DRIVING GROWTH: EXPLORING THE INFLUENCE OF DIGITALIZATION AND SUSTAINABILITY ON THE GROWTH OF SMALL AND MEDIUM ENTERPRISES

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Abstract

Small and medium-sized enterprises (SMEs) are central to economic development, yet their growth is increasingly shaped by digitalization and sustainability. This study examines how these determinants influence SME growth in Slovenia through a qualitative design with triangulated data. A systematic review of peer-reviewed literature, policy reports, and statistical sources (Scopus, Web of Science, Google Scholar, Eurostat, OECD) was combined with ten semi-structured interviews conducted in March and April 2025 with SME owners and managers across diverse industries in Slovenia. Thematic analysis revealed that digitalization enhances efficiency, innovation, and market expansion, while sustainability drives cost savings, brand differentiation, and competitiveness. Importantly, synergies, such as AI-enabled emission reduction and ERP-supported waste minimization, amplify benefits. However, SMEs also face financial constraints, generational resistance, and regulatory complexity. The findings demonstrate that digital and green transitions are not only complementary but interdependent, underscoring the need for policymakers to integrate both into targeted SME support strategies.

Key Words

SMEs, digitalization, sustainability, growth determinants, qualitative research.

INTRODUCTION

Entrepreneurship is widely recognized as a cornerstone of economic development, reflecting its growing relevance for global economies. Bygrave, Zacharakis, Wise, and Corbett (2024) stress that this is the entrepreneurial age, with more than 300 million people worldwide starting or managing new ventures in 2021.

Entrepreneurship is a complex phenomenon that spans a variety of contexts. The varied definitions in entrepreneurship literature reflect this complexity (Autio, 2007). SMEs are a policy priority worldwide because of their role in economic development and societal well-being (Harash, Al-Timimi & Alsaadi, 2014). Lowrey (2003) conceptualizes entrepreneurship as an economic system consisting of three components: (1) entrepreneurs, who pursue survival and advancement; (2) the social constitution that grants enterprise rights; and (3) government institutions that shape the environment for entrepreneurial activity.

While entrepreneurship is frequently associated with the establishment of new ventures, its scope is much broader. Entrepreneurial thinking and practice are equally critical for the ongoing management and renewal of established SMEs, where innovation, flexibility, and responsiveness to changing markets determine survival and growth. As Duarte (2004) argues, entrepreneurship must be seen as a continuous practice embedded in enterprise management rather than a one-time act of firm creation. From this perspective, the study of SMEs and the factors that drive their growth becomes both meaningful and necessary.

Shane and Venkataraman (2000) define entrepreneurship as the study of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited. Resources, however, remain limited, while societal expectations increasingly demand technological advancement, job creation, and sustainable development. This implies not only efficient use of renewable resources but also careful stewardship of non-renewable ones (Hall, Daneke & Lenox, 2010). Sustainability and the circular economy will therefore be essential in the coming decades. The Europe 2020 Strategy positioned smart, inclusive, and sustainable growth at the heart of European competitiveness, actively supporting businesses, administrations, and consumers in transitioning to a resource-efficient, green, and low-carbon economy (European Commission, 2023a).

In 2024, SMEs represented 99.8% of all EU enterprises, employing nearly 90 million people (Schulze et al., 2024). SMEs (firms with 250 or fewer employees) also constitute the largest business sector globally and remain central to national development strategies (Algan, 2019). They are disproportionately large creators of employment, particularly in countries with strong labor market performance (OECD, 2017).

Research has consistently shown that the growth and competitiveness of SMEs are determined by a complex interaction of internal capabilities and external conditions. Growth brings opportunities but also new challenges, such as financing, market competition, and regulatory adaptation

(Kindström, Carlborg & Nord, 2024). A conducive business environment is therefore essential for SME development (Acs, Estrin, Mickiewicz & Szerb, 2018; Nkwabi & Mboya, 2019). Yet despite significant policy support, a large number of newly established firms fail in the first years of operation. According to a CB Insights (2021) study, 95 percent of start-ups fail, and 42 percent of them fail when they realize there is no market for their product or service. Understanding why so many SMEs fail and how they can be supported to survive and grow remains a pressing challenge for both scholars and policymakers.

The research from Smallbone and Welter (2001) is concerned with the role of government in relation to SME development in economies at different stages of market reform. It demonstrates that, as in mature market economies, the state is a major factor influencing the nature and pace of SME development, although more through its influence on the external environment in which business activity can develop than through direct support measures or interventions. The logical question here is how the government with its policy decisions is influencing the growth of SMEs.

In this context, rather than attempting to construct an all-encompassing model of SME growth this study focuses on two determinants increasingly relevant in both academic and policy debates: digitalization and sustainability. By integrating a systematic literature review with qualitative insights from Slovenian SMEs, the paper highlights how these factors shape growth trajectories in practice. The evidence generated here is intended to inform policymakers, encouraging them to consider digitalization and sustainability not as optional enhancements but as strategic priorities when designing SME support frameworks and national development policies.

DIGITALIZATION

Among the wide range of factors influencing SME performance, digitalization has emerged as one of the most transformative and empirically supported drivers. Recent studies provide robust evidence that the adoption of digital technologies significantly enhances SME performance, productivity, and innovation capacity. According to Quinton et al. (2018), businesses can strategically navigate the utilization of developing digital technologies to enhance their competitive advantage and capitalize on chances for innovation-driven growth. Similarly, research on German SMEs indicates that digitalization in areas such as production, logistics, value chains, and big data analytics stimulates both product and process innovations, even in firms without formal R&D departments (Becker & Schmid, 2023).

European industry is firmly committed to integrating the concept of digitalization in order to be more competitive in the context of globalization (Kádárová, Lachvajderová & Sukopová, 2023). The economy of the 20th and 21st century has a different set of rules than Smith‘s economy of the 19th century. The new ideology of neo-liberalism and globalization emphasizes the role of SMEs as promoters of a healthy business climate, economic efficiency and power for economic development, especially in developing

countries (Keskġn, Ġentürk, Sungur & Kġrġġ, 2010). Together, these perspectives highlight that the competitive role of SMEs in a globalized economy is inseparable from their ability to adapt through digitalization, which provides the foundation for this study's focus on the intersection of technological transformation and SME growth.

From a strategic perspective, digitalization is not only a source of competitive advantage but also a buffer against external shocks. By enabling flexibility, remote operations, and data-driven decision-making, digital tools strengthen SMEs' resilience in volatile environments. The theoretical relevance of digital transformation is further emphasized by Nambisan, Lyytinen, Majchrzak, and Song (2017), who describe how digital technologies reshape innovation processes, while Schallmo, Williams & Boardman (2017) highlight their role in opening new problem–solution pathways. Policy frameworks also reinforce this view, in line with the European Commission's "Digital Decade" strategy, which sets targets for 90% of SMEs to achieve basic digital intensity by 2030, reflects the recognition of digitalization as a cornerstone of long-term competitiveness (European Commission, 2022).

The phenomenon of Industry 4.0 demonstrates how digital technologies are embedded into enterprise-level strategy. Known as the Fourth Industrial Revolution, it has been described as a comprehensive transformation where digital tools are used to enhance production, supply chains, and customer interactions (Grabowska & Saniuk, 2022). Germany's leadership in this area, particularly in digitalizing its manufacturing sector, has drawn global attention and provides an example of how SMEs can leverage national strategies for competitiveness (Kilimis, Zou, Lehmann & Berger, 2019). Beyond productivity, digitalization also interacts with sustainability goals: it is increasingly seen as an enabler of environmentally responsible business practices, for instance through resource efficiency and reduced material consumption (Isensee, Teuteberg, Griese & Topi, 2020).

To move beyond general statements, it is important to examine the specific mechanisms through which digitalization supports SME growth. Several dimensions can be distinguished:

- Efficiency gains: The implementation of digital programs such as customer relationship management (CRM) systems or project management tools allows SMEs to base decisions on systematic data analysis rather than intuition, improving accuracy and reducing waste (Telukdarie, Dube, Matjuta & Philbin, 2023). By automating routine tasks, employees can redirect their efforts toward creative and innovative activities.
- Innovative capacity: Emerging technologies including artificial intelligence, augmented reality, blockchain, and the Internet of Things equip SMEs with new opportunities for product and service development. Many global startups that have grown into unicorns or decacorns achieved their position precisely by leveraging such digital tools to outperform incumbents (AlMujaini, Hilmi, Abudaqa & Alzahmi, 2021).

- Market access and internationalization: Digital platforms enable SMEs to overcome geographical boundaries. Through e-commerce, social media, and online marketplaces, firms can expand into new markets even without a physical presence abroad (Matalamäki & Joensuu-Salo, 2022; HTTPOOL, 2023).
- Customer loyalty and engagement: Digital channels provide cost-effective means to build direct relationships with customers. SMEs can maintain continuous communication through social media, chatbots, or automated marketing tools, fostering stronger loyalty and repeat business (Shabani, Behluli, Qerimi, Pula & Dalloshi, 2022).

Taken together, the literature review suggests that digitalization is far more than a technological upgrade; it represents a strategic reorientation of SMEs toward efficiency, innovation, and global competitiveness. At the same time, it lays the groundwork for sustainable practices by reducing reliance on material resources and enabling smarter energy management. For these reasons, this study positions digitalization as one of the two focal determinants of SME growth, linking theoretical insights with qualitative evidence from Slovenian firms to illustrate how these mechanisms operate in practice.

SUSTAINABILITY

In the era of economic globalization, SMEs are recognized as an engine of sustainable economic development in both the developed and developing world (Prasanna et al., 2019). For SMEs, sustainability involves striking a balance between financial, human, and material resources on the one hand, and the social and economic environment in which they operate on the other (Burlea-Schiopoiu & Mihai, 2019). Growing ecological pressures, increasingly strict regulations, and shifting customer expectations encourage firms of all sizes to integrate responsible business practices into their operations (Yadav, Gupta, Rani & Rawat, 2018).

Over the past decades, sustainability has become a key dimension of competitiveness and corporate legitimacy. Organizations are now expđected not only to pursue profitability but also to improve their environmental and social performance (Siegel et al., 2019). Strategic integration of sustainability practices allows SMEs to save resources, reduce costs, and create added value for both employees and society at large (Grothe & Marke, 2012). Moreover, businesses that display strong sustainability performance often develop distinctive organizational cultures that support long-term resilience (Grayson, Coulter & Lee, 2018). Prior studies suggest that incorporating sustainability into SME strategies enhances their market positioning and creates opportunities to differentiate against larger enterprises (Fernandes, Raja & Whalley, 2006; Gelbmann & Baumgartner, 2012).

Despite these benefits, SMEs and societies remain at the early stages of fully adopting sustainability principles. Research in strategic management suggests that a strong digital orientation enables organizations to

reconfigure structures and workflows, supporting more resource-efficient and sustainable operations (Kindermann et al., 2021). Such integration satisfies the long-term requirements of sustainable development and aligns with the broader vision of the European Commission, which positions sustainability as a critical foundation for competitiveness (Khrais & Alghamdi, 2022).

The importance of sustainability is evident in light of pressing global challenges. Journeault, Perron, and Vallières (2021) argue that, given the scale of challenges such as climate change, deforestation, biodiversity reduction, water pollution, and public health, sustainable development has come to be recognized as an issue of global concern. For SMEs, alignment with sustainability principles is increasingly vital not only for regulatory compliance but also for maintaining credibility with customers, partners, and investors. In B2B markets, especially commodities like energy and chemicals buyers who perceive suppliers as transparent and committed to sustainability are significantly more likely to remain loyal, even at a premium price. For instance, a Deloitte (2023) survey of 1,300 B2B buyers found such suppliers were 2.7 times more likely to draw long-term purchasing commitments and 1.7 times more likely to command price premiums. Trust formed through credible sustainability positioning directly influences buyer performance and relationship longevity (Casidy, 2022).

Another academic research indicates that sustainable HRM practices especially when combined with social capital enhance employee loyalty and retention within organizations, effectively reducing turnover intentions (Cachón-Rodríguez et al., 2022). Thus, some surveys report that over 70% of Gen Z and millennials consider an employer's green credentials important when selecting a job, with some even changing jobs for environmental reasons (Thomas, 2023; INAC Global Executive Search, 2023). In this sense, sustainability contributes not only to external reputation but also to internal employee motivation and talent retention.

Several mechanisms further illustrate how sustainability can directly foster SME growth:

- New market opportunities: Demand for sustainable products and services is expanding, enabling SMEs to diversify their offerings and strengthen differentiation. Positioning as a sustainable enterprise can create a competitive edge in markets where customers and business partners increasingly value ethical and ecological standards (Cezarino, Liboni, Hunter, Pacheco & Martins, 2022).
- Green transformation of operations: Investments in renewable energy, energy efficiency, and recycling technologies allow SMEs to reduce environmental impact while lowering costs in the long run. For instance, adopting solar panels, upgrading to energy-efficient machinery, or reusing materials not only improves ecological performance but also enhances competitiveness in tenders and procurement processes (Dzhioeva & Magomadov, 2023).
- Corporate social responsibility: Beyond environmental considerations, SMEs that engage with local communities and contribute to social well-

being generate reputational capital. Agu, Iyelolu, Idemudia and Ijomah (2024) present evidence from multiple industries that sustainable business practices strengthen brand loyalty through improved trust and customer retention.

Overall, sustainability ought to be conceptualized not merely as a regulatory obligation but as a strategic orientation that enables SMEs to pursue innovation, consolidate stakeholder relationships, and enhance their long-term resilience and competitiveness within increasingly dynamic markets. This study therefore examines sustainability not as an isolated concept but as a determinant of SME growth with strategic implications. By combining a literature review with qualitative interviews in Slovenia, it builds a foundation for understanding how sustainability is practiced, what challenges SMEs face, and why policymakers should take this dimension into serious consideration when shaping future business environments.

METHODOLOGY

Research Design

This study adopts a qualitative research design that combines two complementary components: (1) theoretical desktop research to build a comprehensive understanding of SME growth determinants, with a particular focus on digitalization and sustainability, and (2) semi-structured interviews with SME decision-makers in Slovenia to capture practical experiences and contextual insights. This dual approach ensures both conceptual grounding and empirical richness, providing a foundation for evaluating the relevance of digitalization and sustainability for SME growth in practice.

Desktop Research

The first stage of the research consisted of an extensive literature review and analysis of secondary sources. References were gathered through systematic searches in major academic databases, including Scopus, Web of Science, and Google Scholar, as well as policy documents and statistical data from Eurostat, OECD, and European Commission reports. Keywords included SME growth, digitalization, sustainability, innovation, competitiveness, and entrepreneurship. Selection criteria prioritized recent (2018–2024) peer-reviewed studies, high-quality policy reports, and statistical datasets to ensure both credibility and timeliness, while also incorporating earlier works that provide essential theoretical foundations for the research context.

The desktop research had two main objectives:

1. Theoretical foundation – mapping the existing knowledge on how digitalization and sustainability influence SME performance and competitiveness, guided by studies such as Acs et al. (2018), Isensee et al. (2020), and Journeault et al. (2021).

2. Contextual mapping – analyzing European and Slovenian data to situate SMEs within broader economic, technological, and environmental trends, drawing on Eurostat SME indicators, OECD entrepreneurship outlooks, and EU strategic frameworks.

In the contextual mapping stage, official statistics and strategic frameworks were systematically examined to situate Slovenian SMEs within the wider European environment. Eurostat indicators confirmed that SMEs account for 99.8% of enterprises and employ nearly 90 million people across the EU, underscoring their structural importance for the economy (European Commission, 2023b). Comparative insights from OECD entrepreneurship outlooks emphasized the disproportionate contribution of SMEs to job creation across member states, providing an international benchmark for evaluating Slovenian patterns (OECD, 2017). In addition, EU strategic frameworks such as the Europe 2020 Strategy and the Digital Decade 2030 roadmap demonstrated how digitalization and sustainability have been institutionalized as policy priorities, thereby validating the relevance of these determinants for SME growth in Slovenia (European Commission, 2022). This systematic review provided the conceptual lens and analytical categories used in the second research phase.

Qualitative Data Collection: Semi-Structured Interviews

To complement the theoretical findings, qualitative data were collected through semi-structured interviews with SME owners, managers, and industry experts. This method allowed for consistency across interviews while leaving room to explore unique firm-specific experiences and insights (Bryman, 2021).

Sampling Strategy

A purposive sampling approach was employed to ensure diversity across:

- Industry sectors (manufacturing, services, logistics, IT, hospitality, retail, construction, sports equipment, plastics, and furniture).
- Firm size within the SME category (micro, small, and medium).
- Levels of maturity in digitalization and sustainability adoption (from early-stage adopters to advanced implementers).

Ten interviews were conducted, a sample size sufficient to achieve thematic saturation while maintaining depth of analysis.

Interview Procedure

To guide the qualitative interviews, a structured questionnaire was developed, informed by the literature review and aligned with the study's research questions. The instrument consisted of two parallel interview guides one focusing on digitalization and the other on sustainability, each containing 9 open-ended questions for both determinants and one about the

company at the beginning of the instrument. Questions were grouped into four thematic sections:

1. **Organizational context** (e.g., company profile, role of interviewee, strategic orientation).
2. **Adoption practices and drivers** (motivations, external pressures, and internal enablers).
3. **Impact on growth** (effects on sales, market reach, innovation, efficiency, and reputation).
4. **Strategic outlook** (future plans, long-term vision, and advice to other SMEs).

This structure ensured both consistency across interviews and the flexibility to probe deeper into emerging themes. The complete version of the questionnaire is provided in Appendix A.

Interviews were carried out either in person or via secure online platforms, depending on participant availability. Data collection took place in March and April 2025, ensuring that the findings reflect current SME experiences in the post-pandemic recovery and ongoing digital and green transition context.

Data Recording and Transcription

With participants' consent, all interviews were audio-recorded to ensure accurate data capture. Recordings were subsequently transcribed verbatim, providing a precise representation of participants' responses. To protect confidentiality, transcripts were anonymized by replacing identifying details with numbers, and audio files were permanently deleted once transcription was complete. Interviewees were explicitly assured that their contributions would never be reported as individual discussions but only as aggregated findings.

Data Analysis

The qualitative data collected through semi-structured interviews were analyzed using thematic analysis, following Braun and Clarke's (2023) six-phase framework. This approach was selected because it offers both structure and flexibility in identifying, organizing, and interpreting patterns across qualitative datasets, while remaining well-established in management and social science research.

The analysis proceeded through the following stages:

1. **Familiarization with the data:** Interview transcripts were read multiple times while also cross-checking with field notes to ensure immersion and the identification of preliminary impressions.
2. **Generating initial codes:** A hybrid coding approach was applied. **Deductive codes** were derived from the literature review (e.g., adoption drivers, innovation, sustainability drivers), while **inductive codes** emerged from the interview data (e.g., generational resistance to digital tools, client-driven sustainability demands). Coding was conducted using **Taguette** (open-source qualitative software).

3. **Searching for themes:** Codes were clustered into broader candidate themes such as “implementation practices,” “challenges and barriers,” and “impact on growth.”
4. **Reviewing themes:** Themes were cross-checked against the coded extracts and the full dataset to ensure consistency and coherence.
5. **Defining and naming themes:** Each theme was refined, given a clear conceptual scope, and structured into seven overarching categories: organizational context, adoption drivers, implementation practices, challenges and barriers, impact on growth, strategic outlook, and cross-factor synergies.
6. **Producing the report:** The analysis was finalized by selecting illustrative quotations (anonymized) and integrating them with the literature review to triangulate findings.

Through this process, thematic analysis allowed not only the identification of convergent findings (e.g., efficiency gains from digital tools, reputation gains from sustainability practices) but also divergent and emergent themes (e.g., generational gaps in digital adoption, market resistance to paying premiums for sustainable products).

Ethical Considerations

Participation was voluntary, and all respondents were informed about the study’s objectives, their right to withdraw at any time, and the measures taken to ensure confidentiality. Data were anonymized, and any potentially identifying details were removed from transcripts and analysis outputs.

Research questions:

RQ1: How does digitalization influence the growth of SMEs?

- Independent variable: digitalization (measured through adoption of digital tools such as ERP, CRM, e-commerce, AI, cloud services).
- Dimensions / Indicators: efficiency, innovation, new market entry, customer loyalty.
- Dependent variable: SME growth (measured through employment growth, market share, profit growth, process improvements).

RQ2: How does sustainability influence the growth of SMEs?

- Independent variable: sustainability practices (measured through adoption of renewable energy, waste reduction, recycling, eco-friendly product design, CSR initiatives).
- Dimensions / Indicators: market opportunities, cost savings, operational efficiency, brand reputation.
- Dependent variable: SME growth (employment, market share, profit, reputation, competitiveness).

RESULTS – QUALITATIVE INSIGHTS FROM SLOVENIAN SMES

This section synthesizes findings from ten semi-structured interviews with SMEs in Slovenia, complemented by insights from the literature review. The interviews were conducted during March and April 2025, providing a timely perspective on how SMEs are responding to digitalization and sustainability challenges in the current economic and policy environment. Participants represented diverse industries, including logistics, manufacturing, construction, IT, hospitality, retail, plastics, sports equipment, and furniture. The thematic analysis was structured according to the coding framework, allowing comparison across firms and highlighting common patterns as well as sector-specific insights.

Organizational Context and Strategic Orientation

All interviewees were either owners or senior managers, indicating that decisions on digitalization and sustainability are driven primarily at the leadership level. Several firms were family-owned and multi-generational (Interviewees 6, 7, 8), where long-term stability shaped decision-making. Younger or IT-oriented firms (Interviewees 5, 9) integrated digital tools and sustainability practices from inception, while traditional sectors (Interviewees 3, 10) adopted them gradually, often in response to rising costs or customer expectations.

Adoption Drivers

Digitalization was primarily motivated by efficiency gains, cost control, and customer demands for transparency. For instance, Interviewee 1 (logistics) adopted AI-based route optimization to reduce fuel consumption, while Interviewee 6 (plastics) introduced ERP systems to improve planning and reduce errors. Sustainability drivers combined environmental responsibility with market pressure: eco-conscious clients in Western Europe required compliance with environmental standards, while several interviewees emphasized personal values as a motivation for green practices.

Implementation Practices

Digitalization practices ranged from basic adoption of POS systems, e-commerce platforms, and CRM (Interviewees 8, 10) to advanced applications of AI, IoT, and predictive maintenance (Interviewees 1, 4, 5). Sustainability measures included renewable energy (solar panels at Interviewees 1, 4, 6), waste reduction and recycling (Interviewees 2, 3), and eco-friendly product innovations (Interviewee 7). Together, these practices illustrate how SMEs are embedding both determinants directly into their operational strategies.

Challenges and Barriers

Interviewees consistently reported three types of barriers:

- **Financial constraints:** High upfront costs for solar panels, electric vehicles, or ERP systems.
- **Human resource limitations:** Resistance from older employees (Interviewees 6, 10) and lack of expertise in digital tools.
- **Regulatory and integration issues:** Difficulty in obtaining permits for renewable energy projects (Interviewee 8) and challenges in aligning digital tools with legacy systems (Interviewee 4).

These findings mirror broader research, which identifies finance, skills, and regulatory complexity as recurring barriers to SME transformation (OECD, 2017; Kindström et al., 2024).

Impact on Growth

Both digitalization and sustainability contributed to measurable growth outcomes. Digital tools enhanced operational efficiency (e.g., Interviewees 1 and 3 achieved fuel savings; Interviewee 4 reduced downtime with predictive maintenance), expanded market reach (e.g., Interviewees 7 and 2 expanded internationally via online sales), and stimulated product innovation (e.g., Interviewees 5 and 7 developed customized solutions).

Sustainability initiatives reinforced brand differentiation**,** particularly in eco-sensitive markets. Firms like Interviewees 6 and 7 leveraged eco-certified products to win new contracts abroad, while Interviewee 1 expanded into Austria and Germany through green logistics services. Cost savings were also significant: solar panels reduced energy bills, electric vehicles lowered maintenance costs, and recycling reduced material expenses.

Strategic Outlook

Looking ahead, most SMEs view digitalization and sustainability as central to their future growth strategies. IT-based firms (Interviewees 5, 9) plan further AI-driven product development, while manufacturing and logistics firms (Interviewees 1, 4) focus on carbon tracking, energy management, and predictive analytics. Sustainability ambitions include carbon neutrality (Interviewee 1), expansion of eco-product lines (Interviewees 6, 7), and positioning as regional leaders in sustainable practices (Interviewee 2).

Cross-Factor Synergies

A key insight was the synergy between digitalization and sustainability. Digital technologies frequently enabled sustainability outcomes: AI-driven route optimization reduced both costs and emissions (Interviewee 1 and 3), ERP systems minimized material waste (Interviewees 4 and 6), and e-commerce reduced reliance on physical stores (Interviewees 7 and 8). This interplay confirms recent research suggesting that digitalization can act as an enabler of sustainability (Isensee et al., 2020). For SMEs, such integration yields compounded benefits.

DISCUSSION OF FINDINGS

Answering the research questions

RQ1: How does digitalization influence the growth of SMEs?
The findings confirm that digitalization is a critical driver of SME growth, consistent with prior research (Quinton et al., 2018; Becker & Schmid, 2023). From the Slovenian interviews, digitalization enabled firms to increase efficiency (e.g. route optimization and predictive maintenance reduced costs and downtime), expand markets (online sales allowed SMEs to reach international customers), and stimulate innovation (customizable products, client portals). These insights illustrate that digitalization not only improves operational processes but also enhances strategic positioning and competitiveness. Importantly, SMEs that adopted digital tools proactively, rather than reactively, reported stronger growth trajectories. This supports the argument that digitalization must be embedded as a core strategic practice rather than treated as an add-on.

RQ2: How does sustainability influence the growth of SMEs?
The results demonstrate that sustainability contributes to SME growth in multiple ways, aligning with previous studies (Burlea-Schiopoiu & Mihai, 2019; Cezarino et al., 2022). Slovenian SMEs showed that sustainability initiatives lead to cost savings (e.g., energy efficiency, recycling, renewable energy use), market opportunities (entry into eco-conscious international markets), and brand differentiation (enhanced reputation, certifications for tenders). While some customers remain price-sensitive, the long-term benefits of sustainability practices particularly in building trust with partners, investors, and employees were widely acknowledged. The data thus support the notion that sustainability is both an ethical commitment and a business growth strategy.

Cross-factor insights

An important contribution of this study is the identification of synergies between digitalization and sustainability**.** Digital technologies often acted as enablers of sustainable practices, such as using AI to reduce fuel consumption or ERP systems to minimize waste. This confirms the argument of Isensee et al. (2020) that digitalization can facilitate environmentally responsible business models. For SMEs, this integration generates compounded benefits: efficiency gains, market expansion, and reputational advantages. For SMEs, such integration yields compounded benefits, including efficiency gains, market expansion, and reputational advantages, aligning with the view that digitalization, sustainability, and internationalization represent three interrelated strategic trajectories for firm growth (Denicolai, Zucchella, & Magnani, 2021).

These findings underline that SME growth cannot be explained by digitalization or sustainability in isolation, but rather by their embeddedness in broader institutional and market contexts. The Slovenian evidence shows that regulatory frameworks, customer expectations, and intergenerational dynamics mediate how these determinants translate into growth outcomes. This emphasizes the importance of situating digital and sustainable transitions within specific socio-economic environments, providing a foundation for the theoretical contributions outlined in the next section.

Theoretical Contributions

This study contributes to the entrepreneurship and SME literature by:

1. Providing empirical evidence from Slovenia**,** a context underexplored in international SME growth research.
2. Demonstrating how digitalization and sustainability act as dual determinants of SME growth, not only separately but also through their synergies.
3. Extending the conceptual understanding of SME growth beyond traditional financial or age-related determinants (Nunes et al., 2013; McMahon, 2001) to include policy-prioritized factors.

Practical and Policy Implications

For practitioners, the results highlight that digitalization and sustainability are not optional investments but strategic necessities**.** SMEs that invest early in these areas gain measurable advantages in efficiency, innovation, and market competitiveness.

For policymakers, the findings provide evidence that digitalization and sustainability should be treated as core pillars of SME support policies**.** Instead of general SME aid, targeted programs for digital transformation, renewable energy adoption, and circular economy practices would address the most pressing growth challenges identified in this study. Governments can accelerate SME competitiveness by simplifying regulatory procedures

(e.g., renewable energy permits) and improving access to funding for digital and sustainable initiatives.

Limitations and Future Research

This study is subject to several limitations. First, the sample size of ten SMEs, while sufficient for thematic saturation, does not capture the full diversity of the Slovenian SME sector. Second, the qualitative approach emphasizes depth but does not quantify the strength of relationships between digitalization, sustainability, and growth. Third, the research was conducted in March and April 2025, and findings reflect the specific economic and policy context of this period.

Future research should complement these insights with quantitative studies across a larger sample of SMEs, both within Slovenia and internationally, to test the generalizability of the results. Comparative cross-country research could also illuminate how institutional contexts shape the interplay between digitalization, sustainability, and SME growth.

CONCLUSION

This study set out to explore the influence of digitalization and sustainability on SME growth through a combination of literature review and qualitative evidence from Slovenian enterprises. The results confirm that both determinants are critical for SME competitiveness, resilience, and long-term viability. Digitalization supports efficiency, innovation, and market expansion, while sustainability contributes to cost savings, brand reputation, and entry into new markets. Importantly, their interplay produces synergies such as digital tools enabling resource efficiency that generate compounded benefits for growth.

By emphasizing this dual and interdependent dynamic, the study advances the understanding of SME growth beyond traditional determinants such as size, age, or financial structure. It demonstrates that digital and green transitions should no longer be seen as optional pathways but strategic imperatives for SMEs in a globalized and environmentally constrained economy.

For policymakers, the findings suggest that support instruments must go beyond generic SME subsidies. Targeted measures such as digitalization vouchers, training programs for workforce adaptation, simplified permitting for renewable energy, and incentives for green innovation are required to accelerate SME transformation. For managers, the evidence indicates that embedding both digital and sustainable practices into strategy enhances not only competitiveness but also resilience in volatile markets.

Future research should build on these insights by expanding the geographic scope beyond Slovenia to capture cross-country differences in institutional support for digital and sustainable transitions. Large scale quantitative studies could test the statistical strength of the observed relationships, while longitudinal designs may reveal how synergies between

digitalization and sustainability evolve over time. In addition, sector-specific analyses such as manufacturing, logistics, or creative industries could shed light on industry level dynamics and tailor policy recommendations accordingly.

In sum, this study provides an evidence-based foundation for understanding how digitalization and sustainability jointly shape SME growth. By doing so, it highlights a research and policy agenda where integrated approaches are essential for ensuring the competitiveness and long term success of SMEs in Europe and beyond.

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Appendix: An Instrument for the research

General Opening Question (applies to both blocks):
Can you briefly describe your role in the company and the main activities of your business?

Block A – Digitalisation and SME Growth

Organizational Context

How would you describe your company's journey toward digitalization so far?

Digitalization Practices and Drivers
Which digital tools or technologies have you implemented in your business in the past 3–5 years?
What were the main motivations or drivers for adopting these digital solutions?
What challenges, if any, did you encounter during the process of digital adoption?

Impact on Growth
In what ways has digitalization influenced your company's growth in terms of sales, market reach, or customer base?
Have digital tools changed your operational efficiency or productivity? If so, how?
Can you share an example where digitalization directly contributed to innovation in your products, services, or processes?

Strategic Outlook
How do you see the role of digitalization in your company's future growth strategy?
What advice would you give to other SMEs that are considering investing in digital transformation?

Block B – Sustainability and SME Growth

Organizational Context
When and how did your company start integrating sustainability practices into its operations?

Sustainability Practices and Drivers
What specific sustainability initiatives or policies has your business implemented in recent years?
What motivated your company to adopt these sustainability measures?
What challenges have you faced in implementing sustainability practices?

Impact on Growth
In what ways have sustainability practices influenced your sales, market reach, or customer base?
Have sustainability initiatives improved operational efficiency, cost savings, or resource management? If yes, how?
Can you provide an example where a sustainability measure directly led to innovation in your products, services, or processes?

Strategic Outlook
How do you envision the role of sustainability in your company's future growth strategy?
What advice would you give to other SMEs considering investment in sustainability initiatives?