Understanding generational differences in knowledge sharing

Gunilla Widen[1], Farhan Ahmad[2], Tom Siven[3], Evgenia Ivantsova[4]
[1]Åbo Akademi University, Turku, Finland
[2]University of Turku, Turku, Finland
[3]Åbo Akademi University, Turku, Finland
[4]Åbo Akademi University, Turku, Finland
gwiden@abo.fi
farhan.ahmad@utu.fi
tsiven@abo.fi
eivantsova@abo.fi

Abstract: Generational traits generally have mixed impact on work activities. From previous research we have a very scattered picture of the impact of generational differences in the workplace context. This paper investigates how generational differences influence the knowledge-sharing behaviour in organizations. Interviews were conducted in two Finnish organisations. Our analysis shows that when it comes to values and priorities in relation to knowledge sharing, there are no differences between younger and older employees. However, the interviews revealed nuances between generations, which explain why generational differences are not so decisive. It was found that professional age is a more important factor when describing differences between employees' attitudes to knowledge sharing. Furthermore, the organizations' socialization process plays an important role in overriding generation differences in knowledge sharing. Finally, the interviews underlined that a flexible approach to IT is increasingly important for work tasks in all age groups and generational differences do not matter to a large extent.

Keywords: knowledge sharing; generational differences; generations; professional age, socialisation

1.Introduction
Efficient knowledge sharing, the activity through which information, skills and expertise is exchanged, is a key competence in today's workplace. There is substantial research on knowledge sharing, a prerequisite for the success of knowledge management (Wang and Noe 2010). However, knowledge sharing is not easily managed and both individual, organizational and environmental factors affect how efficiently knowledge is shared (Widén 2017). An additional challenge is the fact that different generations in today's workplace have been brought up in different information, social and technological environments, affecting their individual preferences on how, when and with whom to engage in collaboration and with whom to share knowledge (Lyons and Kuron, 2014; Stewart et al., 2017). Generational differences in workplaces have got quite a lot of attention in organizational research over the last years, and mainly studied in relation to work attitudes, use of information and communication technology (ICT), and leadership and management (e.g. Leiter, Jackson, and Shaughnessy, 2009; Lyons and Kuron, 2014). Nevertheless, we lack a deeper understanding whether a generation, a group that can be identified by birth year, age, location, significant life events and mutual experiences (Tolbize, 2008), has a direct impact on knowledge sharing. This understanding would be important to reach while different approaches to knowledge sharing might create unnecessary miscommunication affecting workplace efficiency.

In this paper we will investigate how age and generations might influence employee's knowledge sharing practices in organizations. The paper is structured as follows. First, we review literature on generations at work, generational differences in relation to knowledge sharing practices, knowledge sharing attitudes, and the use of knowledge sharing technologies. After this, we present our empirical work, methodology, followed by results and findings in relation to the stated research questions. Finally, limitations and suggestions to future research are presented.

2. Literature review

2.1 Defining generations at work
When studying generational differences in the workplace, it is important to remember that the generational traits are only a part of what affects individuals' preferences and attitudes to work and work-related processes. Previous research shows that there are four generations present in today's workplace. The oldest generation in

the workplace (Baby Boomers, born approximately 1945–1964) has been characterized as having a good work ethic, preferring to work in teams, communicating face-to-face, and wishing to be involved in decision-making (Haynes, 2011). The oldest generation also respects authority and hierarchy, is loyal, and works for promotion (Gursoy, Maier and Chi, 2008). The Generation X (born approximately 1965–1984) has a strong sense of equality, prefers to be self-reliant, likes instant feedback, expects recognition, and likes to challenge facts and rules (Gursoy, Maier and Chi, 2008; Haynes, 2011). The younger generation, Generation Y (born approximately 1985–2004), values the balance between work and family life, has a more participative approach to work than older generations, and is quite goal-oriented. They are also more technology-oriented and are seen to be skilled at multitasking (Haynes, 2011).

2.2 Knowledge sharing and generations

Knowledge sharing is defined as the exchange of task-related information, advice and expertise to help others and to collaborate with others to carry out daily tasks, solve problems and develop new ideas (Ahmad, 2017). We know that "knowledge sharing is a complex behaviour that is affected by a variety of psychological and organizational factors, and it is only by appropriately managing those factors that knowledge will actually flow through the organization" (Cabrera et al., 2006, 261). We also know that the organizational culture plays an important role in shaping knowledge sharing practices in the workplace (Widén-Wulff, 2007) affecting people's attitudes to information and knowledge and how information is valued as a resource. What is less studied is how the influence of generational difference fits into this complex picture. How much do the generational traits affect sharing practices compared to organizational culture? In this paper we aim at adding the generational approach to this discussion through answering the following research question.

RQ1: What are the possible differences in knowledge sharing practices between generations in a workplace?

2.3 Knowledge sharing attitudes

There are clearly some generational traits and preferences affecting attitudes to work and work values, such as personality differences between generations, different views on work–family life balance and career patterns, as well as teamwork and leadership preferences (Gursoy, Chi and Karadag 2013; Lyons and Kuron, 2014). It has been said that the Boomer generation respects authority and hierarchy more than the younger generations and the younger generations value the balance between work and family life more than the older generations. (Gursoy, Maier, and Chi, 2008; Haynes, 2011). Motivation and attitudes to work are of course affected by much more than generational traits alone. Especially leadership and managerial input plays a vital role and for example, in a large quantitative study by Deal et al. (2010) it is shown that work motivation is better explained through managerial level than generation. Some differences were found between generations in external work motivation, but clearly more variance was explained by managerial level. Also, leader values and leadership behaviours follow a mixed picture of generational differences (Sessa et al., 2007). It is shown that some attributes are similar across generations, but some differ. Regardless of generation, employees value knowledge about the organization's core activities, as well as listening and helping others to achieve more than they think they are capable of. But then there are differences such as older generations valuing work delegation more, and younger generations valuing focus, dedication, optimism and cultural sensitivity. Older generations have a calm, considered approach, while younger generations have an energizing presence, are self-focused, and aim at short-term results. These kinds of generational differences might also be reflected in knowledge sharing attitudes, how willing you are to share what you know and how you approach your colleagues and managers. In this study we will connect possible generational differences to knowledge sharing attitudes answering the following research question.

RQ1a: What are the possible differences in knowledge sharing attitudes between generations and how do they show in workplace context?

2.4 Generational differences and knowledge sharing technology

The biggest generational differences would be expected in connection to ICT since we know that younger generations have a different approach to technology than have the older generation (Connaway et al., 2008; Lippincott, 2012). However, these generational differences are not that clear in the workplace context and relatively little research is done in this area (Rizzuto, 2011). Studies on generational difference and IT, clearly shows that there are clear differences between generations' ICT use in organisations. The biggest differences are naturally between the oldest and the youngest generations, where the youngest generation is focusing on greater fusion of work and everyday life management. Virtual space is important for them, whereas face-to-face

communication is less important (Haeger and Lingham 2014). On the other hand, the older generation also adapts to the behaviour of the so-called Google generation (Rowlands, Nicholas, Williams, Huntington and Fieldhouse, 2008) and it means that we all learn the organization's work and information practices (Costanza et al., 2012; Haeger and Lingham 2014) regardless of generation. Studies have also shown that there is an advantaged with mixed age groups when implementing technology innovation. In a study by Rizzuto (2011) it was shown that older workers reacted more positively to implementation of IT initiatives than their younger colleagues, contradicting conventional beliefs. However, younger employees were more positive towards IT initiatives in groups where there were older co-workers, showing the strength of group identity. Younger workers may also find satisfaction in demonstrating their IT expertise. Studies focusing on generational differences in relation to the use of knowledge sharing technology are still scarce. Therefore, we aim at contributing to this understanding by answering the following research question.

RQ1b: What are the possible differences in the use of knowledge sharing technology between generations and how do they show in workplace context?

3. Methodology
We conducted 17 interviews in two Finnish organizations and a survey in one multinational organization during 2015–2016. The first case company is a software developer, and the second one, an insurance company. For the sake of anonymity, they are called Company A and B, respectively. Both companies have employees from different generations, which was the basic requirement for inclusion in the study. Seven interviews were from Generation X and 10 from Generation Y. Overall, interviewees varied in terms of age, education, hierarchal level, and professional background.

Our data analysis was iterative; the analysis started while data collection was ongoing (Eisenhardt, 1989). All the interviews were transcribed. We started by coding all the interviews in one broad category: knowledge sharing. Then, we further identified and developed codes focusing on generational differences. At this stage, different codes were juxtaposed and summarized, resulting in abstract categories. Themes were generated by comparing similarly coded segments of the interviews. The first two authors of this article analysed the data separately. A comparison of emerging themes was made after the separate analyses were completed. Any differences in the interpretation of codes and emerging themes were solved through discussion.

4. Findings

4.1. Knowledge-sharing attitudes
The first research question focuses on the possible differences in knowledge sharing attitudes between generations and how do they show in workplace context. One of the most important prerequisites for knowledge sharing is the development of an organizational culture that is open and encourages employees to engage in knowledge sharing regardless of their demographic and professional associations. Organizational management is usually responsible for this task. Nevertheless, employees' knowledge-sharing attitude is crucial to the development of a knowledge-sharing environment in an organization. How and to what extent they engage in knowledge sharing will ultimately decide what kinds of knowledge-sharing mechanisms are built and sustained.

In our interviews, we found that employees from both generations have a very positive knowledge-sharing attitude, and they actively contribute in the development of a knowledge-sharing culture. All interviewees emphasized the importance of knowledge sharing for the accomplishment of their daily tasks as well as for collective learning. They underlined that it is important to be interactive and not to work in isolation. A Generation Y employee said, "In the end, it is all about collaboration," which means that it is not possible to survive alone whether you are young or old. A common agreement existed among employees that if you are not in trouble, help the one who is. Such mindset clearly underlines that both generations understand the importance of knowledge sharing and are committed to it as well.

It does not matter what your question is, some coding tasks or whatever, you can ask and usually you will have an answer. I think we have quite an open-minded environment. (Generation Y, Company A)

As compared to younger generations, older generations have usually more to share because of their years of exposure to diverse situations and problems (Newman and Hatton-Yeo, 2008). In our case studies, Generation

X was clearly more experienced and had much longer career spans than Generation Y. Therefore, Generation X employees quite often assumed the mentor role and, hence, engaged actively in knowledge sharing with Generation Y employees.

Older employees are such a huge knowledge repository. Just, for example, last week I had a potential customer and I wanted some advice on how to approach the customer and an older employee knew it and the answer came immediately. (Generation Y, Company B)

Nevertheless, our data show that younger generation employees are equally active in sharing their knowledge with others. They are not merely knowledge receivers but also knowledge senders, as they share their innovative ideas and potential solutions to problems with others, including Generation X employees.

I do share knowledge. As I am the only one [recruitment specialist], I collaborate with different teams so I think that they [Generation X] learn something from me if they want [to recruit new people]. (Generation Y, Company A)

It was clear from the interviews that knowledge sender or receiver status at a general level is not readily visible along generational lines. In other words, the knowledge flow between these two groups did not reflect their difference in age, despite Generation X employees being more experienced than their Generation Y counterparts. This is in contrast to the impression that older generations are usually on the sending end of knowledge sharing. This conception is quite evident in the debate on organizational retirement planning (Brătianu et al., 2011; Dean et al., 2017).

An explanation of this somewhat unusual finding lies in the fact that employees in our two case companies valued professional knowledge over age of individuals. According to our respondents, professional know-how is the key factor in deciding whom to ask and consult. Nowadays, organizations are specialization-driven, that is, they are composed of employees who are exclusively capable of performing certain tasks (Treem, 2016). This was also the case in our studied companies.

In my type of job, [the things that] I do, there is no other person who [can] do the same things. (Generation Y, Company A)

For example, a software development team in Company A was usually composed of a scrum master and developers who had expertise in their specific areas. Redundancy in expertise, particularly in teams, is seen an indicator of resource usage inefficiency, hence to be avoided. Consequently, every team member was responsible for a task that could not be performed by others or, at least, would be extremely difficult for others. Such structure of operations establishes the expert status of individuals in organizations, influences who talks with whom and, consequently, makes generational differences irrelevant for knowledge flow and direction. As knowledge sharing is an expertise-driven activity in which who knows what drives the frequency of incoming knowledge queries, unique skills of employees rather than age clearly dictate the frequency and direction of knowledge flows in the company.

I am trying to learn from everybody, and I do not pay any attention to the age. (Generation X, Company A)
It is the knowledge he has [which matters the most]. (Generation Y, Company A)

Although we did not find any major differences in knowledge-sharing attitude and behaviour between generation X and Y employees, two minor differences that emerged in interviews are worth mentioning here. First, there is a difference in what the two generations ask about during knowledge sharing. According to the respondents, the younger generation focuses more on details and technical aspects whereas the older generation has a broader perspective and addresses aspects of work processes and general content.

Might be that younger people ask a lot of questions that are more technical but not about the work itself, about processes, or about communication . . . the nature of the questions starts changing when they get older. (Generation X, Company A)

Second, there is a difference in how employees from different age groups prefer to solve problems. Generation Y employees try to solve their problems by themselves, for example, by searching the organization's documents

and the intranet. If unsuccessful, they ask colleagues for help. Conversely, the older generation turns quickly to a colleague. They show more urgency in solving problems, and hence, find it important to contact the relevant experts as soon as possible.

Well, first I google it and if I don't find anything immediately or within 2 to 5 minutes, then I definitely ask my colleagues. (Generation Y, Company A)

4.2 Use of technology for knowledge sharing
The second research question focuses on the possible differences in the use of knowledge sharing technology between generations and how do they show in workplace context. Technology can be used to support knowledge sharing in multiple ways. It can help to connect employees across an organization, which provides opportunity for virtual knowledge sharing and to build knowledge databases to store critical information that can be made available to other employees in order to avoid time and costs associated with the reinvention of solutions. One of the key elements of the debate on generational differences is technology (Anderson, 2013). The differentiating metaphors, such as digital natives, digital immigrants, millennials, and aliens, evidently hint the supposed variation in generation attitude and use of technology. As discussed in the literature review, older generations are usually considered lacking in computer literacy skills, and therefore, less likely to resort to technology for knowledge sharing (Haeger and Lingham, 2014). Nevertheless, our data show that the two generations under study use IT for knowledge sharing skilfully and they have a very positive attitude toward the use of their company's internal knowledge repositories and virtual communication tools for engaging in knowledge sharing.

Every day [I search online]. It might be so that I want to prepare for a discussion or a meeting . . . so I search for ideas . . . and I search on the Internet or in blogs. (Generation X, Company A)

Both companies have well-established intranets that are used to publish important information and search for experts who can help in solving problems at hand. Moreover, chat forums are also used. Such forums act as collective learning platforms. Employees use chat forums to get suggestions and potential solutions for their problems. When asked whether there exist any major differences in terms of technology use regarding knowledge sharing, many stated that differences were uncommon. Generation X employees were using the IT tools they never used before, but found them important, and learned how to use them. For example, one of the employees mentioned the company's video blogs, where anyone can post videos to share work-related information.

Although, I think there is nothing to do with age here. We do communicate and record the events and then put it on our video blog. This maybe the thing that I personally was not used to do . . . In the 90s, there were no video blogs at all. (Generation X, Company A)

There was consensus among Generation X employees that younger generations are relatively better at using technology in innovative ways or even at trying new technological tools for communication. Young employees were quick to notice the potential benefits of new technologies for work. They were more willing to adopt a new software or use a new communication tool for better work efficiency. Consequently, they contributed eagerly in the selection and implementation of new technologies at workplace.

New things, such as online meetings, it may take a little longer for an older worker to learn it, while a young person comes in and starts using it instantly. (Generation X, Company B)

Nevertheless, older employees were not far behind. They managed to learn many such tools that did not even exist when they were young professionals, such as Skype, video blogs, and internal databases. The main impetus behind this learning was the recognition among Generation X employees that technology makes knowledge sharing convenient and efficient. One employee mentioned that,

Communication and sharing knowledge through systems is beneficial as it is visible to everyone and spreads further. (Generation X, Company B)

Traditionally, old generations depend more on human connection, such as face-to-face meetings, for discussions (Haynes, 2011). This was evident in our case studies as well. Generation X employees were clearly of the opinion

that face-to-face communication and online video calls are preferred for knowledge sharing, particularly when the matter is of complex nature and hence requires interactive dialogue.

I absolutely prefer face-to-face communication. (Generation X, Company B)

Yet, we found a similar kind of behaviour among employees from the Generation Y. Young people are thought to be tech savvy and, hence, often resort to passive digital interaction, for example, through online chats or Google for searching information (Connaway et al., 2008). Nevertheless, our interview data show that such demarcation lines are blurred. Many interviewees from Generation Y posited that they consistently engaged in knowledge-sharing interactions face-to-face or through rich media, such as Skype, and even sometimes preferred it over technology-mediated interaction for knowledge sharing. They did it for several reasons. First, they believe that interactive discussion is critical to solve complex and abstract problems. Online passive interaction has always some potential for misunderstanding, as it is easy to misinterpret the nuances and contextualization cues embedded in messages. In highly competitive and dynamic work environments, there is not much room for error. Therefore, many interviewees stated that it is important to engage in face-to-face interaction for rich knowledge sharing.

For communication I prefer my face and my voice. I try to talk face-to-face as much as possible. It also depends with whom we talk and about what we talk. (Generation Y, Company A)

Privacy concerns was another reason why Generation Y employees preferred to interact face-to-face for knowledge sharing. They felt uncomfortable regarding the fact that their online conversations could be stored, traced, and viewed by others. This is a concomitant effect of modern information technology, and it seems that it also influences the use of technology for knowledge sharing in younger generations that are usually very comfortable using new ITs. This finding corresponds with those of Shirish, Boughzala, and Srivastava (2016) that point at privacy as a novel factor affecting adaptive use of new technologies.

I don't like to message in media that are formal and everybody can see it. Of course it's my task to do so and it's online and it should be easy. But I have to check it many times if there are mistakes or if it's correct. I [rather] like to have person-to-person discussions. (Generation Y, Company A)

Overall, our data show that both generations have similar behaviours regarding the use of technology for knowledge sharing. Even though variations in different generations' adoption and use of technology have been emphasized in the literature (Blackburn, 2011; Deal et al., 2010), our results indicate that, in the workplace context, dynamics and demands for efficient knowledge sharing rather than age dictate how and when employees use technology for knowledge sharing.

5. Discussion
Knowledge sharing is an important activity for accomplishing organizational goals. Employees need to solve problems and make decisions for which they need relevant information from various sources. Colleagues and senior co-workers are naturally important sources of information and knowledge; and to understand how knowledge-sharing processes work in organizations is crucial. There is substantial research on knowledge sharing, but mainly focusing on its motives and individual employees' attitudes towards it, as well as on how this affects efficiency in the organization (e.g., Choo, 2013; Chow and Chan, 2008; Widén-Wulff, 2005). Much of knowledge-sharing activities in today's companies are managed through different kinds of knowledge-sharing systems; thus, barriers to knowledge sharing are also related to the use of information technology and systems, which has also been studied extensively. We know less about how different generations manage knowledge sharing in organizations. We know that young people have a distinct approach to information technology (Anderson, 2013; Connaway et al., 2008; Haeger and Lingham, 2014), which would indicate a difference in knowledge-sharing preferences, skills, and abilities. Our literature review on generation groups in the work context points at both similarities and differences between generations in relation to work attitudes and behaviour (Stewart et al., 2017), underlining the complexity of the issue.

5.1 What makes generations similar in knowledge sharing
More importantly, the analysis brought some insights to why the differences are smaller between generations than one would expect. Figure 1 represents the extent of similarity and differences in knowledge sharing between generation X and Y. Moreover, it shows the factors that explain the similarities in knowledge sharing

between the two generations. Our qualitative data clearly show that the professional age and organizational socialization lead to the convergence in both generations' knowledge sharing behaviour.

Differences in knowledge sharing

Similarities in knowledge sharing

Differences in knowledge sharing

- Professional age
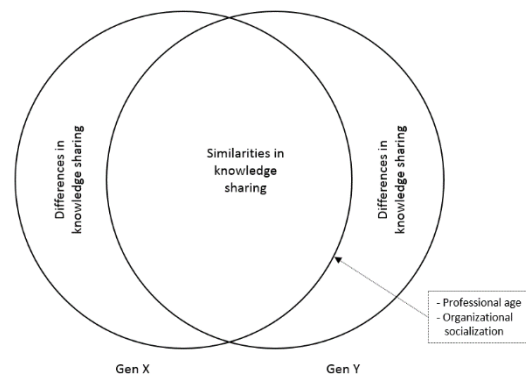- Organizational socialization

Gen X

Gen Y

Figure 1. Drivers of knowledge sharing similarities in generations

The interviews clearly showed that professional age is a more important factor than biological age when describing differences between employees' attitudes towards knowledge sharing. The data also showed that longer tenure provides a certain authority in the working community, thus rendering employees who have been in the company longer as those regarded to have more knowledge about specifics such as products, processes, or market. However, a relatively young employee may have been already several years in the field, thus possessing authority too. Therefore, belonging to a specific generation does not explain everything. On the other hand, expertise does not relate strictly to professional age either. There are areas of expertise that are connected to biological age, such as ability to adapt and learn new technologies. Examples of generational differences are shown in the interviewees' descriptions of what they share and how they come around different work practices involving information and knowledge handling. Younger employees focus more on details and technical aspects, while older employees bring up questions about work processes and more general issues.

Obviously, the age factor comes with several dimensions, it is not only a matter of different generations. This means that age must be treated in a much more nuanced way and we need to look into concepts like expertise, experience, organizational tenure in addition to which generation an employee belongs to. In workplace context age and generations do not necessarily work as straightforward as we think, and we need to move away from focusing on age groups in a static way, chronological age is only one aspect of a complex picture (Angouri 2012). We know that willingness and motivation are factors highly significant for knowledge sharing. For example, in studies focusing on knowledge and expertise transfer from the retiring workforce to younger generations, it is clear that motivation must be present within both generational groups (Virta and Widén, 2011). However, preferences to share knowledge are also connected to competence, expertise, and experience. These are seen as the most valuable resources of employees in knowledge intensive workplaces (Paloniemi 2006). We tend to connect experience with chronological age, but in workplace context it is important to remember that expertise and experience has another age calculation, namely length of tenure and professional identity (Paloniemi 2006; Stewart et al. 2017). The relation between experience, expertise and organizational tenure is also complex, you can have a lot of experience, but less knowledge on organization specific matters. Employees calculate all these factors (expertise, experience, organizational tenure) into who they prefer to share knowledge with, meaning also workplace culture fades out the generational differences in work values and attitudes.

Furthermore, organization's socialization process plays an important role in overriding generational differences in knowledge sharing. Organizational socialization is the process of "learning the ropes, the process of being indoctrinated and trained, the process of knowing what is important in an organization or some subunit thereof" (Wambua, 2014 p. 1; see also Schein, 1989). It occurs when a person enters an organization or switches from one department, team, or rank level to another (Wambua, 2014). One of the key effect of organizational socialization is the alignment between an organization's and its employees' beliefs and ways of doing things.

As new employees immerse in organizational culture, individual differences tend to narrow down. It is evident from the interviews, that knowledge-sharing activities and mechanisms are already established when new employees join the organization. In order to assume organizational role and to perform successfully, employees learn to use available knowledge sharing tools and develop their awareness of expected information sources

and processes. Consequently, employees' working style becomes attuned to organizational work philosophy and information culture. This de-emphasizes major differences between old and young employees. In our case studies, both young and old employees had very good understanding of expected knowledge sharing behaviours and processes, which enable them to act congruently thereby minimizing age-related differences. It shows that a mere existence of age differences does not lead to any significant variations in knowledge sharing behaviours. Employees' understanding of common practices and their integration into organizational environment also play an important role in defining the limits of convergence and divergence in knowledge sharing.

Our study makes an important contribution to knowledge sharing research. It is one of the first study that explicitly investigate knowledge sharing practices in relation to generational diversity. It shows that generational differences do not have a major consequence for knowledge sharing. In doing so, it supports the proposition that knowledge sharing practices are strongly embedded in organizational environment and culture, which can make individual level differences less effective. Moreover, it proposes that rising generational diversity in organizations should not be a matter of concern as long as organizations have socialization mechanism in place. Consequently, it confirms previous knowledge management research that puts organizational socialization processes at the core of strong and coherent knowledge sharing culture.

6. Limitations and conclusions
This paper investigated how generational differences might influence knowledge sharing in organizations. The literature review provided a scattered picture of the impact of generation differences in the workplace context, especially regarding knowledge-sharing activities. In our empirical study we used a mixed-methods approach to study how employees of different age groups think about knowledge-sharing activities. The results underline that age must be studied in a more nuanced way when researching knowledge sharing in organizations. Birth year is not a good explanatory factor, instead, professional age is more important. Biological age has, however, some effects on expertise, especially when it comes to technological skills. Few differences in knowledge-sharing practices between the generations were found, emphasizing the importance of cultural and contextual factors for shaping knowledge-sharing practices. However, this study focused only on two generational cohorts (Generations X and Y) and research should be extended to include the youngest and the oldest generational cohorts in the workplace to add to the understanding of possible generational differences in knowledge sharing.

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