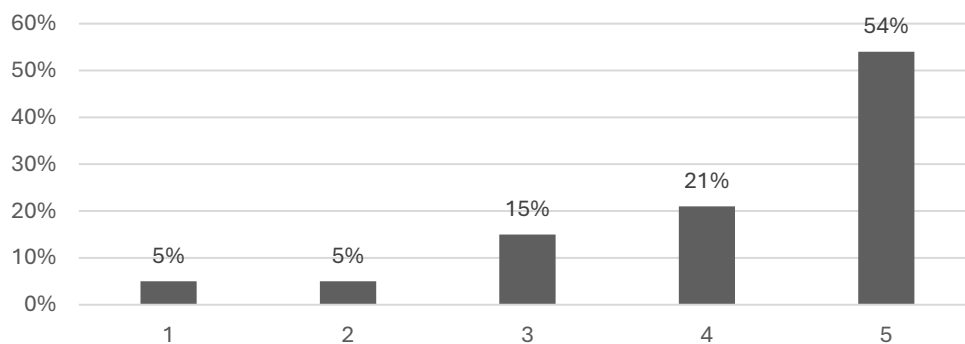


Figure 10: When a coworker is good at something, I ask him/her to teach me how to do it. N=131

The next part of the study summarizes the collected results and discusses the conclusions drawn from the research.

5. Discussion

The collected research results were sorted into knowledge transmission and knowledge absorption. Positive and negative behaviour in both groups were listed. The answers of respondents participating in the study who did not express opinions were not considered. A summary of the collected responses in percentage terms is presented in Table 1.

Table 1: Summary of survey results, including positive and negative behaviour

	The Knowledge Transmission		The Knowledge Absorption		
	Positive behaviour	Negative behaviour		Positive behaviour	Negative behaviour
When I learn something new, I share it with my coworkers	70%	10%	When I need some knowledge, I ask my co-workers about it	75%	8%
I share all the information I have with my coworkers	57%	23%	I like to be informed about what my co-workers know	70%	15%
I think it's important that my coworkers know what I do	67%	12%	When I need to learn something, I ask my co-workers about their skills	60%	20%
I regularly tell my co-workers what I do	78%	22%	When a coworker is good at something, I ask him/her to teach me how to do it	75%	10%

By analyzing selected research results, some conclusions can be drawn. First, it is worth noting that the study indicated the respondents are relatively willing to share their information and knowledge with their coworkers (70%). When they need this knowledge, they are eager to ask their collaborators about it (75%). However, when it comes to sharing all information with coworkers, the percentage of respondents willing to do so is somewhat lower (57%) than that of respondents who want to be informed about what they know and what their collaborators know (70%). Interestingly, most respondents indicated that they regularly notify their co-workers about what they do (78%), and 67% said that it is important for co-workers to know what a given employee does. Most respondents (75%) also admitted that if a co-worker is good at something, they ask him for help and to teach them how to do something. Slightly less, but more than half, 60% of respondents admitted that if they need to learn something, they ask their co-workers about it to learn about their skills. Respondents who expressed rather negative opinions on the above-mentioned issues are a minority. The most negative responses, 23%, were indicated about sharing all information with coworkers. There was also some controversy about regularly informing coworkers about what a given person is doing - 22% of people participating in the study had a negative attitude toward this issue. Similarly, when one needs to learn something and asks coworkers about their skills, 20% of respondents reacted negatively to such action. Respondents replied most positively to the issues of learning something and sharing this knowledge with coworkers, regularly informing them about what they are doing, acquiring knowledge from their coworkers, and learning something new from them. The study also shows that employees are relatively willing to be informed about what their coworkers know.

The respondents' positive behavior regarding knowledge sharing was also considered regarding gender. In this case, only respondents' responses were considered in which they strongly agreed or agreed with the presented statements. Women are more eager to be informed about what their colleagues are doing. The willingness to ask co-workers about their knowledge and skills to learn something is also greater among women than men. As employees, they seem to be much more communicative and open, and they are more willing to inform their co-workers about what they are doing than men. The issue of providing all information to co-workers and transferring what a given employee has learned occurs similarly for both women and men. The detailed responses are presented in Figure 11.

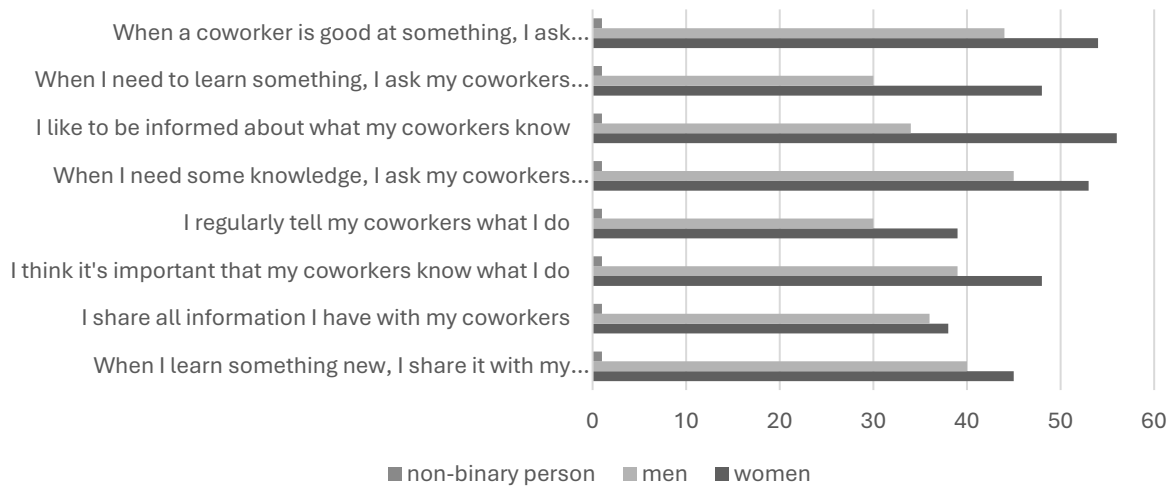


Figure 11: Positive behavior regarding knowledge sharing by gender

Considering the functional position the respondents hold or not, the research noticed that people who hold a functional position, compared to people who do not have such positions, are less willing to share and acquire knowledge from coworkers. People who do not perform any function are more willing to learn from others, ask about their skills and expertise, and provide them with the knowledge and information they have. The detailed share of responses is shown in Figure 12.

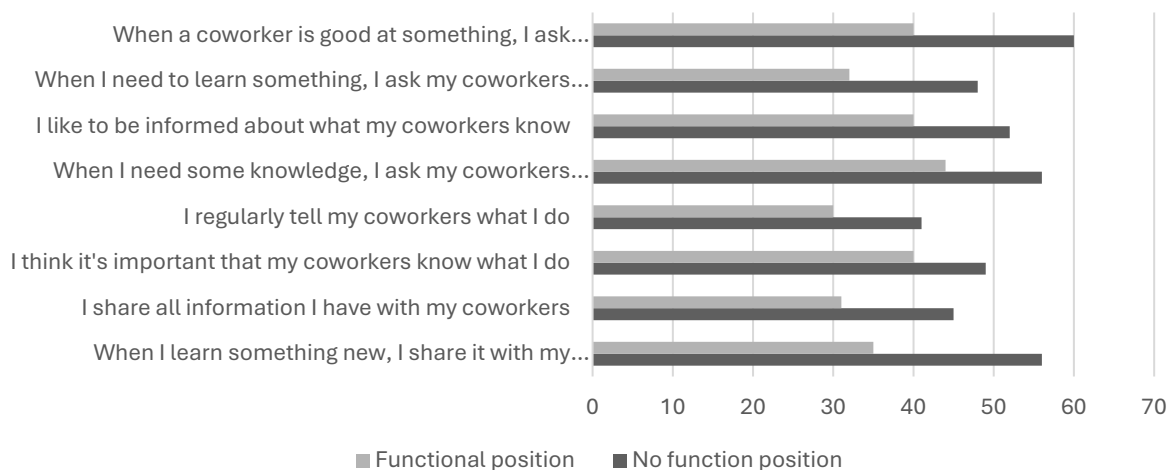


Figure 12: Positive behavior due to functional position.

Based on the collected research results, it can be generally stated that the transmission of knowledge and its absorption in the group of university employees occurs similarly. There were no vast differences between knowledge transmission and absorption. Respondents in the study indicated that they are willing to share knowledge and simultaneously seek knowledge from their coworkers and are eager to acquire it. However, female workers are keener to share and absorb knowledge from their coworkers than male workers. Workers who do not hold functional positions at work are more willing to gain knowledge from coworkers, learn from them, and are more eager to give their knowledge or share the information they learned than workers who hold functional positions. Of course, it should be emphasized here that the research is preliminary, and it is difficult to draw general conclusions for the entire university population. Nevertheless, this is already an overview of knowledge sharing in an organization with a hierarchical and complex structure.

6. Conclusions

The article analyzes the results of research on knowledge sharing in organizations. The study focused on the issue of knowledge transmission and absorption. A survey questionnaire was prepared using de Vries et al.'s

model to conduct the study. The research sample included employees of selected faculties of universities in Poland. Both non-teaching staff and academic teachers took part in the study. The survey questionnaire was made available via e-mail, and the number of respondents ultimately amounted to 131. The study was conducted in March and April 2024. The study aimed to determine to what extent employees of organizations with a complex structure are willing and able to transfer their knowledge to co-workers and acquire and collect knowledge from them. Therefore, the above-mentioned model was used to measure the behavior of organization members in terms of knowledge transmission and absorption. Based on the collected research results, it was found that there are no fundamental differences between transmission and knowledge absorption. The survey shows that employees are relatively willing to share knowledge with coworkers and are also willing to acquire knowledge from coworkers. The research results may indicate that the university, as an organization with a specific organizational structure, imposes behavioral models in which knowledge transfers to coworkers and the collection of knowledge from coworkers occurs evenly. This may indicate that the key to efficient operation in this type of organization is cooperation, and there is a relatively strong need to share knowledge, both in giving and receiving terms. However, the presented study is preliminary and requires extension and comparative analyses to draw more precise conclusions. Therefore, the presented research results can be used for research of a similar nature for comparative purposes or internal analyses of knowledge management issues in the organization.

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