

Research Paper

Intergenerational Knowledge Transfer as a Driver for SMEs Sustainability: A Multigenerational Workforce Perspective

Mohamedbashir Baniismail 

Doctoral School of Entrepreneurship and Business, Budapest University of Economics and Business, Budapest, Hungary.

Correspondence: Baniismail.MohamedbashirSulimanNaser.86@unibge.hu

Abstract: Sustainability has become one of the most important concepts for many SMEs, and one way to support it is through better knowledge sharing between older and younger employees, known as intergenerational knowledge transfer. This research aims to provide empirical evidence to determine how intergenerational knowledge transfer can enhance corporate sustainability within SMEs. Purposive sampling of nine Jordanian IT SMEs (n = 142) was used to conduct a quantitative cross-sectional survey. Descriptive statistics and one-way ANOVA were employed to determine the age-group differences and the relationship between intergenerational knowledge transfer and sustainability objectives. A major contribution of this research lies in demonstrating statistically significant age-based perceptual differences regarding the sustainability impact of knowledge sharing, offering a nuanced understanding of how generational learning attitudes shape organisational sustainability—an aspect rarely examined in previous studies. By establishing a strong positive correlation (r = 0.702) between intergenerational knowledge transfer and progress toward sustainability objectives, this study provides quantitative evidence supporting the theoretical assumption that cross generational learning is not merely beneficial but strategically essential for SMEs operating under resource constraints. The study's contextual contribution is particularly relevant: it highlights that cultural and relational factors play a stronger role than technological ones in Jordanian SMEs, offering a culturally grounded perspective that complements and, in some cases, challenges Western-centric findings.

Keywords: Knowledge transfer, SMEs, sustainability, intergenerational gap, workforce

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1. Introduction

Many SMEs now prioritise sustainability, aiming to balance growth with environmental and social responsibility. Achieving this balance is challenging for small and medium-sized enterprises (SMEs), which often have limited resources (Williams & Schaefer, 2013). To become more sustainable, SMEs need to use all their knowledge and improve their way of working. One important method to do this is through better sharing of knowledge between older and younger employees. Literature has mostly studied sustainability efforts or intergenerational knowledge transfer (IKT) separately (Das et al., 2020). There is a paucity of empirical studies that quantitatively examine the relationship between them, specifically in SMEs in emerging economies (Schmidt & Muehlfeld, 2017; Burlea-Schiopoiu & Mihai, 2019). Moreover, age-related disparities with regard to the significance of knowledge sharing towards sustainability have not been exhaustively studied (Schmidt & Muehlfeld, 2017). Intergenerational knowledge transfer involves employees from different age groups working together and exchanging their skills and experience, resulting in better problem-solving, more creativity, and better planning for the long term (Rossignoli et al., 2024). Also, when generations understand each other more, the workplace becomes more inclusive and united, which can also support sustainability goals (Hennelly & Schurman, 2023; Hans et al., 2023).

Although the interest in sustainability and knowledge management has been on the rise, current research has focused mostly on intergenerational knowledge transfer and SMEs' sustainability as independent variables (Burlea-Schiopoiu & Mihai, 2019; Das et al., 2020). Limited empirical studies that quantitatively determine the relationship between intergenerational knowledge transfer and sustainability performance in small and medium-

sized enterprises (SMEs), especially in emerging economies, are available. In addition, the role of age differences in how employees perceive the relevance of knowledge sharing to sustainability has not been given much focus. This present study addresses these gaps through an empirical investigation of the enablers and obstacles to intergenerational knowledge transfer, age-based perception disparities, and their connection to sustainability performance in SMEs.

This study has two aims. First, to examine the attitudes of the employees from different age groups regarding the importance and impact of knowledge sharing on sustainability goals. Second, to examine if there is a measurable relationship between the degree of intergenerational knowledge transfer and the SME's progress toward sustainability objectives (e.g., innovation, resource efficiency, employee retention). The research question to be answered in this study is: How does intergenerational knowledge transfer contribute to SMEs' sustainability in small and medium-sized enterprises (SMEs)? From that question, several sub-questions can be derived. First, what are the perceptions of employees of various age groups about the value and influence of knowledge sharing on sustainability objectives? Second, does the extent of intergenerational knowledge transfer have a quantifiable association with the advancement of the SMEs in sustainability goals (e.g., innovation, resource efficiency, employee retention)? The following literature review section theoretical basis of intergenerational knowledge transfer and sustainability, the formulation of the hypotheses of the study is described in the to provide a structured conceptualization of the empirical analysis.

2. Literature review

2.1. Sustainability in SMEs

This study examines how intergenerational knowledge transfer supports sustainability in SMEs. Many SMEs seek to become more sustainable, but they face several challenges, such as the lack of sufficient funds, time, or knowledge to make substantial changes (Belas et al., 2021). However, there are also many chances for SMEs to grow in a sustainable way by using their resources efficiently, reducing waste, and taking care of their employees and community. When SMEs apply sustainable practices, they can improve their reputation, save costs, and achieve better long-term results. Direct contributions of IKT to Sustainable Development Goals (SDGs) are seen in three goals in particular. For SDG 4, intergenerational knowledge transfer leads to lifelong learning in organisations. For SDG 10, IKT leads to a reduction in the age-based exclusion in knowledge-intensive settings. For SDG 12, IKT facilitates the effective utilisation of organisational resources and sustainable innovation through shared experiential and technological knowledge (United Nations, 2015).

Many studies have focused on the sustainability of SMEs. Burlea- Schiopoiu and Mihai (2019) studied the relationship between sustainable factors (such as SMEs' responsibility and training) and the outcomes of SMEs (financially) and found that there is a strong correlation between sustainable factors and positive financial outcomes. On the other hand, Das et al. (2020) conducted a study on the sustainability of SMEs in Asia and found that SMEs are falling behind other types of corporations when it comes to applying sustainability practices. Their recommendations include greater cooperation with government bodies and stronger policy support. On the other hand, de Andrade et al. (2025) focused on production-oriented SMEs, which are arguably the most important type when it comes to sustainability. The research found that it is crucial to integrate new knowledge, as well as adapt to existing practices. Furthermore, the research emphasises the importance of strategic learning under resource constraints. Both these findings show the importance of establishing proper channels and systems for intergenerational knowledge transfer in order to facilitate the flow of information, as well as learning.

2.2. Intergenerational knowledge transfer in SMEs

In SMEs, where resources may be limited, the exchange of knowledge between generations can be especially valuable (Rossignoli et al., 2024). Older employees often have a deep understanding of the business, gained through years of experience, while younger employees

bring fresh ideas and are often more comfortable with using modern technologies. When these groups work together and learn from one another, SMEs can benefit from better problem-solving, greater innovation, and improved decision-making. However, for this knowledge transfer to happen effectively, SMEs must create a work culture where both generations feel comfortable and motivated to share and listen to each other's ideas (Hennelly & Schurman, 2023). In their study of Indonesian family SMEs, Kusuma and Indarti (2017) explored the mechanisms for intergenerational knowledge transfer. The findings showed that the process can be either smooth or challenging, depending on the successor's level of understanding, highlighting the need for proper training and education. Another influencing factor was found to be the awareness of the importance of knowledge transfer among all generations involved. Another study (Klenke, 2018) focused on leadership succession, showing that documenting relationships, procedures, and processes is one of the most important enablers of knowledge transfer in SMEs.

2.3. Enablers of knowledge transfer

Schmidt and Muehlfeld (2017) identified several factors that influence intergenerational knowledge transfer, such as stereotyping, mutual understanding, and differences in values, suggesting the importance of a work environment where respect and inclusion are prominent facilitates intergenerational knowledge transfer. This current study current provides an overview of the importance of a respectful and inclusive work environment; however, the work environment per se is beyond the scope of this study.

Hans et al. (2023), explicitly address the importance of a respectful and inclusive work environment. The study found a positive and significant relationship between workplace intergenerational climate and generational diversity and knowledge sharing behaviours. Furthermore, it was found that respect is a key variable for knowledge sharing, as people who feel more respected are more likely to share their knowledge. Inclusion was also found to be an important facilitator of knowledge transfer, as boundary-spanning leadership has a direct influence on the knowledge sharing.

Rupčić (2018) found open communication and shared understanding are effective factors in bridging communication gaps between age groups. Furthermore, the findings emphasized that communication channels should be two-way, promoting collaborative learning rather than one-directional flow of information. Such communication channels are said to enhance trust between different age groups. Likewise, Rupčić (2018) emphasises the importance of organizational leadership and its support and encouragement as an important enabler for intergenerational knowledge transfer, arguing that it is the role of the management to promote a suitable learning culture. This can be achieved by creating collaborative structures, encouraging different age groups to share knowledge, and providing resources, time, and recognition for those who share knowledge and participate in learning activities.

Additionally, Pruett's (2020) systematic review on intergenerational mentoring concluded that leadership and managerial backing are among the most key factors. It was found that it is possible to reduce the resistance among older or younger employees through managerial support. Furthermore, it was found that 'Integrated Knowledge Translation' programs have higher credibility and better adoption with the proper support from supervisors. The findings imply that if managers are trained to recognize the strengths of each generation, they are more capable to reward and encouraging knowledge sharing activities between these different generations.

Yadav (2025) examined how digital platforms are playing a critical role in bridging generational divides. The study identifies the role played by online collaborative tools, learning apps, and virtual mentoring rooms for Generation Alpha and previous generations in exchanging environmental stewardship-attuned knowledge. Not only does digital technology facilitate accessibility and inclusiveness across age boundaries, but it also provides avenues for younger participants to emerge as active contributors to sustainability discourse. Such tools develop a culture of collective responsibility and continuity of environmental stewardship. The paper explains that technology is the core of multi-directional learning and is a facilitator, offering a strong model for long-term retention of ecological knowledge and engagement.

Moving to a wider organizational context, Chaudhuri et al. (2022) discuss how the application of digital technologies in the workplace shapes development networks across generations. Their study shows that technology such as enterprise social networks, cloud

collaboration software, and knowledge management technologies significantly enhances the quantity and quality of intergenerational sharing of knowledge among older and younger employees. Chaudhuri et al. (2022) argue that technology enables asynchronous communication and learning, as well as flattening hierarchical boundaries and thereby enabling more egalitarian developmental relationships. However, the study also identifies some limitations, including inconsistencies in digital literacy, as well as generational patterns in using tools that affect the dependability and efficacy of knowledge transfer. The study shows that technology can play a key role in boosting intergenerational knowledge creation but has to be astutely applied to adhere to users' cognitive and relational needs.

The knowledge creation, transfer, and retention processes in the context of organizational intergenerational collaboration are examined by Babnik and Trunk Širca (2014). They found that, in order to move beyond ad hoc exchanges, organizations must institutionalize formalized intergenerational knowledge sharing. Their recommendation is that learning and retention of knowledge are better served when supported by organizational policy favouring mentoring, cross-generational teamwork, and continuous professional development. Babnik and Trunk Širca (2014) point out that these policies not only provide the structures and rewards necessary but also help make knowledge transfer part of organizational culture. Importantly, the study calls for aligning these policies with general strategic goals so that intergenerational collaboration becomes a value-generating and sustainable organizational process.

Schmidt and Muehlfeld (2017) also highlight the necessity for organizational policies that actively support learning between generations. The authors observe that intergenerational knowledge transfer can be negatively affected by SMEs' lack of formal mechanisms and structured processes. Relational and psychological barriers, such as stereotyping and motivational discrepancies are exacerbated when SMEs' policies do not affirmatively foster inclusive learning environments. Schmidt and Muehlfeld (2017) argue that without express instructions, special time scheduling, or managerial frameworks to facilitate intergenerational learning, employees may not recognise the importance of such knowledge transfer. Thus, the study suggests that policy-driven organisational support is necessary to transform intergenerational knowledge transfer from an ad hoc activity to a routine and effective organizational norm.

In summary of this section of the literature review, five main enablers of knowledge transfer can be identified: 1) Respectful and inclusive work environment; 2) Open and clear communication between age groups; 3) Support from management; 4) Use of digital tools and knowledge-sharing platforms; and 5) SMEs' policies that support learning and knowledge exchange.

2.4. Barriers to knowledge transfer

Similarly, several barriers have been identified in the literature. Schmidt (2019) examined the knowledge transfer between various employees, with an emphasis on intergenerational settings, and the study identifies several key barriers to effective transfer. The most significant challenge is the lack of mutual understanding and trust between older and younger employees, often premised on variations in values, technical skills, and workplace expectations. These interruptions slow not just the transmission of explicit knowledge but also the more personal, subtle tacit knowledge that requires trust and interpersonal relationships (Schmidt, 2019). The study also outlines organizational cultures which do not actively promote intergenerational collaboration, so workers need to deal with generational differences without guidance or rewards. In those environments, knowledge sharing is fragmented or directional, and the potential for mutual learning remains untapped. The findings point out that generational diversity by itself is not a sufficient assurance of knowledge exchange, especially when relational and context-based barriers are not overcome.

Lorenz (2008) investigates the self-perceived role of trust in knowledge transfer between multigenerational workers, and the lack of trust is found to be a central barrier. The research highlights that employees of different generations may unconsciously hold assumptions or biases about the other's capability, flexibility, or authority, which erodes trust and negatively affects open communication. Without deliberate trust establishment and facilitative management behaviours, these challenges can become entrenched, stopping intergenerational learning in its tracks. Lorenz (2008) highlights that trust is not only a social

phenomenon but a structural prerequisite for successful and sustainable knowledge transfer in multigenerational environments.

In contrast, Rupčić (2018) considered a lack of communication to be a key barrier to intergenerational knowledge transfer, again pointing out that differences in the way of communication, language usage, and expectations between different generations will normally lead to misunderstanding and disconnection. Rupčić (2018) further explained that older and younger employees usually possess diverse levels of technical competencies and familiarity with virtual communication tools, which usually disrupts both the precision and tone of communication. In addition, different socio-cultural and educational backgrounds cause variations in both cognitive and experiential contexts, hindering mutual comprehension, especially when knowledge is extremely context-related or tacit. Such gaps are heightened when organisations do not actively foster environments favourable for dialogic interaction among age groups. Rupčić (2018) argues that in the absence of intentional communication strategies and common structures, knowledge transfer becomes wasteful and intergenerational learning can become shallow or fragmented.

It is clear from the literature that misunderstanding and miscommunication are some of the most significant barriers to efficient knowledge management. Different cohorts of generations have different preferences in learning and sharing knowledge, with the older cohorts preferring more formal, experience-based, and verbally directed means of learning and the younger cohort preferring interactive, digital, and visual forms. This incompatibility usually results in a lack of engagement, irritation, or confusion regarding the motives and messages of people from different generational groups, caused by an individual's approach to communication that differs from that of the intended audience. Inadequate cultural appreciation in conjunction with training frameworks contributes to the obstacle of communication in multicultural and hierarchical systems such as those in the UAE. Consequently, difficulties in the transfer of knowledge across generations may come from both the content shared and the channels used for sharing it, unless some form of advanced communication training targeted at various age groups alongside adaptable educational platforms is made available.

Wang and Shi (2024) analyse the impact of age “stereotypes” on job performance and knowledge transfer intentions between generations. The research demonstrates that when older workers are stereotyped as being opposed to change, less technologically savvy, or intellectually less competent, this will lead to lower self-efficacy and lower motivation to share knowledge. This self-stereotyping effect, along with the implicit biases of younger colleagues, gives rise to a culture of mutual hesitation and disengagement. Moreover, the research points out that psychological mechanisms, such as perceived lack of respect or value, are the mediators between stereotypes and the intention to transfer knowledge.

Bartol et al. (2009) discuss the degree to which perceived job security impacts intergenerational knowledge transfer of knowledge workers through their behaviour, offering an insightful analysis of the presence of job insecurity or fear of replacement as a strong barrier to intergenerational knowledge transfer. Bartol et al. (2009) argue that if staff felt like their jobs are at risk, through restructuring, technology, or the growing influx of younger, tech-savvier co-workers, they might not be motivated to pass on knowledge to the next generations. The study explains that individuals who feel less secure about their jobs are much less willing to engage in collaborative learning or a mentoring relationship, since they view knowledge as personal leverage or power. These patterns have the potential to be especially damaging, with older employees fearing being replaced by younger ones and younger employees reluctant to introduce new concepts that would disturb fixed hierarchies.

In another study that explores knowledge-sharing practices across generation shifts (), three case studies were taken in order to uncover how value, work ethic, and communication style differences between generations are barriers to effective knowledge transfer. The study highlights older generations favour experiential, tacit knowledge through years of practice. Younger employees are more likely to lean towards knowledge that is transferred through digital means. These conflicts are likely to generate differences in expectations and learning behaviours, often leading to misalignment in how knowledge is introduced, received, or even valued. Markkula (2013) also points out that differences in attitudes regarding hierarchy, feedback, and teamwork can limit meaningful interaction between generations. Intentional effort to bridge these gaps, such as formal mentoring, intergenerational team building, or goal

setting, is important so that organisations do not risk losing valuable institutional knowledge during generational changeover.

Sabri et al. (2014) provide a theoretical explanation of technology-based intergenerational knowledge transfer. The study explains that the difference between generations in digital literacy and technology adoption is a major impediment to effective knowledge exchange. The study reports that younger employees, sometimes known as digital natives, are used to quick, casual, and technology-based modes of communication, while older employees are accustomed to or resist accessing such media. This divergence presents practical as well as psychological challenges. The authors argue that such chasms extend far beyond instruments to epistemological differences at their core, e.g., varying assumptions regarding knowledge creation, verification, and communication.

Based on the findings in this section of the review of literature, five main barriers to knowledge transfer can be summarized as: 1) Lack of trust between age groups; 2) Ineffective communication or misunderstanding; 3) Negative age-related stereotypes; 4) Job insecurity; and 5) Generational gaps

2.5. Recent Trends

Recent studies link the quality of intergenerational relationships to the sustainable flow of knowledge and performance of family SMEs. For example, drawing from Central Javanese SMEs, Idris et al. (2025) show that knowledge sharing of entrepreneurs enhances the quality of intergenerational relationships significantly, which can help with achieving the overall sustainability goals. The study also mentions that the effect is mediated partially by relationship quality, and that the mechanism lies in the Resource-Based View (RBV), hinging upon trust, vision-sharing, and communications habits. In addition, Rossignoli et al. (2024) have discovered in European SMEs that communities of practice (CoPs), normally made up of both family and non-family members, play a significant role in sharing knowledge daily. Furthermore, it is found that the effectiveness of these CoPs depends on factors such as the use of collaborative (including technological) means, family leadership style which values unity, and the effective participation of several generations.

On the other hand, broader evidence from SMEs in emerging economies highlights the role of the centrality of tacit knowledge and contextually appropriate digital adoption. Using data from 350 Indonesian family Micro- and Medium-sized Enterprises (MSMEs) with 700 participants, Putri and Rajaguguk (2025) found that family harmony can mediate the relationship between generational differences and digital adoption intentions, and that this relationship is possible to be further moderated by good communication quality. The research found that promoting younger generations' initiatives was highly effective, but only when it was paired with respecting seniors' decision-making authority. Overall, digital tools such as messaging platforms and shared knowledge repositories can gain traction when embedded in intergenerationally sensitive practices that honour hierarchy while still enabling bottom-up technology advocacy.

Even though the afore-mentioned studies were informative on the topic of knowledge transfer among generations, they were mostly restricted to general factors. To the author's knowledge, little to no studies summarized the most significant barriers and enablers of intergenerational knowledge transfer and measured the impact of these factors and compared them. Moreover, there were no studies that could evaluate the correlation between the age, and the beliefs of the significance of the intergenerational knowledge transfer, to evaluate the different age groups differences in the perception of the importance of the knowledge transfer practices in an organization, which will be useful in determining how different age groups can be motivated to share their knowledge and receive it differently. In addition, the impact of intergenerational knowledge transfer on the attainment of the sustainability goals of an organization, though highlighted, was not empirically evaluated in the literature, and thus, it is essential to offer empirical evidence that would guide decision makers to change appropriate knowledge-sharing behaviour in organizations.

This study will commence by exploring the main gaps and facilitators of intergenerational knowledge transfer as brought out in the literature. It quantitatively assesses the impact of such barriers and enablers on knowledge transfer in the empirical section, giving decision makers an evidence base regarding which the most principal factors are to prioritize. The study further discusses the importance of intergenerational knowledge transfer by

different generations. This evaluation helps to identify which age groups can receive specific awareness programs and evaluate the general effect of knowledge transfer on organizational sustainability objectives.

2.6. Synthesis of Literature Review and Hypotheses Development

Previous research notes that respectful and inclusive workplaces, the presence of open communication, managerial assistance, and the proper use of digital tools are key contributors to the knowledge exchange between generations, and age-related stereotypes, communication barriers, and job security inhibit effective transfer (Schmidt & Muehlfeld, 2017; Rupčić, 2018; Hans et al., 2023). Moreover, recent empirical research emphasises that the attitudes toward knowledge sharing differ between age groups, as younger employees tend to be more open to collaborative and technology-based learning, whereas older employees tend to value more tacit and experience-based forms of knowledge (Markkula, 2013; Wang & Shi, 2024). Notably, several studies associate successful intergenerational knowledge sharing with better sustainability-related performance, which includes innovation ability, resource usage, and employee retention (Rossignoli et al., 2024; Idris et al., 2025). Based on these findings in the literature, the following hypotheses are developed in this study:

H1: There are statistically significant differences across age groups in employees' perceptions of the impact of intergenerational knowledge sharing on organizational sustainability.

H2: Intergenerational knowledge transfer is positively associated with progress toward organizational sustainability objectives.

Hypothesis H1 is a response to Research Question 2 by studying whether age groups of employees differ in their perception of how the intergenerational knowledge sharing influences the sustainability of an organization. Hypothesis H2 is in response to Research Question 3, as it will determine the connection between the extent of intergenerational knowledge transfer and the advancement towards sustainability objectives.

3. Methodology

This study used a quantitative method to understand how intergenerational knowledge transfer can help sustainability in small and medium-sized SMEs (SMEs). The data was collected by a questionnaire distributed to employees of various age groups across multiple SMEs. Using the most common enablers and barriers identified in the literature review, the participants rated their frequency of occurrence in their SMEs. The second research question concerns how employees of different ages think about the impact of knowledge sharing on sustainability. For this, a variable called 'perception of the impact of knowledge sharing on sustainability goals' was created. The means of each age group were compared using ANOVA using SPSS, to answer the second research question. For the third research question, two main variables were created: the 'degree of intergenerational knowledge transfer' (hereinafter abbreviated to IKT) and the 'SME's progress toward sustainability objectives' (hereinafter abbreviated to SO). Pearson's correlation tested the relationship between them. Table 1 shows the variables of the study, as well as their related questions/hypotheses, and questions from the questionnaire. The questionnaire can be found in Appendix A.

Table 1. Overview of the research design. Source: *author's own*

Research Question	Research Hypothesis	Independent Variable (IV)	Dependent Variable (DV)	Survey Questions
-	-	Demographic Variables	-	q1-q5
Q1	-	Enablers of knowledge Transfer (5 variables)	-	q6-q15
	-	Barriers to Knowledge Transfer (5 variables)	-	q16-q25
Q2	H1	Age	Impact of Knowledge Sharing on Sustainability (IKSS)	IKSS: q26-q30
Q3	H2	Intergenerational Knowledge Transfer (IKT)	Sustainability Objectives (SO)	IKT: q31-q35 SO: q36-q40

The research questions, hypotheses, independent and dependent variables, operationalisation procedures, and subject items of the questionnaires were completely aligned and standardised, using the demographic variables as descriptive controls. Ethical considerations were applied in creating the questionnaire, and in collecting and analysing the data. All participants joined the study freely and assured of anonymity.

3.1. Data collection and sampling

For the data collection, a questionnaire was created and distributed electronically using Google Forms with several SMEs in Jordan working in the IT sector (a total of 9). The data were gathered using an online questionnaire. The IT sector was chosen due to its relevance to knowledge sharing, as well as its rapid development, making knowledge transfer important and challenging. For this investigation, the research instrument comprised thirty-two questions (excluding the demographics questions). The questions are based on a 5-point Likert scale, where the respondents are presented with a statement and choose the level to which they agree with it (strongly agree, agree, neutral, disagree, and strongly disagree). These various levels are assigned values from 1 to 5, with 1 being strongly disagree and 5 being strongly agree. For most variables, several questions measure the variable. In such cases, the mean of these questions is calculated.

Purposive sampling was employed in this study. The distribution of the questionnaire was limited to employees within Jordanian SMEs in the IT sector who are directly involved in information sharing and have a clear understanding of the information-sharing system, such as IT support staff and knowledge management personnel who regularly interact with organizational knowledge-sharing platforms and processes, resulting in a small population and thus a relatively small sample. By design, this reduced the representativeness of the broader population.

3.2. Reliability Analysis

The data collection instrument was validated through (i) a pilot study, and (ii) through statistical reliability analysis. For the reliability analysis, the Cronbach's Alpha test was used. Table 2 shows the results of the reliability testing.

Table 2: Reliability Statistics. Source: *author's own*

Variable	Questionnaire Items	No. of Items	Cronbach's Alpha
Enablers of Intergenerational Knowledge Transfer	q6–q15	10	0.89
Barriers to Intergenerational Knowledge Transfer	q16–q25	10	0.87
Perception of Knowledge Sharing Impact on Sustainability (IKSS)	q26–q30	5	0.84
Degree of Intergenerational Knowledge Transfer (IKT)	q31–q35	5	0.86
Sustainability Objectives (SO)	q36–q40	5	0.88

All questions were also found to be reliable, with the highest Cronbach's Alpha (if item deleted) not exceeding 0.883. Thus, the Alpha values proved high internal consistency of all constructs, which is satisfactory reliability of the measuring tool.

4. Findings

4.1. Demographics

Out of 147 responses received, 142 were found valid, and five were excluded. After excluding invalid responses, the final sample comprised 55.6% male and 44.4% female participants, with no respondents identifying as 'other.' SMEs with a workforce exceeding 250 employees were only retained working under SME-type structures in the Jordanian environment. Sensitivity analysis proved that their inclusion did not have a significant effect on the results.

Table 3: Demographic Characteristics of the Respondents and SMEs (N = 142). Source: *author's own*

Variable	Category	Frequency	Percentage (%)
Age Group	Under 25	23	16.2
	25–34	29	20.4
	35–44	35	24.6
	45–54	24	16.9
	55–64	20	14.1
	65+	11	7.8
Gender	Male	79	55.6
	Female	63	44.4
Educational Level	High school or less	4	2.8
	Diploma	11	7.7
	Bachelor's	78	54.9
	Master's	43	30.3
	Doctorate	6	4.2
Organisational Tenure (Years)	< 1	32	22.5
	1–3	31	21.8
	4–6	33	23.2
	7–10	26	18.3
	> 10	20	14.1
	< 20	45	31.7
Firm Size (Employees)	20–49	11	7.7
	50–99	38	26.8
	100–249	41	28.9
	≥ 250	7	4.9

Table 3 shows the demographic features of the respondents and the organisational profiles of the participating SMEs. The sample is equally distributed in terms of age, level of education, organisational tenure, and SME size. The balanced representation across genders and age groups reduces risks of sample bias, and it allows for capturing differences between generations in their perceptions.

4.2 The Enablers and Barriers to Effective IKT

In this section, the first sub-question of the study is investigated: What are the main enablers and barriers to effective intergenerational knowledge transfer in SMEs and their perceived effects? In the literature review, five main enablers and five main barriers were identified. Figure 1 shows the perceived effectiveness of these enablers (how effective the respondents think they are for achieving the sustainability goals of the organisation).

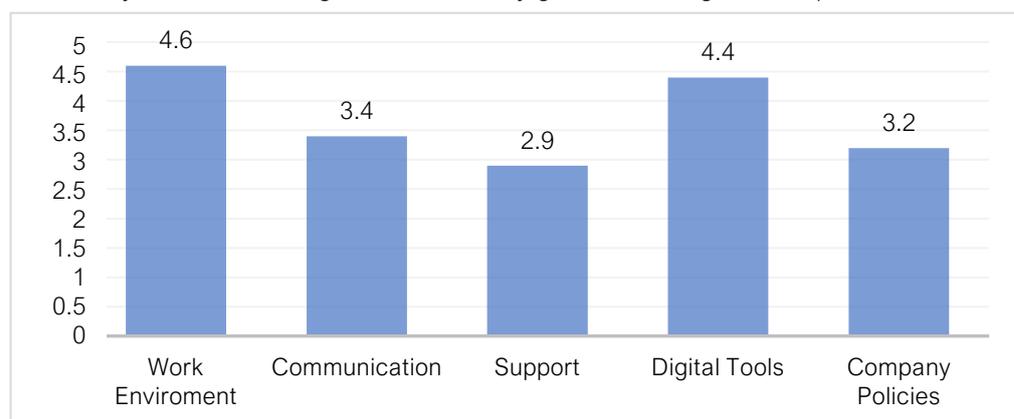


Figure 1: The perceived effectiveness of intergenerational knowledge transfer enablers. Source: *author's own*

In Figure 1, it can be seen that the respondents perceived the most effective enabler to be Respectful and inclusive work environment variable, followed by the use of digital tools and knowledge-sharing platforms, then the open and clear communication between age groups, followed by SMEs' policies that support learning and knowledge exchange with a small difference, and finally the support and encouragement from management. It should be noted

that all of these variables were found to have a relatively high score. Figure 2 shows the perceived level of negative effects of the barriers.

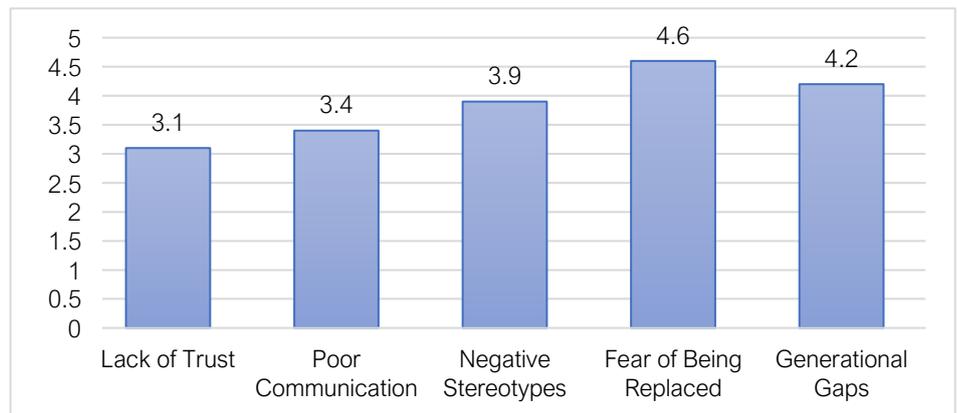


Figure 2: The perceived level of effects of the intergenerational knowledge transfer barriers.
Source: *author's own*

All identified barriers were perceived to have a significant negative impact on intergenerational knowledge transfer, though their effects varied. The fear of being replaced or losing job security received the highest score (4.6 out of 5), indicating it is the most influential barrier. This was followed by generational gaps, negative stereotypes about older or younger employees, poor communication, or misunderstandings, and, lastly, a lack of trust between age groups. These findings validate the enablers and barriers to effective intergenerational knowledge transfer identified in previous research and quantify their relative influence. Understanding these factors can help organisations improve knowledge transfer and, in turn, support their sustainability goals. Notably, the highest-rated enabler was a respectful and inclusive work environment, suggesting that personal and cultural factors may be more important than policy-driven measures. Among the barriers, the prominence of job security concerns highlights the need for organisations to address employees' fears of being replaced to facilitate better knowledge sharing. It is noteworthy that the findings from Jordan differ from those of Western studies, which often emphasise technological and policy-driven factors over cultural ones. This difference may reflect the unique cultural context of Jordan, where workplaces are typically more social and interconnected compared to the more individualistic environments found in many Western countries. However, further research using established cultural frameworks, such as Hofstede's model, is needed to draw definitive conclusions.

4.3 Perception of the importance of knowledge sharing between different age groups

In this section, the second sub-question of the study is investigated, which was: How do employees from different age groups perceive the importance and impact of knowledge sharing on sustainability goals? Figure 3 shows perceived importance of knowledge transfer for the different age groups in this current study.

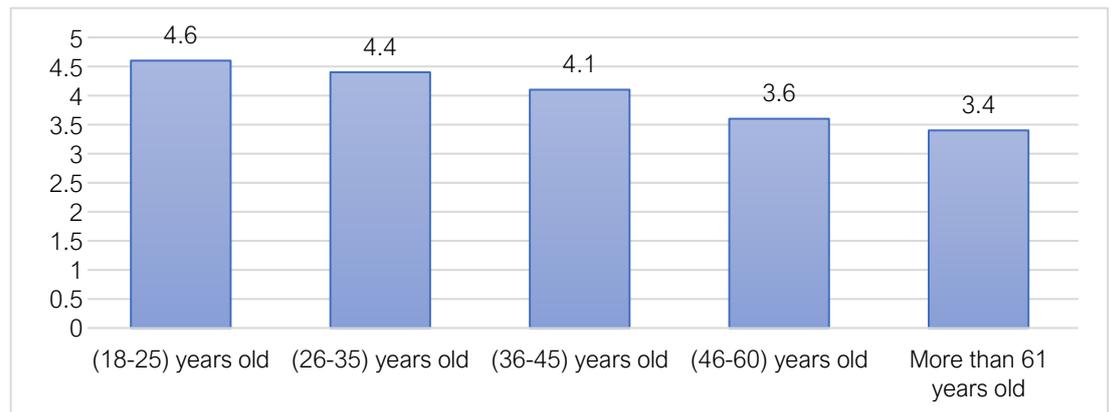


Figure 3: Impact of intergenerational knowledge transfer on the sustainability goals by age group.
Source: author's own

It can be seen that younger groups tend to value knowledge transfer and consider it more important for achieving the sustainable goals than older age groups, with respondents aged between 18 and 25 scoring 4.6/5, and respondents aged more than 61 years old scoring 3.4/4. Furthermore, Table 4 shows the results of the One-Way ANOVA test to test mean differences of the perception among the age variable.

Table 4. One-way ANOVA results. Source: author's own

Source of Variation	Sum of Squares	df	Mean Square	F	Sig. (p)
Between Groups	12.987	4	3.252	6.465	.000
Within Groups	68.871	137	0.503	—	—
Total	81.860	141	—	—	—

The outcomes of one-way ANOVA show that there were statistically significant differences in the perceptions of the impact of intergenerational knowledge sharing on sustainability outcomes depending on age groups. The results confirm that age has an influence on the perception of the importance of knowledge transfer, with an F value of 6.465 and a significance level of less than 0.001. These results show the importance of spreading awareness among older generations regarding the importance of intergenerational knowledge transfer, as well as encouraging them through the work environment and organisational policies.

These findings might be linked to the higher digital socialization (socialization within digital environments) of younger employees, where using collaborative tools is more normative, leading younger generations to be more accustomed to obtaining knowledge easily, in contrast to older generations, who may perceive knowledge more as a personal experience and tacit expertise (believing knowledge is obtained the “hard way” and must be earned), leading to lower perception of the importance of sharing knowledge. These results, therefore, not only suggest differences in perception between ages but may also point to deeper cultural and psychological divides between the different generations that need to be understood and properly addressed for establishing proper knowledge transfer systems within organisations.

4.4 Relationship between intergenerational knowledge transfer and sustainability

This subsection addresses Research Question 3 and Hypothesis H2 by examining the association between intergenerational knowledge transfer and progress toward sustainability objectives: Is there a measurable relationship between the degree of intergenerational knowledge transfer and the SME's progress toward sustainability objectives (e.g., innovation, resource efficiency, employee retention)?

Pearson's Correlation tested the relationship between the intergenerational knowledge transfer variable and the progress towards sustainable goals objective. The results a strong positive relationship (0.702) between the two variables at the 0.001 level, meaning that SMEs with sufficient intergenerational knowledge transfer are more likely to achieve the sustainability goals. These results indicate that SMEs with higher and more effective knowledge transfer systems across generations tend to progress towards their sustainability goals faster than other SMEs. Further studies are recommended to examine causality for such a relationship and how intergenerational knowledge transfer can be leveraged for achieving sustainability by promoting learning to drive innovation, efficiency, and retention of employees.

5. Discussion

The current research aimed at exploring the role of intergenerational knowledge transfer (IKT) as a sustainability driver within the SMEs, with a special focus on the differences in the perceptions of age and the empirical relationship between the knowledge sharing and the sustainability results. In the interpretation of the empirical findings and the literature under review, it is possible to observe a consistent and mutually reinforcing pattern that validates the earlier theoretical assertions as well as elaborates on these assertions in the context of Jordanian IT SMEs.

First, the results supported Hypothesis 1, which hypothesized that statistically significant age group differences exist in the perceptions of employees regarding the effect of intergenerational knowledge sharing on organizational sustainability. As indicated by ANOVA, age groups significantly differ in their perception of the importance of knowledge sharing as a means for sustaining the organization. This confirms the propositions of generational learning styles and existing empirical evidence. According to Markkula (2013), younger employees are more willing to use collaborative and digitally mediated knowledge systems than older employees, who put more importance on tacit learning that is based on experience. On the same note, Wang and Shi (2024) state that age stereotypes and perceived respect influence intergenerational knowledge behaviours, as both aspects determine willingness to share and receive knowledge. Based on these descriptions, the current results imply that the existence of perceptual gaps can be attributed not just to the familiarity with technology, but also to more profound psychological and cultural influences, such as trust, recognition, and perceived role security. This perspective is supported by Schmidt and Muehlfeld (2017), who define stereotyping, value differences, and mutual understanding as the key determinants of intergenerational exchange, and Lorenz (2008), who puts trust in the structural precondition of knowledge transfer. Therefore, the validated hypothesis reinforces the point that sustainability approaches based on knowledge sharing should be mindful of generational perception gaps instead of generalised participation.

The study tested the second hypothesis, which assumed that there is a significant relationship between intergenerational knowledge sharing and the success of SMEs in the achievement of the sustainability goals. The findings that the transmission of knowledge across generations is a necessary condition for sustainability performance are confirmed by the positive and significant value of the Pearson correlation coefficient ($r = .702$, $p = .001$). This is consistent with Rossignoli et al. (2024) on the existence of a positive relationship between intergenerational interaction and innovation and long-term sustainability of the organisation. Similarly, Idris et al. (2025) have also proven a positive relationship between knowledge sharing and intergenerational interaction and sustainability performance. The current research contributes to this body of literature by proposing quantitative validation among SMEs in an emerging economy, thus filling a research gap identified in the literature by presenting sustainability and intergenerational knowledge transfer as complementary variables instead of opposing ones.

In addition to testing hypotheses, the ranking of enablers and barriers within the study contributes to the explanatory value of existing theory. A respectful and inclusive work environment was the most powerful enabler found. This study confirms the findings of Hans et al. (2023) who have empirically tested that intergenerational climate presence and felt respect are important predictors of knowledge sharing behaviour. It also resonates with the statement of Schmidt and Muehlfeld (2017), who stated that inclusive settings reduce the differences between generations and encourage openness. Although organizational policies and

managerial support were also considered important, they were seen to have less weight as compared to relational climate. This implies that structural processes can operate via interpersonal channels. This interpretation is consistent with Babnik and Trunk Širca (2014), who contend that institutional arrangements need cultural roots to turn into effective knowledge retention and learning drivers.

The quality of the communication also became a key facilitating requirement. Open and transparent communication across the age groups was rated the most effective by respondents, which confirms Rupčičs' (2018) finding that intergenerational exchange is most consistently stifled by communication barriers based on differences in values, work styles, and linguistic norms. Rupčič (2024) also emphasizes that knowledge exchange is hardly natural unless it is supported by a deliberate communication framework, like mentoring or reverse mentoring. The current research substantiates this assertion empirically by showing that employees view dialogic communication to be the core of sustainability-oriented knowledge systems.

Loss or fear of losing the job or being replaced was the strongest barrier on the barrier side. The finding gives empirical support to the assertion of Bartol et al. (2009) that, the response to job insecurity is knowledge hoarding. In multigenerational work environments, employees can see knowledge as a source of power that can protect their relevance to the organization. The environment in the IT SME is likely to compound this dynamic because of the high rate of technological change and the risk of skill obsolescence. The barrier is also related to age stereotyping, where Wang and Shi (2024) found that people have low intentions to share knowledge due to shared intergenerational biases. Reciprocal learning becomes psychologically impaired when older employees are viewed as technologically inflexible or when younger employees are viewed as inexperienced. This argument is echoed by Schmidt (2019) who asserts that a mere generational diversity does not guarantee knowledge transfer; it will need supportive culture and trust systems to transform diversity into learning.

Digital technology appeared as an enabler and conditional factor, in line with previous studies. The study found that technological tools and digital platforms for information sharing were the most supportive enablers. These results complement Chaudhuri et al. (2022) by suggesting that digital means can support intergenerational learning networks. Sabri et al. (2014), however, argued that the benefits of a digital literacy gap may be limited. The current study indicates that although digital infrastructure has been appreciated, its usefulness is conditional upon the inclusive adoption and the supportive relational accompaniments.

The combination of the discussion supports one key theoretical synthesis: intergenerational knowledge transfer is a socio-technical potential in the continuity of human capital and performance of sustainability. By providing respectful working conditions, open, free communication, management, and psychologically safe learning conditions, SMEs can better convert generations differentiations into innovation, efficiency, and long-term resiliency. On the other hand, organizations that fail to recognize relational processes, especially trust, stereotypes, and job security issues, face the risk of breaking knowledge systems and reversing sustainability gains.

Finally, the research connects the literature and the empirical data by showing that IKT is not just a knowledge management practice but a sustainability mechanism inherent in the relationship between generations. The study presents empirically validated perceptual age variations and high correlation between IKT and sustainability goals, which can be relevant in the context-dependent field and emphasize the need to create multigenerational sustainability strategies in SMEs.

6. Implications

Valuable theoretical and practical implications can be derived from the results of this study. These implications are relevant both for further research, as well as for applications within SMEs in order to enhance the knowledge sharing across different generations in a way that ensures obtaining the sustainability goals of the organization.

6.1. Implications for research

The statistically significant age-based difference in perception denoted by the ANOVA test indicates that the generational attitude is not a marginal but a structural determinant of the knowledge-sharing behaviour in the SMEs. Although previous literature has recognized the existence of generational differences in communication patterns, learning preferences, and technological orientation (Markkula, 2013; Wang and Shi, 2024), the current study empirically shows that such perceptual distinctions can be translated into varied assessments of the role of knowledge transfer in achievement of sustainability. It means that age should be conceptualized in future studies as a demographic control variable but as a perceptual and behavioural moderator in models of knowledge sustainability. Test of moderated or mediated relationships, in which age affects the strength or direction of the IKT sustainability relationship would enhance the explanatory capacity of current frameworks.

Moreover, the high positive correlation found between the knowledge transfer of the generations and sustainability objectives ($r = .702$) necessitates more causally oriented research designs. Although the cross-sectional approach establishes association, it fails to establish directionality and long-term effects. Longitudinal research may examine the hypothesis of whether a long-term intergenerational partnership increases innovation capacity, resource efficiency, or employee retention in the long-term, which would confirm the sustainability pathway proposed by the current results and hypothetically tested in earlier studies (Rossignoli et al., 2024; Idris et al., 2025). These designs would also assist in investigating whether knowledge transfer is a pre-cursor to sustainability performance or whether sustainability-oriented organizations are better placed to institutionalize intergenerational learning.

Considering the evidence that respectful and inclusive workplace climates were viewed as the strongest enabler, the relational variables, including trust, perceived respect, and psychological safety, should be considered in further quantitative frameworks in a more rigorous fashion. The conceptual relationship between respect and inclusion and knowledge sharing has previously been identified in the literature (Hans et al., 2023; Schmidt and Muehlfeld, 2017), yet the idea of multi-level modelling that considers the interaction of these relational climates with organizational policies, leadership behaviours, and technological systems is still open. Equally, the fact that job security fears are the most significant obstacle to be considered brings into focus further research on the psychology of knowledge withholding on the basis of economics. Based on Bartol et al. (2009), subsequent research would investigate whether the relationship between generational diversity and the intensity of knowledge transfer is mediated by perceived replaceability.

Digital platforms were rated one of the most effective enablers, according to the research on collaborative technologies as knowledge facilitators (Chaudhuri et al., 2022). Their efficiency, however, is going to depend on the alignment of digital literacy and the technology acceptance of the generation (Sabri et al., 2014). Therefore, future studies might consider adopting a mixed-methods or experimental study design whereby the effects of specific digital interventions, such as reverse mentoring platforms or enterprise social network, on quality and sustainability of knowledge exchange by generation-based cohorts are examined.

The SME environment in Jordan provides a considerable avenue for other comparative studies. The significance of relational enablers compared to policy-based mechanisms implies that cultural workplace norms can influence the functioning of knowledge transfer systems. Cross-cultural comparative research can also be applied to test whether there are similar enabler-barrier hierarchies in more individualistic or highly formalized organizational settings. It would be beneficial to incorporate cultural frameworks (e.g., collectivism-individualism orientations) to find out whether the relational primacy identified in the present study is context-dependent or can be generalized to SME ecosystems.

In summary, this current study provides empirical research directions by proving that intergenerational knowledge transfer is a multilevel phenomenon that can be influenced by perceptual age effect, relational climates, psychological security, and socio-technical infrastructures. Subsequent studies that are based on these particular findings instead of viewing knowledge transfer as a homogeneous organizational activity will be more suited to clarify the mechanisms through which multigenerational workforces enhance sustainability performance in SMEs.

6.2. Implications for practitioners

The current research offers a systematic set of practical implications to SME leaders and managers who want to increase intergenerational collaboration and integrate sustainability into daily organizational practice. On a strategic level, the high and positive relation between IKT and sustainability outcomes ($r = .702$, $p = .001$) identifies that when an organization institutionalizes knowledge sharing between generations, then it is more probable to facilitate innovation, resource efficiency, and long-term organizational resilience. This relationship implies that formalized knowledge-transfer architectures should be employed as opposed to informal or ad hoc exchanges. In line with this, to prevent emerging impediments at the expense of enhancing enabling conditions, SMEs are advised to develop structured mentoring and reverse-mentoring schemes, develop knowledge-sharing procedures, and periodically evaluate the climate of collaboration to detect emerging barriers. The establishment of cross-generational project teams is one of the operational mechanisms by which this relationship may be activated.

The findings of the study show that the sustainability development is more effective in the organizations whose knowledge sharing is more intense, and thus, integrating mixed-age collaboration in the day-to-day business processes should include innovation efforts, client solutions, process improvement projects, and so forth, which present organic, relentless possibilities of exchanging experiences and learning. With this integration, knowledge sharing is a natural workflow instead of an added organizational requirement.

The outcomes of the ANOVA displayed statistically significant differences in age-related perception of the value of knowledge sharing, with the younger employees giving more weight to it than their older counterparts. This cognitive imbalance implies a requirement to have bilateral education frameworks that affirm the proficiency of both parties. Digital literacy, platform navigation, and technology-enabled collaboration can be facilitated by younger employees whereas tacit knowledge, including stakeholder management, negotiation history, and institutional routines, is transmitted by older employees. These types of reciprocal learning arrangements aid in bridging the perceptual as well as capability gaps observed in empirical findings.

It is also imperative to incorporate the knowledge exchange in performance management systems. The research found that managerial support and organizational policy frameworks were important enablers of intergenerational knowledge transfer. The translation of this empowering role into formal systems; ceilings to appraisal and promotion and recognition systems based on mentoring presence and involvement are indicators of institutional endorsement and re-negotiates sharing knowledge as a desired organizational behaviour. Formalization eliminates the perception of collaboration as optional or uncompensated and continuity of transfer practices.

The most powerful enabler of effective knowledge transfer, according to the respondents, was a respectful and inclusive work environment. This observation highlights the importance of creating psychologically safe learning environments so that employees are made to feel appreciated irrespective of their age and tenure. The relational trust conditions that the knowledge exchange requires to be sustained can be operationalized through inclusion-oriented HR practices, including intergenerational dialogue forums, acknowledgement of experiential expertise, and diversity responsive leadership development.

Another key practitioner priority is addressing the perceptions of employment security. The researchers found that the most effective impediment to intergenerational knowledge transfer was the fear of losing or being replaced. This implies that employees can conceal knowledge when they believe that by disclosing it, they are making themselves more replaceable. SMEs can address this barrier through the strengthening of role continuity, positioning mentoring as leadership contribution as opposed to redundancy, and official recognition of knowledge contributors. Open communication on workforce stability is the key to making knowledge sharing not a perceived threat but a professional endeavour to be appreciated.

Besides structural and psychological treatment, special awareness campaigns must be focused on adult workers. The research found that older generations were more likely to view knowledge sharing as less effective in terms of sustainability compared to younger workers. The tacit knowledge can be re-positioned as a strategic sustainability asset with the aid of awareness programs, participatory strategy workshops, and experience-recognition

platforms. These initiatives do not only increase the engagement of elderly employees but also solidify the intergenerational reciprocity.

Provision of training must also be multigenerational and inclusive. Ongoing developmental experience: digital literacy workshops, joint leadership workshops, mentoring skill development: ongoing advancement can decrease generational capability gaps and increase respect between people. Learning should be presented as a communal organizational process instead of a young initiative and this will enhance the sense of common ownership of knowledge systems.

Fear of job insecurity also proved to be as a significant obstacle as it did in similar studies in Malaysia and India. Nevertheless, the contextual difference was noted in the case of digital technology: where the Western research tends to locate technology infrastructure as the key enabler, the current results suggest that the relational and cultural processes play a more significant role within the Jordanian SME context. This indicates that places that put high value on the collective or relationships, interpersonal trust can be more conclusive than technological savvy. Moreover, although other studies based in the U.S. describe knowledge sharing in old-aged workers as legacy building, the current results revealed weaker perceptions of importance among older groups, which further supports the idea that culturally tailored engagement strategies are necessary.

In general, the implications for practitioners boil down to a single idea: intergenerational transfer of knowledge should be institutionally organized, relationally facilitated, and psychologically protected to serve as a sustainability catalyst. Through harmonizing coordination forms, compensation mechanisms, integrative cultures, digital processes, and job security guarantees, SMEs are able to institutionalize knowledge sharing as an inherent organizational resource. By means of such combined interventions, generational cooperation can be enhanced, and sustainability goals could be sought in a more consistent, robust, and strategically oriented way.

7. Conclusions and Recommendations

The study aimed to find answers to the primary research question: how intergenerational knowledge transfer relates to SMEs' sustainability in SMEs through the following: (1) the employees of the various age groups have different perceptions of the role of knowledge sharing in achieving SMEs' sustainability, (2) stronger intergenerational knowledge transfer is related to the achievement of the SMEs sustainability objectives. On the whole, the results imply that intergenerational knowledge transfer as a form of SMEs sustainability is a significant factor among Jordanian IT SMEs. The analysis proves that employees do not share knowledge equally among age groups: younger respondents have reported a greater perceived significance of intergenerational knowledge transfer to sustainability than older respondents, which confirms the first aim of the study and supports H1 by significant ANOVA values. Moreover, there was a high positive correlation observed between the level of intergenerational knowledge transfer (IKT) and the organization's progress along the sustainability goals (SO), which reinforces that SMEs that have more dynamic cross-generational mentoring, reciprocal learning, and well-organized knowledge-capture practices, which are more likely to report sustainability progress; thus, supports the second aim and H2. The research also indicates that the most prominent enabler is a respectful and inclusive workplace, whereas job insecurity is viewed as the most robust inhibitor, which implies that psychological safety and trust are not soft issues, but core conditions of sustainability-oriented learning in multigenerational SMEs.

The study has a number of limitations that must be taken into consideration, despite these contributions. Firstly, the study was cross-sectional, and therefore, it only reflects perceptions at a single point in time and cannot attain causality. Secondly, purposive sampling was used to sample nine Jordanian SMEs operating in the IT industry, enhancing the contextual applicability but reducing the external validity to other industries (e.g., manufacturing, services) or other national settings. Thirdly, the study is based on self-reported perceptions of the knowledge transfer and sustainability progress, which can be affected by social desirability bias or variation in the way employees understand sustainability. Lastly, although the overall reliability of the questionnaire was high, further construct validation (e.g.,

confirmatory factor analysis) and inclusion of objective measures of sustainability performance would have provided a stronger study.

In consideration of these limitations, future studies can use longitudinal designs to examine whether the enhancement of intergenerational knowledge transfer can predict sustainability results in the long run in terms of directionality and causality. In addition, researchers may engage in cross-sector and cross-country comparisons to examine whether the prevalence of interpersonal and cultural enablers (e.g., respect, inclusion) will be retained under various economic and cultural conditions. Moreover, interventions, including structured mentoring/reverse mentoring schemes, psychological safety programs, or job-security communication plans, may be tested in future studies using quasi-experimental designs to determine their effects on both IKT and sustainability performance. Lastly, mixed-method designs (e.g., surveys and interviews) might be used to explore why older employees report lower perceived significance of intergenerational knowledge transfer in this regard, and how organizations might be better positioned to link tacit and experience-based knowledge with technology-based knowledge-sharing systems.

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Appendix A: Questionnaire

Intergenerational Knowledge Transfer & Sustainability Questionnaire (SMEs)

Purpose & Consent (read before answering)

Dear Respondent, this survey explores how knowledge is shared between different age groups in small and medium-sized enterprises (SMEs) and how this relates to sustainability. Your participation is voluntary and anonymous. Please answer honestly based on your current organization. By proceeding, you consent to participate.

Instructions

Unless stated otherwise, please answer all statements using the following scale:

1 = Strongly Disagree

2 = Disagree

3 = Neutral/Undecided

4 = Agree

5 = Strongly Agree

There are no right or wrong answers. Select the response that best reflects your experience.

Section A – Demographic Variables

Please select or fill in the appropriate option.

q1. Age group

Under 25 25–34 35–44 45–54 55–64 65+

q2. Gender

Female Male Other

q3. Highest education level completed

High school or less Diploma Bachelor's Master's Doctorate

q4. Organisational tenure (years in current organization)

<1 1–3 4–6 7–10 >10

q5. SMEs' size (approximate number of employees)

<20 20–49 50–99 100–249 250+

Section B – Enablers of Knowledge Transfer

Evaluate the extent to which you think the following has a positive effect on knowledge sharing in your organization:

Respectful and inclusive work environment

q6. Colleagues from different age groups treat each other with respect.

q7. My organization fosters an inclusive climate where everyone feels valued, regardless of age.

Open and clear communication between age groups

q8. Communication across age groups is open and transparent.

q9. Team members from different generations give and receive feedback clearly and constructively.

Support from management

q10. Managers actively encourage knowledge sharing between younger and older employees.

q11. Managers allocate time/resources for intergenerational learning activities (e.g., mentoring, shadowing).

Use of digital tools and knowledge-sharing platforms

q12. We use effective digital tools/platforms to capture and share knowledge.

q13. Employees are trained and supported to use our knowledge-sharing technologies.

SMEs' policies that support learning and knowledge exchange

q14. Formal policies (e.g., mentoring programs, communities of practice) promote knowledge transfer.

q15. Knowledge sharing is recognized or rewarded in performance evaluations or acknowledgements.

Section C – Barriers to Knowledge Transfer

Indicate the extent to which each barrier exists in your organization and negatively affects knowledge sharing transfer.

Lack of trust between age groups

q16. There is reluctance to share knowledge due to low trust between age groups.

q17. Employees worry that sharing knowledge will reduce their personal value or job security.

Ineffective communication or misunderstanding

q18. Misunderstandings frequently occur when different generations collaborate.

q19. Differences in communication styles hinder effective knowledge exchange.

Negative age-related stereotypes

q20. Age-based stereotypes (e.g., “too old/too young”) discourage people from sharing knowledge.

q21. Some employees assume certain age groups are less capable of learning or contributing.

Job insecurity

q22. Concerns about job security make employees hesitant to share knowledge.

q23. Employees fear that sharing their know-how might make them replaceable.

Generational gaps

q24. Differences in work habits/values across generations make knowledge transfer difficult.

q25. Different technological tools used across age groups create barriers to sharing knowledge.

Section D – Perception of the Impact of Knowledge Sharing on Sustainability Goals (IKSS)

The following items assess how you perceive the importance and impact of knowledge sharing on organizational sustainability.

q26. Sharing knowledge across generations helps our SMEs use resources more efficiently.

q27. Intergenerational knowledge exchange improves our capacity for sustainable innovation.

q28. Cross-generational learning enhances employee retention and reduces turnover.

q29. Overall, knowledge sharing is essential for achieving our sustainability goals.

Section E – Degree of Intergenerational Knowledge Transfer (IKT)

Indicate how often/effectively intergenerational knowledge transfer occurs in your organization.

q30. Experienced employees routinely mentor or coach younger colleagues.

q31. Younger employees frequently share new methods/technologies with older colleagues.

q32. Cross-generational teams actively capture lessons learned from projects.

q33. Our organization provides regular activities (e.g., workshops, job shadowing) that facilitate intergenerational learning.

Section F – SME’s Progress Toward Sustainability Objectives (SO) (q36–q40)

Please rate the SME’s recent progress on sustainability objectives as you perceive it.

q34. Our SME has improved resource efficiency (e.g., energy, materials, waste).

q35. We have introduced products/services or processes that advance sustainability.

q36. Our organization increasingly complies with or exceeds sustainability standards.

q37. Overall, our SME is progressing toward its sustainability objectives.