

Intergenerational Lifelong Leaning and Knowledge Sharing in the Workplace: A scoping Review

Cheng Kian Tan, Coco Liu

Submitted to: JMIR Human Factors on: April 21, 2024

Disclaimer: © **The authors. All rights reserved.** This is a privileged document currently under peer-review/community review. Authors have provided JMIR Publications with an exclusive license to publish this preprint on it's website for review purposes only. While the final peer-reviewed paper may be licensed under a CC BY license on publication, at this stage authors and publisher expressively prohibit redistribution of this draft paper other than for review purposes.

Table of Contents

Original Manuscript.......5

Intergenerational Lifelong Leaning and Knowledge Sharing in the Workplace: A scoping Review

Cheng Kian Tan¹ BEng, MBA, MGER, PhD; Coco Liu²

Corresponding Author:

Cheng Kian Tan BEng, MBA, MGER, PhD Singapore University of Social Sciences Clementi Road Singapore SG

Abstract

Background: Asia is ageing. There are now more older persons in the workforce, and there is a need to ensure that these older workers can continue learning and upskilling effectively. We aim to integrate the current research on intergenerational learning in the workplace to discern how older workers can continue practising lifelong learning.

Objective: Within the field of organisational age management, current research is predominantly focused on intergenerational knowledge transfer, where older workers transfer their expertise to younger workers. Older adults are traditionally viewed as knowledge senders while younger workers are viewed as knowledge receivers.

Methods: We conducted a scoping review using the PRISMA methodology and selected ten articles from the recent five years for review.

Results: The experience that older workers have is invaluable. However, the knowledge that younger workers can provide their older colleagues should not be overlooked. It is equally important for older adults to continue learning and upskilling in the workplace, and younger workers can play an instrumental part in that by sharing, in particular, their technology skills. This bidirectional sharing of skill sets applies both within the same workplace and across different working sectors. Furthermore, intergenerational training and development programs, which older and younger adults participate in together, allow them to learn from and among each other. An additional benefit of these intergenerational interaction opportunities is the reduction of ageism against older adults, which can further empower them.

Conclusions: Organisations should further explore mentorship/reverse mentorship programs that allow different generations to learn from each other, as well as training and development programs where employees of different age groups learn together. In addition, in order to inculcate lifelong learning as a lifestyle, organisations should encourage knowledge sharing to happen on an everyday basis, in particular via strong intergenerational cooperation in age-diverse teams. This can be fostered by giving workers greater job autonomy, cultivating a learning culture in the workplace, and building an environment of trust and intergenerational solidarity between employees. Making active efforts towards intergenerational learning has also been shown to alleviate the effects of age stereotypes and prejudices in the workplace, which can further promote intergenerational knowledge sharing. Clinical Trial: Nil

(JMIR Preprints 21/04/2024:59735)

DOI: https://doi.org/10.2196/preprints.59735

Preprint Settings

1) Would you like to publish your submitted manuscript as preprint?

✓ Please make my preprint PDF available to anyone at any time (recommended).

Please make my preprint PDF available only to logged-in users; I understand that my title and abstract will remain visible to all users. Only make the preprint title and abstract visible.

No, I do not wish to publish my submitted manuscript as a preprint.

¹Singapore University of Social Sciences Singapore SG

²University of Chicago Chicago US

- 2) If accepted for publication in a JMIR journal, would you like the PDF to be visible to the public?
- ✓ Yes, please make my accepted manuscript PDF available to anyone at any time (Recommended).

Yes, but please make my accepted manuscript PDF available only to logged-in users; I understand that the title and abstract will remain verse, but only make the title and abstract visible (see Important note, above). I understand that if I later pay to participate in <a href="https://example.com/above/example.com/abo

Original Manuscript

Intergenerational Lifelong Learning and Knowledge Sharing in the Workplace: A Scoping Review

Dr. Kelvin Tan Cheng Kian^{1,*} and Ms. CoCo Liu²

¹ Singapore University of Social Sciences, Singapore Dr. Kelvin Tan Cheng Kian, kelvintanck@suss.edu.sg ² University of Chicago, Chicago, USA Ms CoCo Liu, cocoliu@uchicago.edu

Abstract

Asia is ageing. There are now more older persons in the workforce, and there is a need to ensure that these older workers can continue learning and upskilling effectively. We aim to integrate the current research on intergenerational learning in the workplace to discern how older workers can continue practising lifelong learning. We conducted a scoping review using the PRISMA methodology and selected ten articles from the recent five years for review. Within the field of organisational age management, current research is predominantly focused on intergenerational knowledge transfer, where older workers transfer their expertise to younger workers. Older adults are traditionally viewed as knowledge senders while younger workers are viewed as knowledge receivers. Indeed, the experience that older workers have is invaluable. However, the knowledge that younger workers can provide their older colleagues should not be overlooked. It is equally important for older adults to continue learning and upskilling in the workplace, and younger workers can play an instrumental part in that by sharing, in particular, their technology skills. This bidirectional sharing of skill sets applies both within the same workplace and across different working sectors. Furthermore, intergenerational training and development programs, which older and younger adults participate in together, allow them to learn from and among each other. An additional benefit of these intergenerational interaction opportunities is the reduction of ageism against older adults, which can further empower them. We conclude with making recommendations for how organisations can support intergenerational learning.

Keywords: lifelong learning, workplace, knowledge sharing, ageing workforce, intergenerational interaction

Background

Ageing Workforce

Many organisations are now confronted with serious challenges due to demographic changes (Schmidt & Muehlfeld, 2017), where workforces become increasingly age diverse (Rudolph & Zacher, 2015). There is a growing number of older employees relative to younger ones. This is especially true in Asia, which is ageing rapidly – it is estimated that one in four people in Asia and the Pacific will be over 60 years old by 2050, tripling from 2010 to 2050 (Asian Development Bank, 2021). In Japan, which is one of the fastest-ageing societies in the world, 71.0% of older adults aged 60-64 years old were employed in 2020, up from 57.1% in 2010 (Cabinet Office, 2021). This trend also holds true in Singapore, where the proportion of workers aged 55 and over rose from 16.5% in 2010 to 25.7% in 2020 (Ministry of Manpower, 2021). This could be a source of concern partly

because ageing will impact how knowledge-productive an organisation is (Stam, 2009). At the same time, the nature of work is becoming "more dynamic, interactive, and complex" (Gerpott & Fasbender, 2020). There is hence an urgent need for older employees to continue to learn and acquire new skills and for organisations to support them in doing so.

Intergenerational Lifelong Learning

Older workers should hence inculcate lifelong learning into their lives, and organisations should promote it with well-designed training approaches, which can benefit older workers (Husic et al., 2020). When older employees are given the chance to learn and further develop their career, their motivation to continue working increases (Kooij et al., 2008). Educating older workers can also improve competitiveness and economic growth (Bencsik & Trunkos, 2009).

In this vein, intergenerational learning – defined as "individuals' joint construction of knowledge through an exchange of information with one or more individuals from different age groups" (Gerpott & Fasbender, 2020) – is an approach that can realise lifelong learning for older employees. Intergenerational learning can be characterised as the collaboration between different generations so as to "exchange information, knowledge, experiences, values, stories, and joint development of practices". This practice can increase mutual understanding and cohesiveness between people of different ages (Ličen, 2021). There is some evidence that intergenerational learning can benefit older workers (Ropes, 2013), and can allow them to remain active for a longer period (Tang & Martins, 2021).

However, older employees are likely to have fewer opportunities to learn at work than their younger counterparts (Beck, 2014), and companies tend to put in less investment in the training of older employees (Verworn and Hipp, 2020).

Knowledge Transfer in the Workplace

The primary way in which intergenerational learning happens in the workplace is through intergenerational knowledge transfer. Knowledge transfer can be defined as "the process through which one unit (e. g. group, department, or division) is affected by the experience of another" (Argote & Ingram, 2000). Other authors have characterised knowledge transfer as a process of transferring information from one source to another (Wang & Noe, 2010). More recent research has further broken this process down into two distinct actions: knowledge sharing and knowledge seeking (Schmidt & Muehlfeld, 2017). Knowledge sharing involves providing information and knowledge, such as by explicitly showing procedures to colleagues, whereas knowledge seeking describes the obtaining of knowledge from others, such as by asking colleagues (Wilkesmann, Wilkesmann, & Virgillito, 2009). Knowledge transfer is a dyadic and interactive process (Reinholt et al., 2011) and can occur through different mediums, such as face-to-face or online (Wang & Noe, 2010).

Different types of knowledge are most commonly distinguished as explicit or tacit knowledge. Explicit knowledge is "formal and standardised knowledge that can be codified and transferred more easily", while tacit knowledge is more difficult to codify and pass on as it is based on experience (Schmidt & Muehlfeld, 2017). Because tacit knowledge is organisation-specific and difficult to imitate (Ambrosini & Bowman, 2001), the threat of losing it when older workers leave the workforce is particularly serious, and it must occur for the organisation to continue to function (Sprinkle & Urick, 2018).

Hence, knowledge transfer is seen as a possible solution to prevent the loss of tacit and explicit knowledge (Argote & Ingram, 2000).

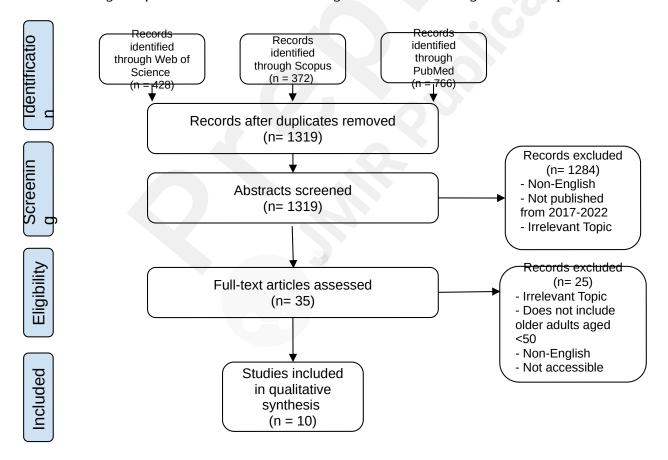
Objective

In this study, we aim to integrate existing literature on intergenerational learning and knowledge sharing in the workforce to examine how older workers can continue practising lifelong learning. We then discuss how companies can support their older employees in this process. We define older workers as individuals over the age of 50, following the precedent set in previous research (Gerpott & Fasbender, 2020). We do not restrict the scope to Asia due to the limited research specific to the region; however, the findings should nevertheless be applicable.

Methodology

We conducted a scoping review on intergenerational learning in the workplace using the PRISMA methodology (Moher, 2009). In this section, we elaborate on the PRISMA methodology's four protocols, which we used for this paper. The PRISMA diagram is presented in Figure 1.

Figure 1 *PRISMA diagram for literature review on intergenerational learning in the workplace*



Identification

We searched three databases, Web of Science, Scopus, and PubMed, for relevant peer-reviewed papers published from 2017 to 2022. This search was done in August 2022. The research keywords

used included a combination of the terms "older persons", "intergenerational learning", "workforce", "workplace learning", and other related terms.

Screening

Over 1,500 articles were obtained from the search, which was reduced to 1,319 articles after removing duplicates. We then shortlisted articles based on a review of titles and abstracts, excluding articles that were not in English, were published before 2017, or that did not align with this study's research objectives. A total of 35 articles were shortlisted.

Eligibility

In the eligibility stage, we assessed the full text of the shortlisted articles for their eligibility for inclusion in this study. Some of the articles had promising abstracts that included relevant keywords, but the full-text article had only limited mention of intergenerational learning in the workplace. Such studies were not included in this scoping review. We also excluded studies that did not include older persons above the age of 50 and articles where the full text was not available or not accessible.

Included

Finally, we included ten articles that matched our research topic of intergenerational learning in the workplace. We consolidated a summary of the articles in Table 1, which outlines the contributing authors, type of study, a brief overview, and the key findings of each study. Some articles covered a broader scope than this review, and so contained findings that are not under our research scope. In such cases, only the relevant findings were discussed.

Table 1Summary of articles found in scopina review

301111111111111111111111111111111111111	Builinary of articles Journa in Scoping review					
	Type of					
Authors	Study	Overview Relevant Key Findings				
		Data was collected from				
		employees of various companies				
		to develop a multidimensional Intergenerational synergy in				
		model of a healthy and the workplace fosters				
		entrepreneurial work intergenerational knowledge				
		environment for older sharing and cooperation,				
		employees and determine its which increases employee				
Rožman et al.		impact on their work engagement and work				
(2022)	Quantitative	engagement during COVID- 19. outcomes.				
		Preschool teachers aged 24-65 Intergenerational learning in				
Sindic et al.		were surveyed on how cooperation with colleagues				
(2022)	Quantitative	intergenerational learning has positive outcomes on				

		affected professional	
		cooperation and personal	
		growth; inclusion of the elderly	one's professional and
		in educational work and	personal development, and
		humanities education; and	reduces prejudice against
		prejudices and stereotypes.	older adults.
			Quality and quantity of
			intergenerational contact
			and knowledge sharing
		Canadian workers aged 18-68	contribute to reducing
		were assessed on whether	ageism, increasing worker
		intergenerational contact and	engagement, and increases
Lagacé et al.		knowledge sharing contribute to	intention to remain in the
(2022)	Quantitative	reducing ageism.	organisation.
			In Thailand, reciprocal
			intergenerational learning
		The authors presented case	took place, with young
		studies of 15 different countries,	people teaching older adults
		showing how each country was	digital literacy while the
		responding to the effect of	latter transferred traditional
Pit et al.	Mixed	COVID-19 on an ageing	agricultural knowledge to
(2021)	methods	workforce.	the latter.
		The authors presented a	Implicit age norms and
		conceptual model detailing the	social comparison could
		motivational and emotional	hinder bidirectional
		consequences linking social	intergenerational learning as
Gerpott &		comparison processes in	younger workers feel less
Fasbender		meetings to intergenerational	empowered to share their
(2020)	Conceptual	learning outcomes.	knowledge.
Grah et al.	Qualitative	A case study of a high-end	Older workers serve as
(2019)		luxury fashion designer, who	excellent mentors to young
		was interviewed on age	people and their value as
		management practices and how	experts should not be
		to encourage older employees to	neglected.

		remain in the workforce.	
		remain in the workforce.	Organisations should seek
		The paper explores knowledge	
		management issues and	interactions holistically, and
		development initiatives related	development programs
Sprinkle &		to intergenerational phenomena	should be flexible and
Urick (2018)	Conceptual	in the workplace.	individualistic.
			Older workers are perceived
			as knowledge senders while
			younger workers are
			perceived as knowledge
		Two studies were conducted to	recipients. Trustworthiness
		examine perceptions of age and	plays a major role in
Burmeister et		their effect on intergenerational	improving bidirectional
al. (2018)	Quantitative	knowledge transfer.	knowledge transfer.
			Organisational level
			characteristics and network
			characteristics have
			different effects on
			intergenerational knowledge
			transfer compared to
			intragenerational knowledge
			transfer. The differences
		A systematic review on the	between generations impact
		literature around	positive and negative
Schmidt &		intergenerational knowledge	antecedents of
Muehlfeld	Systematic	transfer to formulate a set of	intergenerational knowledge
(2017)	Review	propositions for future research.	transfer.
Kaplan et al.	Conceptual	The authors discuss promising	Intergenerational learning
(2017)		models of programs that	programs can include both
		promote intergenerational	mentorship and reverse
		learning in the workplace.	mentorship, and incorporate
			training to stimulate
			learning among and



Findings and Discussion

Mentorship

The literature on intergenerational learning in the workplace is primarily focused on knowledge transfer, with a heavy emphasis on how to effectively transfer tacit and explicit knowledge from older workers to younger workers. This implicitly assumes that older workers do not have much to learn or no longer need to learn. However, in this review, we proceed under the premise that older workers can and should actively practise lifelong learning in the workforce, and that there is still much that they can learn from and with their younger colleagues. That said, it would be remiss to neglect the role that older workers play in passing on their knowledge and skills to younger workers, so we briefly discuss it here.

Grah et al. (2019), by interviewing a highly successful fashion designer, emphasise the value that older workers have due to their knowledge and experience; they are "appreciated experts". They serve as excellent mentors to younger workers and can guide the latter to make faster progress and learn more quickly, both in their careers and in life. This has undisputed benefits for the business and for society at large.

Bidirectional Knowledge Sharing

In contrast to unidirectional knowledge transfer, where older workers only occupy the role of knowledge sharers and younger workers only occupy the role of knowledge seekers, we are more concerned with bidirectional knowledge sharing, where older workers and younger workers learn from each other. Unidirectional knowledge transfer can be very limiting: it overlooks the fact that younger workers can also possess valuable knowledge that can be shared with their colleagues to increase individual and organisational productivity (Burmeister et al, 2018). Furthermore, older workers are not given the opportunity to learn and seek knowledge. As a result, organisations that only encourage unidirectional knowledge transfer between older and younger workers may not realise the full potential of their age-diverse workforces (Burmeister et al., 2018), where members of different generations can help each other learn (Urick, 2020).

In an age-diverse workforce, employees of different age groups can share their varying and valuable knowledge with their colleagues in the organisation (Burmeister et al., 2018). These varying age groups usually have different but equally essential experiences and skills. For example, while older workers can share institutional memory or social knowledge like how to resolve conflicts (Sindic et al., 2022; Schmidt & Muehlfeld, 2017), younger workers can help to make use of the knowledge base of older workers by probing them and having discussions with them and can guide older workers on how to use new technologies (Burmeister et al., 2018).

This ability for younger workers to share their technological knowledge with their older colleagues has been much discussed, and can be seen across various sectors. For example, Sindic et al. (2022) demonstrated that older preschool teachers learn information and communications technologies (ICT) from their younger colleagues. Schmidt & Muehlfeld (2017) go further to conceptualise younger and older workers as 'digital natives' and 'digital immigrants' respectively, borrowing those terms from Prensky (2001). Younger workers ('digital natives') would have grown up with technology and can understand it intuitively, while older workers ('digital immigrants') face

problems with learning new technology. In this sense, older employees could benefit greatly from the knowledge of younger colleagues.

Furthermore, intergenerational learning, which can happen during professional cooperation between generations (Sindic et al, 2022), strengthens intergenerational cooperation. Intergenerational cooperation is crucial for creating good working conditions and an attractive working environment (Rožman et al., 2022). Strong intergenerational cooperation can boost work engagement for both younger and older employees (Rožman et al., 2022; Lagacé et al., 2022).

However, bidirectional knowledge sharing is a difficult process that require both parties to put in time and effort, and it can be further hindered by effects from age norms (Burmeister et al., 2018), which are 'widely shared judgments of the standard or typical age of individuals holding a role or status' (Lawrence, 1988). In an empirical study of 450 employees aged 19-66 years old, Burmeister et al. (2018) found that older people were more likely to be perceived as a knowledge sharer and less likely to be perceived as a knowledge seeker. In line with this, they were more likely than younger workers to be perceived as being motivated to share knowledge, but were also less likely than younger workers to be perceived as being able to share knowledge. In other words, older workers were perceived as wanting to share their knowledge but not actually being able to. The authors attributed this to possible prejudiced stereotypes that older workers are less competent due to reduced mental capabilities.

At the same time, older workers were also less likely than younger workers to be perceived as both able and motivated to receive knowledge; in other words, younger workers were seen as eager and capable knowledge seekers. This indicates the existence of age norms that portray younger workers as inexperienced but open to learning, in contrast to older workers, who are seen as less willing and able to learn (Burmeister et al., 2018).

Notably, Burmeister et al. also found that trustworthiness served as an important moderator in the relationships between age and perceived ability and motivation to share knowledge. Older workers with high trustworthiness were perceived as more able to share knowledge, potentially combating the effect of the aforementioned negative age stereotypes. Likewise, younger workers with high trustworthiness were perceived as more willing to share knowledge, which could be of benefit to their older colleagues. These findings demonstrate the importance of trustworthiness in the bidirectional knowledge sharing between older and younger workers.

Thus far, we have discussed bidirectional knowledge sharing within organisations. However, there is also potential for knowledge sharing across different organisations or even different sectors, which can be particularly useful for reenergizing sectors by upgrading the skillsets of workers in those sectors. Pit et al. (2021) describes the case study of Thailand, where such cases of intergenerational solidarity were seen during the COVID-19 pandemic. The pandemic forced younger workers in heavily affected sectors, such as the tourism industry, to branch out into new career opportunities. For example, they worked with older, less tech-savvy business owners and taught them about ecommerce, which helped to keep these businesses afloat. There was also an increase in young people moving from urban to rural areas to take up agriculture, learning from older farmers. These young people could combine their digital skills with the traditional agricultural knowledge they gain from older farmers. Further opportunities can be explored in this vein and concrete programs could be put in place to encourage such cross-sector intergenerational learning and upskilling.

Intergenerational Training and Development Programs

There is more limited, but no less important, literature on intergenerational training and development programs, where older and younger workers participate together, in the process both learning with and from each other. These programs and workshops would encourage the exchange of knowledge, skills, and experience between older and younger workers in the process of learning, and can be held both in-person and online (Lagacé et al., 2022). Kaplan et al. (2017) discusses several pre-existing programs, and highlights how intergenerational training and workshops can "stimulate learning among and between the generations", and is a low-investment way of encouraging knowledge generation and innovation. The creation and maintenance of intergenerational teams, where people of different generations work together and learn on the job together, can serve a similar purpose (Kaplan et al., 2017).

Reducing Ageism

Age stereotypes are still unfortunately common in the workplace. These myths and stereotypes can create tension between generations (Kaplan et al., 2017). There is a significant amount of literature on the explicit content of these stereotypes, primarily that older employees presumably have "lower performance, slow actions, and resistance to change" (Schmidt & Muehlfeld, 2017). They are also seen as unmotivated (Rožman et al., 2022). These views are commonly held by both younger employees and supervisors (Schmidt & Muehlfeld, 2017).

These prejudiced stereotypes could have negative consequences for older workers, and could develop into age discrimination (Rožman et al., 2022). For example, older employees experienced a decrease in performance after being primed with negative stereotypes (Schmidt & Muehlfeld, 2017).

Many solutions have been proposed to combat ageism, most of which emphasise direct intergenerational contact (Kaplan et al., 2017). A specific way to realise this could be through intergenerational knowledge sharing. Knowledge sharing behaviours represent both quantity and quality intergroup contact. Intergenerational knowledge sharing has been linked to reducing negative ageist stereotypes in the workplace, possibly because the process of sharing knowledge allows employees of different generations to get to know each other beyond their age stereotypes (Lagacé et al., 2022). Even in unidirectional knowledge transfer, such as an established mentor/mentee relationship between an older worker and a younger worker, participants are forced to look beyond stereotypes. The younger mentee is likely to appreciate the insight and expertise gained from the older mentor (Sprinkle & Urick, 2018).

Such intergenerational dialogue is associated with "different knowledge, experiences, worldviews, and ways of thinking", which can foster understanding between generations and reduce age-related prejudices and stereotypes (Sindic et al., 2022). Indeed, in an empirical study conducted by Sindic et al. (2022) on 105 preschool teachers aged 24-65, it was found that the teachers who practised intergenerational learning were not prone to ageist stereotypes against older people, supporting the idea that intergenerational dialogue can help to reduce discriminatory barriers between generations.

Supporting Intergenerational Learning

Organisations that can effectively manage and utilise their age-diverse employees have an advantage over other organisations that do not encourage intergenerational collaboration among their employees (Agrawal, 2012).

Such intergenerational collaboration and learning can be fostered through the purposeful cultivation of workplace cultures and qualities. In particular, organisations can offer its employees a higher level of autonomy (Schmidt & Muehlfeld, 2017), which includes giving them more opportunities to interact with colleagues and exchange knowledge (Nonaka, 1994). Furthermore, in organisations that signal the importance of knowledge sharing and explicitly allow employees to share knowledge with each other, they are likely to share knowledge that would otherwise not be shared (Mueller, 2014). On the other hand, knowledge seeking would require less organisational support, because employees would seek knowledge out of necessity for their job duties. Therefore, job autonomy would have a larger effect on knowledge sharing than for knowledge seeking (Schmidt & Muehlfeld, 2017).

Organisations can also try to cultivate a learning culture, which denotes "an environment where most organisational members value learning and strive for high performance through learning" (Schmidt & Muehlfeld, 2017). A learning culture enables knowledge sharing in the organisation (Jo & Joo, 2011); an organisation that values the learning of its employees sees more exchange of knowledge, and older employees, in particular, may perceive their expertise as valuable and may feel appreciated (Schmidt & Muehlfeld, 2017). This would be especially applicable for intergenerational knowledge transfer, as a learning culture could alleviate the negative effects of ageism against older employees. It would encourage younger workers to engage in knowledge seeking, while at the same time enriching the knowledge sharing of older workers. (Schmidt & Muehlfeld, 2017).

Additionally, organisations can cultivate a climate of trust among employees, which would increase the intrinsic motivation employees have to participate in knowledge transfer (Collins & Smith, 2006). This was also demonstrated by Burmeister et al. (2018), who found that high trustworthiness benefitted both older and younger workers in their perceived ability to share knowledge. In a similar vein, Schmidt and Muehlfeld (2017) suggest that co-worker support is positively correlated with intergenerational knowledge transfer, more so than for similar intragenerational processes, because older employees express a desire for stronger co-worker support than younger employees.

A crucial factor that affects intergenerational knowledge transfer is perceived age discrimination and age norms in the workplace. Paradoxically, while intergenerational learning can alleviate the effects of ageism in the workplace, the latter also impedes the former. More specifically, intergenerational knowledge transfer is negatively affected by the existence of stereotypes and generational norms. For example, older workers might, consciously or subconsciously, internalise a negative image of themselves and have a lower performance, reducing intergenerational knowledge transfer.

On the other hand, for younger workers, age norms such as the norm that they should listen to and learn from their older and wiser colleagues (Tempest 2003) could be reflected in how younger workers might be more hesitant to speak up in meetings. As a result, they share less knowledge (Gerpott & Fasbender, 2020). At the same time, older workers, believing that younger workers would not care about organisational customs and values, might withhold such information, reducing intergenerational knowledge transfer (Sprinkle & Urick, 2018).

Schmidt and Muehlfeld (2017) also propose that age discrimination, which is the differential treatment of employees due to their age (Kunze et al., 2011), has both direct and indirect effects on intergenerational transfer. First, if older employees do not feel supported by the organisation, they may reduce knowledge sharing. Additionally, younger employees who hold negative stereotypes about their older colleagues may reduce their interactions with the latter (Schmidt & Muehlfeld, 2017), or they might perceive older people as unwilling to learn (Warhurst and Black, 2015), thereby directly inhibiting knowledge transfer. Indirect effects include that an age discrimation climate negatively impacts employee attitudes and resources – for example, lowering self-esteem and

reducing job satisfaction – which in turn hampers intergenerational knowledge transfer.

In sum, the transfer of both tacit and experiential knowledge could be improved by reducing the effect of perceptions of generational differences (Sprinkle & Urick, 2018). Organisations should therefore devote more attention and resources to improving intergenerational synergy and solidarity (Rožman et al., 2022).

Future Research

Future research can further explore bidirectional knowledge sharing in the workplace and examine the dynamics of the younger person—older person dyad in a reverse mentorship. Additionally, more research should be conducted in Asian societies, especially since there is some evidence that the cultural differences between Asian and Western societies — and between different Asian societies — is reflected in the workplace (Park et al., 2019).

Conclusion

In this paper, we have discussed the ways in which intergenerational learning can be realised in the workplace. While most of the literature on the topic of intergenerational knowledge transfer emphasises the expert role that older workers can play in mentoring younger workers, we focused primarily on how older workers can continue to learn and upgrade their skills through intergenerational learning. It is imperative that we reframe the role of older employees in the workplace from solely wells of knowledge and experience to one half of the dyadic process of bidirectional knowledge sharing.

Organisations should further explore mentorship/reverse mentorship programs that allow different generations to learn from each other, as well as training and development programs where employees of different age groups learn together. In addition, in order to inculcate lifelong learning as a lifestyle, organisations should encourage knowledge sharing to happen on an everyday basis, in particular via strong intergenerational cooperation in age-diverse teams. This can be fostered by giving workers greater job autonomy, cultivating a learning culture in the workplace, and building an environment of trust and intergenerational solidarity between employees. Making active efforts towards intergenerational learning has also been shown to alleviate the effects of age stereotypes and prejudices in the workplace, which can further promote intergenerational knowledge sharing.

References

- Adapting to Aging Asia and the Pacific. (2022, July 21). Asian Development Bank. https://www.adb.org/what-we-do/themes/social-development/overview/aging#: %7E:text=Population%20Aging%20in%20Asia%20and%20the%20Pacific&text=By %202050%2C%20one%20in%20four,close%20to%201.3%20billion%20people.
- Agrawal, V. (2012). Managing the diversified team: challenges and strategies for improving performance. *Team Performance Management: An International Journal*, 18(7/8), 384–400. https://doi.org/10.1108/13527591211281129
- Ambrosini, V., & Bowman, C. (2001). Tacit Knowledge: Some Suggestions for Operationalization. *Journal of Management Studies*, *38*(6), 811–829. https://doi.org/10.1111/1467-6486.00260
 - Annual Report on the Ageing Society (2021) The Cabinet Office. https://www8.cao.go.jp/kourei/english/annualreport/2021/pdf/2021.pdf
- Argote, L., & Ingram, P. (2000). Knowledge Transfer: A Basis for Competitive Advantage in Firms. *Organizational Behavior and Human Decision Processes*, *82*(1), 150–169. https://doi.org/10.1006/obhd.2000.2893
- Barakovic Husic, J., Melero, F. J., Barakovic, S., Lameski, P., Zdravevski, E., Maresova, P., Krejcar, O., Chorbev, I., Garcia, N. M., & Trajkovik, V. (2020). Aging at Work: A Review of Recent Trends and Future Directions. *International Journal of Environmental Research and Public Health*, *17*(20), 7659. https://doi.org/10.3390/ijerph17207659
- Beck, V. (2012). Employers' views of learning and training for an ageing workforce. *Management Learning*, 45(2), 200–215. https://doi.org/10.1177/1350507612468421
 - Bencsik, A., & Trunkos, I. (2009). Economic changes demand to move from life long learning to life wide learning. Problems of Education in the 21st Century, 15, 20-28. https://www.proquest.com/scholarly-journals/economic-changes-demand-move-life-long-learning/docview/2343815762/se-2
- Burmeister, A., Fasbender, U., & Deller, J. (2018). Being perceived as a knowledge sender or knowledge receiver: A multistudy investigation of the effect of age on knowledge transfer. *Journal of Occupational and Organizational Psychology*, 91(3), 518–545. https://doi.org/10.1111/joop.12208
- Collins, C. J., & Smith, K. G. (2006). Knowledge Exchange and Combination: The Role of Human Resource Practices in the Performance of High-Technology Firms. *Academy of Management Journal*, *49*(3), 544–560. https://doi.org/10.5465/amj.2006.21794671
 - Gerpott, F.H. and Fasbender, U. (2020), "Intergenerational Learning in Age-Diverse Meetings: A Social Comparison Perspective", Meinecke, A.L., Allen, J.A. and Lehmann-Willenbrock, N. (Ed.) *Managing Meetings in Organizations (Research on Managing Groups and Teams, Vol. 20*), Emerald Publishing Limited, Bingley, pp. 185-206. https://doi.org/10.1108/S1534-08562020000020009
- Grah, B., Perme, E., Colnar, S., & Penger, S. (2019). Age Management: What Can we Learn from

High-End Luxury Fashion Designer with More than 50 Years of Working Experience? *Organizacija*, 52(4), 325–344. https://doi.org/10.2478/orga-2019-0020

- Kaplan, M., Sanchez, M., Hoffman, J. (2017). Intergenerational Strategies for Establishing Sustainable Work Environments. In: Intergenerational Pathways to a Sustainable Society. *Perspectives on Sustainable Growth*. Springer, Cham. https://doi.org/10.1007/978-3-319-47019-1_7
- Kooij, D., de Lange, A., Jansen, P., & Dikkers, J. (2008). Older workers' motivation to continue to work: five meanings of age. *Journal of Managerial Psychology*, 23(4), 364–394. https://doi.org/10.1108/02683940810869015
- Kunze, F., Boehm, S. A., & Bruch, H. (2010). Age diversity, age discrimination climate and performance consequences-a cross organizational study. *Journal of Organizational Behavior*, 32(2), 264–290. https://doi.org/10.1002/job.698
- Lagacé, M., Donizzetti, A. R., van de Beeck, L., Bergeron, C. D., Rodrigues-Rouleau, P., & St-Amour, A. (2022). Testing the Shielding Effect of Intergenerational Contact against Ageism in the Workplace: A Canadian Study. *International Journal of Environmental Research and Public Health*, *19*(8), 4866. https://doi.org/10.3390/ijerph19084866
- Lawrence, B. S. (1988). NEW WRINKLES IN THE THEORY OF AGE: DEMOGRAPHY, NORMS, AND PERFORMANCE RATING. *Academy of Management Journal*, 31(2), 309–337. https://doi.org/10.2307/256550
 - Ličen, Nives (2021), Učenje kroz sretanje generacija, Banja Luka: Filozofski fakultet.
- Ministry of Manpower. (2021, August 17). *Article: Growing Alongside Our Ageing Workforce*. MRSD,

 https://stats.mom.gov.sg/Pages/Growing_Alongside_Our_Ageing_Workforce.aspx
- Moher, D. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *Annals of Internal Medicine*, *151*(4), 264. https://doi.org/10.7326/0003-4819-151-4-200908180-00135
- Mueller, J. (2014). A specific knowledge culture: Cultural antecedents for knowledge sharing between project teams. *European Management Journal*, *32*(2), 190–202. https://doi.org/10.1016/j.emj.2013.05.006
- Nonaka, I. (1994). A Dynamic Theory of Organizational Knowledge Creation. *Organization Science*, 5(1), 14–37. https://doi.org/10.1287/orsc.5.1.14
- Park, H. S., Lee, H. E., Kingsley Westerman, C. Y., & Guan, X. (2019). We Want a Team Player: A Formative Cross-Cultural Investigation in the United States, China, and South Korea. *Journal of Cross-Cultural Psychology*, *50*(10), 1161–1181. https://doi.org/10.1177/0022022119863884
- Pit, S., Fisk, M., Freihaut, W., Akintunde, F., Aloko, B., Berge, B., Burmeister, A., Ciacâru, A., Deller, J., Dulmage, R., Han, T. H., Hao, Q., Honeyman, P., Huber, P. C., Linner, T., Lundberg, S., Nwamara, M., Punpuing, K., Schramm, J., . . . Yap, J. C. H. (2021). COVID-19 and the ageing workforce: global perspectives on needs and solutions across 15 countries. *International Journal for Equity in Health*, 20(1). https://doi.org/10.1186/s12939-021-01552-w

Prensky, M. (2001). Digital Natives, Digital Immigrants Part 1. *On the Horizon*, 9(5), 1–6. https://doi.org/10.1108/10748120110424816

- Reinholt, M., Pedersen, T., & Foss, N. J. (2011). Why a Central Network Position Isn't Enough: The Role of Motivation and Ability for Knowledge Sharing in Employee Networks. *Academy of Management Journal*, *54*(6), 1277–1297. https://doi.org/10.5465/amj.2009.0007
- Ropes, D. (2013). Intergenerational learning in organizations. *European Journal of Training and Development*, *37*(8), 713–727. https://doi.org/10.1108/ejtd-11-2012-0081
- Rožman, M., Tominc, P., & Crnogaj, K. (2022). Healthy and Entrepreneurial Work Environment for Older Employees and Its Impact on Work Engagement during the COVID-19 Pandemic. *Sustainability*, *14*(8), 4545. https://doi.org/10.3390/su14084545
 - Rudolph, C. W., & Zacher, H. (2015). Intergenerational perceptions and conflicts in multi-age and multigenerational environments. In F. Fraccaroli, D. M. Truxillo, L. M. Finkelstein & R. Kanfer (Eds.), *Facing the challenges of a multi-age workforce: Ause-inspired approach* (pp. 253–282). New York, NY: Routledge. https://doi.org/10.4324/9780203776322
- Schmidt, X., & Muehlfeld, K. (2017). What's So Special About Intergenerational Knowledge Transfer? Identifying Challenges of Intergenerational Knowledge Transfer. *Management Revu*, *28*(4), 375–411. https://doi.org/10.5771/0935-9915-2017-4-375
- Šindić, A., Partalo, D., & Ličen, N. (2022). Preschool teachers' perspective on factors of intergenerational learning important for professional development. *Metodički Ogledi*, 29(1), 125–142. https://doi.org/10.21464/mo.29.1.8
- Singh, S., Thomas, N., & Numbudiri, R. (2021). Knowledge sharing in times of a pandemic: An intergenerational learning approach. *Knowledge and Process Management*, *28*(2), 153–164. https://doi.org/10.1002/kpm.1669
- Sprinkle, T. A., & Urick, M. J. (2018). Three generational issues in organizational learning. *The Learning Organization*, *25*(2), 102–112. https://doi.org/10.1108/tlo-02-2017-0021
 - Stam, C.D. (2009). Knowledge and the ageing employee: a research agenda.
- Sung Jun Jo, & Joo, B. K. (2011). Knowledge Sharing: The Influences of Learning Organization Culture, Organizational Commitment, and Organizational Citizenship Behaviors. *Journal of Leadership & Mamp; Organizational Studies*, 18(3), 353–364. https://doi.org/10.1177/1548051811405208
- Tang, J., & Martins, J. T. (2021). Intergenerational workplace knowledge sharing: challenges and new directions. *Journal of Documentation*, *77*(3), 722–742. https://doi.org/10.1108/jd-08-2020-0129
- Tempest, S. (2003). Intergenerational Learning. *Management Learning*, 34(2), 181–200. https://doi.org/10.1177/1350507603034002002
- Urick, M. (2020). Generational Differences and COVID-19: Positive Interactions in Virtual Workplaces. *Journal of Intergenerational Relationships*, *18*(4), 379–398. https://doi.org/10.1080/15350770.2020.1818662

Verworn, B., & Hipp, C. (2009). Does the ageing workforce hamper the innovativeness of firms? (No) evidence from Germany. *International Journal of Human Resources Development and Management*, 9(2/3), 180. https://doi.org/10.1504/ijhrdm.2009.023452

- Wang, S., & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, *20*(2), 115–131. https://doi.org/10.1016/j.hrmr.2009.10.001
- Warhurst, R. P., & Black, K. E. (2015). It's never too late to learn. *Journal of Workplace Learning*, *27*(6), 457–472. https://doi.org/10.1108/jwl-07-2014-0050
- Wilkesmann, U., Wilkesmann, M., & Virgillito, A. (2009). The Absence of Cooperation Is Not Necessarily Defection: Structural and Motivational Constraints of Knowledge Transfer in a Social Dilemma Situation. *Organization Studies*, *30*(10), 1141–1164. https://doi.org/10.1177/0170840609344385