Intergenerational Leadership and Knowledge Transfer: Case of Cobot Integration

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Abstract

This article explores the complexities and benefits of leading collaborative robots, particularly in terms of intergenerational and technological oversight. It looks at the challenges that companies face and the potential benefits that can emerge from such situations. The aim is to guide how to effectively maneuver through these different scenarios. The primary objective is to examine the hurdles that organizations must overcome, identify the available opportunities, and formulate successful strategies not only for survival but also for prosperity in this complex environment. Therefore, we support the opinion that knowledge transfer between different generations is a bidirectional process where both younger and older employees are part of knowledge sharing and knowledge receiving activities within the organization

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Introduction

Generational and technology leadership has emerged as a pressing issue. As we grapple with diverse workforces and rapid technological advances, it is essential to understand these dynamics concisely. According to Kuyken and Costanza (2024) and Leon (2023), there is an increasing focus on intergenerational leadership. This involves a deep recognition of the uniqueness that each generation brings to the workplace in terms of its strengths and challenges (Kuyken & Costanza, 2024). At the same time, the rise of collaborative robots - or "cobots" - has focused attention on technology leadership, a field concerned with the organisation, coordination and optimisation of technology within an organisation (Ranasinghe et al., 2024).

Intergenerational leadership and technological integration have moved from being complementary to being essential pillars of the modern workforce (Ramírez-Herrero et al., 2024). The ability to competently lead these elements has become a fundamental necessity that affects the overall effectiveness of any organisation (Putra et al., 2024). This changing dynamic underlines the importance of not only understanding and accommodating different generational perspectives but also mastering the rapidly evolving technological terrain that influences the way work is done (Ciriello et al., 2024). As a result, individuals who can navigate these complexities with finesse are more likely to make a positive contribution to organisational sustainable growth and prosperity.

This article explores the complexities and benefits of leading collaborative robots, particularly in terms of intergenerational and technological oversight. It looks at the challenges that companies face and the potential benefits that can emerge from such situations. The aim is to guide how to effectively manoeuvre through these different scenarios. The primary objective is to examine the hurdles that organisations must overcome, identify the available opportunities and formulate successful strategies not only for survival but also for prosperity in this complex environment. The following research questions have been suggested further.

1 What are the main challenges of intergenerational leadership and how can they be overcome?
2 What benefits can intergenerational leadership bring to the organisation?
3 What are the implications for organisations of the development of technological leadership of collaborative robots?
4 What is the impact of technology on the dynamics of intergenerational leadership?
5 How can organisations optimise the benefits of using collaborative robots?
6 Predicted future developments in the leadership and use of collaborative robots across generations.
7 How do organizations engage in intergenerational knowledge transfer?

We will adopt a systems thinking approach to address these research questions effectively. This approach will help us to understand the interrelationships between intergenerational factors and technological considerations, allowing for a more comprehensive analysis (Checkland & Scholes, 1999). We will comprehensively review the literature in these areas and examine real-life business examples. Our primary aim goes beyond the mere dissemination of information; we aim to stimulate an insightful dialogue about future directions and changes within the field of leadership studies. As such, we expect to offer significant insights that will encourage business leaders and academics to gain a comprehensive understanding that is essential for effectively leading their teams amidst various obstacles in the ever-evolving landscape of technological advancements.

Intergenerational leadership

The main challenge of intergenerational leadership is leading so many different generations in the workplace. However, there are also several benefits intergenerational leadership brings to the organization, such as providing different alternative solutions to problem-solving, and as people age, they are more experienced and can develop more empathy toward the younger generation if given the right stimulation and cultural setting. By the end of this decade, at least 35 countries will have more than one out of five people over the age of 65 — a first in the history of the world. However, this is already the case across Europe and some of Asia's largest economies, including Korea, Japan, and Singapore. By 2034, older adults over 65 will outnumber those under 18 in nearly all of those places, too (Sabatini Hennelly & Schurman, 2023).

Today's aging leadership structures hinder innovation and solving major global challenges as they are the generation that caused these challenges with their way of thinking. Therefore, striving towards intergenerational leadership is a proposal to overcome these issues and unlock competitive advantage by enhancing businesses' capacity for renewal (Reeves et al., 2023). There are ways to bridge the generational gap with communication, humility, and a deeper curiosity about the strengths and limitations of our team members and ourselves. We all need to accept that we are fundamentally different people with equally valuable insights to offer (Waldman, 2021). There's no hotter topic in human resource management at present than how to manage Millennials (Generation Y), aged 30 and under members of the workforce. Millennials are the "*kids nowadays*!" that leaders from previous generations fret about (Valcour, 2013). Communication is the key to good intergenerational leadership and establishing a culture of respect. Often, due to communication misunderstandings, conflicts arise that lead to stereotypes and a toxic working environment.

From leading members of different generations to technological leadership

There are approximately 29 million nurses and midwives in the world, while current estimates suggest that an additional 5.9 million nurses are needed worldwide (Alexander, & Johnson, 2021; World Health Organization (WHO), 2020). While we expect a new global nursing report in 2025, we fear that the lack of nurses will be even greater. Therefore, healthcare leaders are proactively searching for alternative solutions, also in the form of technological support of cobots. However, these cases are, for now, still pilot project implementations and, in many countries, still not the mainstream solution to the workforce vacancies in healthcare. This is because there are many concerns related to integrating advanced technologies in healthcare (Mlakar et al., 2022b). The more recognized ones include technical barriers and technological limitations, fairness and sustainability, accountability, acceptance, and negative preconceptions of both employees and patients (Papadopoulos et al., 2020).

If so far it was normal to lead members of a few generations, the new normal is leading five generations at the workplace. And this represents challenges for current leaders. However, some organizations are already confronted with the lack of workforce and searching for potential solutions; one among them is replacing routine with robots or collaborative robots, cobots. Even though research so far has shown that older workers are less prone to working with cobots, in healthcare, the situation is different, and research shows a favorable attitude toward the integration of cobots in the healthcare process (Mlakar et al., 2024; Mlakar et al., 2022a; Mlakar et al., 2022b).

It is evident that future leadership concern will be how to make employees comfortable with the presence of cobots in the workplace. Pointing out benefits of collaborating with cobots seems a logical first step. Eliminating fear is also important, as we tend to be afraid of the things we are not familiar with. There is already talk if cobots will take the place of humans. So far, the development level of cobots in the field of support and eliminating routine. Cobots need humans to direct them and give detailed instructions. Therefore, they leave humans time for more demanding and human, care, interaction with humans.

Older individuals are generally less comfortable with new technology than younger people (Mlakar et al., 2024). Studies conducted on healthcare providers are scarce and inconclusive, but overall suggest that the relationship between age and acceptance may be different than in the general population (Mlakar et al., 2024). Andtfolk et al. (2021), employed a mixed sample of healthcare providers and patients, and found that older individuals are more likely to favour the use of cobots in healthcare than younger individuals. Similarly. A study done by Mlakar et al. (2024) in healthcare institutions shows a relatively high acceptance of socially assistive humanoid robots, even in elderly employees, which is surprising since in other sectors, older elders were seen to be less favorable to incorporating cobots in their workplace. This aspect is important as successful human-robot interdependency depends firstly on the acceptance of the robot by the human (Bröhl et al., 2019). Technological developments in robotics and artificial intelligence can significantly reduce costs and lead to improvements in many hospital processes by implementing cobots (Mlakar et al., 2022b). Healthcare professionals, recognize the potential value of cobots in measuring/monitoring, mobility/activity and safety of care (Lee et al., 2018; Mlakar et al., 2024).

We can state that the workplace has profoundly changed in the past 20 years and especially the change is noticeable when it comes to blending of different generations at work and in the aspect of intergenerational knowledge sharing and transfer (Kuyken & Costanza, 2024). Multigenerational workforce can be considered as an emerging trend in modern organizations (Singh et al., 2021), including healthcare organizations. The importance of this research topic is emphasized with the potential knowledge loss related to the retirement process of older employees that organizations nowadays have to deal with (Calo, 2008). The academic field of knowledge management implies that in contemporary times the combination of higher numbers of older employees going into retirement and the ever-changing context of work have additionally contributed to the importance of appropriate activities that enable intergenerational learning and knowledge sharing and transfer between different generations as an important element of organizational success (Kuyken et al., 2018). Ropes (2013) suggests that intergenerational learning can be labelled as an interactive process that occurs among different generations and the outcome of it is development and creation of new knowledge, competences, experience, skills and values that can be beneficial for the organization as a whole and for the individual employee.

Tang and Martins (2021) define intergenerational knowledge sharing as activities related to individual behaviours that result in the sharing of work-related knowledge and experience with other members within an organization. As such this activity in practice includes several existing concepts that are widely used and well established. Namely, knowledge transmission, knowledge transfer, knowledge retention, organizational learning, and intergenerational learning that are responsible for knowledge flows to occur between employees that belong to different age cohorts within the organization (Kuyken & Costanza, 2024). Managers should devote interest

to intergenerational learning as their organizations are exposed to the aging workforce and subsequently need to become aware of the potential knowledge loss due to retirement of their older employees (United Nations, 2019). Moreover, in the current organizational setting we can see that 5 different generations are working together, while they might have diverse expectations and working attitudes (Pauget & Chauvel, 2018), which can also be related to their preference to using technological solutions and cobots in the healthcare setting.

For the studied knowledge transfer context, we pay particular attention to chronological and organizational age (Fasbender & Gerpott, 2022). The implicit hypothesis is that chronological age in connection to knowledge transfer means that the older the employees are, the more tacit knowledge and skills they possess. On the other hand, organizational age is connected to employees' seniority, organizational tenure and achieved status within the organization. In line with this assumption, older employees are in more advanced stages of their careers, are longer present in their organization and have accumulated more knowledge, and usually hold higher social positions (North, 2019), which might also enable them a position that occupies decision-making responsibilities where they can be in favour or against the implementation of technological solutions and cobots within the healthcare environment.

Previous research established that organizations are aware of the benefits of generational diversity that include improving their overall performance. However, at the same time they are aware also of the potential challenges that might be related to intergenerational knowledge transfer (Becker et al., 2020). Some of the key issues are related to high turnover intentions of the younger generations and the increased number of outflow or retirement of the aging workforce (Peet et al., 2010). In a similar vein, researchers Aryee et al. (2016) argued that reciprocal knowledge sharing enhanced the overall levels of employee performance in the organization. Nevertheless, in spite of the numerous well documented benefits of knowledge transfer, it does not happen automatically in organizations (Fasbender & Gerpott, 2022).

Academics therefore propose that age diversity can be a helpful tool for gaining competitive advantage for organizations (Richard & Miller, 2013), however, the link with knowledge management requires additional attention from researchers (Singh et al., 2021) and practitioners. With our research, we explore further the topic of younger employees' intergenerational knowledge transfer behaviours where they are able to gain knowledge from their older colleagues, which consequently can have a positive impact on their innovation behaviours as was evident on the example of doctors. At the moment, research on the aforementioned topic can similarly be considered as fairly limited (Wang et al., 2023), especially in the healthcare setting. As already proven, knowledge sharing is positively correlated to efforts of organizational sustainability and overall profit, while we can argue that intergenerational relationships have an important role in fulfilling these and similar goals (Kaplan et al., 2017). In such a state, organizations should devote their efforts and resources to understand how intergenerational relationships in their organization can enable them to effectively capture patterns of interactions and promote a continuous learning environment and coexistence of different generations at the workplace (Joshi et al., 2010). Successful knowledge transfer that consists of useful information, skills, competences and expertise from a source to the recipient (Bartol & Srivastava, 2002) is an essential component of competitive advantage of modern organizations (Jiang & Chen, 2018), including healthcare organizations. Amidst the worldwide population aging, academia and practice is increasingly more interested in the phenomenon of

knowledge transfer between younger and older employees (Dietz et al., 2022) in different organizational contexts.

With their research, authors Wang et al. (2023) managed to provide support on the basis of empirical data in hospitals that intergenerational knowledge transfer can occur in both online and offline settings and that it has a positive impact on younger employees, which in their case were young doctors. When discussing intergenerational knowledge transfer particular emphasis should be on the component of tacit knowledge as it is in its essence difficult to imitate and presents a more valuable source of long-term competitive advantage and it is also more difficult to translate and transfer utilizing usual training tools (Singh et al., 2021). On the other hand, it is also important to acknowledge the benefits of reverse mentoring, where younger employees can act as a mentor to their older colleagues, especially this approach is commonly correlated to topics dealing with information communication technologies (Marcinkus Murphy, 2012), which can also be partially correlated to the example of cobots.

Therefore, we support the opinion that knowledge transfer between different generations is a bidirectional process where both younger and older employees are part of knowledge sharing and knowledge receiving activities within the organization (Burmeister & Deller, 2016). However, organizations and their managers need to be aware of potential tensions between different age groups that might arise from a difference in opinion regarding values, behaviour and identity, which can consequently hinder the success of knowledge transfer initiatives between different generations within the organization (Urick et al., 2017). The same findings could apply also on the example of collaborative robots.

In line with mutual benefits, Kuyken and Schropp (2023) propose that it is more beneficial to focus on building meaningful relationships between employees across different age groups and establish how they can jointly create, share and transfer knowledge instead of focusing too much on potential generational differences. In order to promote this important future organizational aspect, it is necessary to focus on flat, informal structures as they tend to be positively related to knowledge sharing, while more formal, hierarchical structures tend to have a detrimental effect on knowledge sharing (Kuyken & Costanza, 2024). Similarly, looking from the perspective of the team level, intergenerational knowledge sharing and transfer is more likely to happen in a spontaneous manner, informally and including tacit knowledge.

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