Technology and Innovation in Small Businesses: A Review Paper

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Abstract
Small enterprises are essential to economic expansion but need help implementing new technology and promoting creativity. In order to analyze the main forces behind, obstacles to, and effects of technology adoption and innovation in the small company sector, this literature review synthesizes current research.
The results show that while resource limitations, a lack of skilled workers, and a sense of risk are the main obstacles to technology adoption, strategic vision, competitive pressure, and perceived advantages are essential drivers. Small organizations frequently need to catch up with organizational and procedural innovation but fall behind in product innovation. Resource constraints may be addressed through open innovation and collaboration. Although a broad correlation exists between increased company success and technology adoption and innovation, this link is nuanced and context-dependent.
Small business leaders should create strategic technological roadmaps, deal with budget limitations, improve digital skills, and promote an innovative culture to use these insights. Governments may help small enterprises by implementing focused initiatives and providing forums for information exchange. A small business's ability to successfully use innovation and technology is essential in the digital age.
Keywords: Digital transformation, competitiveness, innovation, small enterprises, and use of technology

1 Introduction

Globally, small firms are essential to economic expansion, employment creation, and innovation (Organisation for Economic Co-operation and Development [OECD], 2021). The use of technology and the promotion of innovation have become essential for these businesses' survival and performance in an increasingly digitized and cutthroat corporate environment (Brem et al., 2020). Though there may be advantages, many small organizations need help to successfully integrate new technology and promote an innovative culture (Garzoni et al., 2020).
The business sector has seen significant changes as a result of the rapid growth of digital technologies including artificial intelligence, blockchain technology, cloud computing, and the Internet of Things. These technologies provide new opportunities for increasing output, reaching a larger audience, and providing value, claim Li et al. (2022). Concurrently, innovation has become a vital component of staying competitive in ever-changing markets regarding products and procedures (Expósito & Sanchis-Llopis, 2019). Small firms can take advantage of these technological breakthroughs and spur innovation because of their innate agility and strong client relationships. However, frequently, they lack the means, know-how, and strategic orientation to take full advantage of these prospects (Crupi et al., 2020).
There is still a knowledge vacuum regarding the precise effects of technological innovation and adoption on

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small enterprises despite an expanding corpus of study on these topics in business settings. Particularly in light of the quickly developing digital technologies, the relationship between small business performance, innovative methods, and technology adoption has not been thoroughly investigated (Goduscheit & Faullant, 2018).

By analyzing the present level of technology adoption and innovation methods in small enterprises, this research seeks to close this information gap. In particular, the research aims to pinpoint the significant forces behind and impediments to technological innovation and adoption, assess these factors' effects on business expansion and competitiveness, and suggest methods for improving these procedures in small businesses.

This study uses a thorough literature review approach to accomplish these goals, combining information from credible business magazines, peer-reviewed academic journals, and pertinent case studies. This research attempts to comprehensively understand the intricate relationship between technology, innovation, and small business performance by combining information from multiple sources.

Policymakers, business consultants, and small business owners should all take note of the study's practical consequences. This research can help shape policy and decision-making procedures to better support the small company sector by shedding light on innovative and successful adoption and innovation tactics for technology. Furthermore, it can offer educators and business consultants insightful information, creating focused interventions and training courses to improve small businesses' technology prowess and innovative practices.

Small businesses must comprehend the role of technology and innovation as they navigate an increasingly digitized and competitive world. This study adds to our understanding of the subject by providing theoretical understandings and valuable suggestions for promoting resilience, growth, and competitiveness in the small business sector.

1.1 Statement of the Problem

Adopting technology and innovation is crucial for corporate success; moreover, small businesses
need help trying to take full advantage of these prospects. The issue has several facets.

In the first place, many small firms need help to use digital technologies despite their enormous potential for growth and efficiency. Despite 84% of small businesses emphasizing the importance of digital marketing, Nguyen et al. (2021) discovered that just 24% have a clear strategy in place. The disparity between acknowledgment and response implies a noteworthy obstacle in converting technological cognizance into efficient application.

Secondly, many small businesses still need help with innovation, essential for staying competitive. Heikkilä et al. (2018) pointed out that although small enterprises frequently lead the way in product innovation, they fall short on organizational and process changes, which are just as crucial for long-term success. This disparity prevents them from taking full use of creative chances.

Thirdly, there needs to be more knowledge regarding the factors that impact small enterprises' use of technology and innovation. Larger firms have been the subject of research; however, small enterprises have particular challenges and opportunities that still need to be thoroughly investigated (Soluk & Kammerlander, 2021). A targeted approach to assist small enterprises with their technical and innovative activities is hampered by this knowledge gap.

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Finally, there is still uncertainty on the relationship between innovation methods, technology adoption, and business performance in small businesses. Some research—like Ferreira et al., 2019—indicates a positive link, but other studies yield contradictory findings, suggesting a complicated interaction of variables that necessitates more research (Ratzmann et al., 2018).

Together, these problems provide a severe challenge: many small firms cannot fully use the opportunities presented by technology and innovation to boost growth and competitiveness because of various obstacles and knowledge gaps.

1.2 Purpose of the Research

This study attempts to offer a thorough analysis of technology adoption and innovation in small firms in light of the issues that have been identified. In particular, this study aims to accomplish four goals:

- to investigate the situation of small business innovation and technology adoption at the moment, offering a current picture of the scene. This is in line with requests for more recent evaluations of digital transformation in SMEsmade by academics such as Ghobakhloo et al. (2021).
- to determine and examine the main forces behind and impediments to small business innovation and technology adoption. This satisfies the requirement for a more thorough comprehension of the variables influencing these processes in smaller businesses, as noted by Soluk and Kammerlander (2021).
- To look into how small business growth and competitiveness are affected by innovation and technology adoption. The request for additional in-depth analyses of the ways in which these variables affect business success in
- various scenarios came from Ratzmann et al. (2018) is addressed by this. To provide empirically supported tactics that will boost small enterprises' use of technology and creativity. Brem et al. (2020) made recommendations for more useful, actionable research results in this area, which this is in line with.

By tackling these goals, the study hopes to close the knowledge gap between theory and practice, offering small business owners, decision-makers, and consultants on business strategies useful information. The ultimate objective is to aid in the creation of more potent plans for utilizing innovation and technology to boost small business sector expansion and competitiveness.

2 Research Methodology

This study uses a thorough literature review methodology. In the area of technology adoption and innovation in small firms, this method enables the synthesis of current knowledge, the identification of gaps, and the generation of new insights (Snyder, 2019).The methodology consists of the following steps:

2.1 Literature Search and Selection

Google Scholar were consulted. I ensured the material was current by concentrating on papers released between 2018 and 2024. "Small business," "SME," "technology adoption," "digital transformation," "innovation," "competitiveness," and "performance" were the search phrases I used most frequently.

Selection criteria were applied to ensure relevance and quality of sources:

- Peer-reviewed articles from journals with impact factors above 1.0
- Publications focusing specifically on small businesses or SMEs
- Studies addressing technology adoption, innovation, or their impact on business performance
- Preference for empirical studies, meta-analyses, and comprehensive literature reviews

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This methodology is in line with the most recent methodological guidelines for carrying out thorough literature evaluations in management research (Templier&Paré, 2018).

2.2 Data Extraction and Analysis

Following the PRISMA guidelines for systematic reviews (Page et al., 2021), relevant data were extracted from the selected literature. This included:

- Key findings related to technology adoption and innovation in small businesses
- Identified drivers and barriers
- Reported impacts on business performance
- Proposed strategies or frameworks

A theme analysis method was then used to examine the retrieved data (Braun & Clarke, 2021). Finding recurrent themes and patterns in the literature is made possible by this strategy, making it easier to comprehend the entire research issue.

2.3 Synthesis and Integration

The analyzed data were synthesized to address the research objectives. This process involved:

- Comparing and contrasting findings from different studies
- Identifying areas of consensus and disagreement in the literature
- Developing an integrated framework for understanding technology adoption and innovation in small businesses

This synthesis approach is consistent with recent methodological advancements in integrative reviews (Torraco, 2016).

2.4 Quality Assurance

Several quality assurance procedures were put in place to guarantee the thoroughness and dependability of the review process:

- Using a standardized data extraction form to guarantee consistency
- conducting independent reviews of a sample of articles by several researchers to verify inter-rater reliability
- evaluating the caliber of included studies using the Critical Appraisal Skills Programme (CASP) checklist (Long et al., 2020).

2.5 Limitations

It is imperative to acknowledge the constraints of this practice. Although a thorough literature study offers a broad overview of the area, it depends on secondary sources and could miss the most current advancements or unpublished studies. Furthermore, the emphasis on English-language publications can restrict the inclusion of findings from non-English speaking environments.

Notwithstanding these drawbacks, this technique offers a solid basis for tackling the study's goals and advancing knowledge of small enterprises' use of innovation and technology.

3 Literature Review

3.1 Technology Adoption in Small Businesses

In the digital age, adopting technology is becoming more and more important for small firms, according to recent research. Digital technologies are changing company environments and providing prospects for increased productivity, market reach, and competitive advantage, according to Ghobakhloo et al. (2021). The adoption procedure varies, nevertheless, throughout small enterprises.

According to Li et al. (2022), a number of important variables affect how small enterprises use technology, including:

1. Leadership and strategic vision: Companies are more likely to accept and successfully apply digital technologies if their executives understand the strategic significance of these technologies.
2. 2. Resource accessibility: Small organizations frequently face challenges in adopting new

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technologies due to budgetary limitations and restricted access to technical skills.

3. 3. External pressures: Small firms are being forced to adopt new technology more and more due to consumer expectations and market competitiveness.
4. Perceived benefits and risks: The perceived balance between potential benefits and risks significantly influences adoption decisions.

It is interesting to note that Barroso-Simao et al. (2020) discovered that although many small firms acknowledge the value of digital technology, there is frequently a disconnect between this understanding and its use. They ascribe this to unpredictability regarding return on investment, financial constraints, and a need for digital skills.

3.2 Innovation in Small Businesses

More people realize that innovation is essential to small firms' expansion and ability to compete. Expósito and Sanchis-Llopis (2019) classified innovation in small enterprises into three main categories:

1. Product innovation: Introduction of new or significantly improved goods or services.
2. Process innovation: Implementation of new or improved production or delivery methods.
3. Organizational innovation: New business practices, workplace organization, or external relations.

According to their research, small businesses tend to lag behind in process and organizational innovations, but they frequently thrive in product innovation.

Leckel and colleagues (2020) emphasize the significance of open innovation for small enterprises. They contend that small enterprises can overcome resource limitations and gain access to new information and technology by working with outside partners. But they also point out that tiny companies with little background in managing partnerships may find it difficult to oversee these kinds of alliances.

3.3 Relationship between Technology Adoption and Innovation

The interplay between technology adoption and innovation in small businesses is a growing area of research. Soluk and Kammerlander (2021) propose that digital technologies can serve as enablers for innovation in small businesses by:

1. Enhancing information processing capabilitiess
2. Facilitating collaboration and knowledge sharing
3. Enabling new business models and value propositions

However, Ratzmann et al. (2018) warn that there is not always a clear-cut correlation between technological adoption and innovation. It was discovered that although the adoption of technology typically has a beneficial impact on innovation capacity, the degree of this link varies based on the kind of technology, the ability of the firm to absorb new ideas, and the external environment.

3.4 Impact on Business Performance

The most important question for several small business owners is how innovation and technology adoption impact company performance. Ferreira et al. (2019) discovered that increased operational effectiveness and market reach were mediating factors in the positive association between the adoption of digital technology and company performance.

Exposito and Sanchis-Llopis (2019) have reported that creative small enterprises exhibit superior productivity and growth compared to their non-innovative counterparts. They point out that different innovation categories have different performance impacts, with product

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innovation having the most significant beneficial influence.

3.5 Challenges and Barriers

Small firms have difficulty embracing new technology and promoting innovation, even with the potential rewards. Garzoni et al. (2020) point out several important obstacles:

1. Limited financial resources
2. Lack of technical skills and expertise
3. Resistance to change among employees
4. A challenge in determining and choosing the right technology
5. worries regarding data privacy and cybersecurity

These results highlight the need for focused assistance and tactics to assist small businesses in overcoming these obstacles and realizing the full potential of innovation and technology.This literature analysis demonstrates the complicated environment of technology adoption and innovation in small enterprises. There are several context-specific implementation tactics and their consequences on performance despite the general recognition of these aspects' importance for company success. We could learn more about the long-term effects of innovation and technology adoption on small company performance by conducting further longitudinal research.

4 Research Findings

Several important conclusions are drawn from the thorough analysis of current research on small business innovation and technology adoption:

4.1 Drivers of Technology Adoption

The research identifies several significant drivers of technology adoption in small businesses:

a) Strategic Vision: According to Li et al. (2022), small enterprises with leaders that acknowledge the strategic significance of digital technologies have a higher probability of successfully implementing and adopting them. This emphasizes how important it is for leaders to drive technological transformation.

b) Competitive Pressure: According to Barroso-Simao et al. (2020), small firms are being forced to adopt new technology more and more due to client expectations and market competitiveness. This outside demand often sparks digital change.

c) Perceived Benefits:Ghobakhloo et al. (2021) claim that small enterprises' assessments of the potential for improved productivity, expanded market reach, and competitive advantage have a significant impact on their decisions to use new technology.

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4.2 Barriers to Technology Adoption

Despite the acknowledged advantages, using technology presents several challenges for small businesses:

a) Resource constraints: According to Garzoni et al. (2020), the two main things preventing small enterprises from implementing technology are more technical know-how and limited financial resources.

b) Skills Gap: Skills Gap:Barroso-Simao et al. (2020) claim that when employees lack difficult digital skills, adopting new technologies becomes very difficult

c) Risk Perception:Small businesses may be deterred from adopting new technologies by concerns about cybersecurity, data privacy, and an uncertain return on investment, claim Li et al. (2022).

4.3 Innovation Practices

The literature reveals diverse innovation practices among small businesses:

a) Types of Innovation: Product, process, and organizational innovation are the three categories into which Expósito and Sanchis-Llopis (2019) have divided innovation in small enterprises. According to their research, small enterprises

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frequently lead in organizational and process innovation while trailing behind in product innovation.

b) Open Innovation: Leckel and colleagues (2020) emphasize the increasing significance of open innovation for small enterprises, pointing out that working with outside partners can help navigate resource limitations and access fresh information.

4.4 Relationship between Technology Adoption and Innovation

The findings point to a nuanced link between innovation and technological adoption:

a) Enabling Effect: According to Soluk and Kammerlander (2021), digital technology can foster creativity in small organizations by improving information processing capacities and streamlining teamwork.

b) Contextual Factors: As noted by Ratzmann et al. (2018), there is a variation in the degree of correlation between technology adoption and innovation based on the kind of technology and the ability of the firm to absorb it.

4.5 Impact on Business Performance

The body of research overwhelmingly points to a beneficial correlation between corporate performance, innovation, and technology adoption:

a) Operational Efficiency: Ferreira et al. (2019) discovered a favorable correlation between the adoption of digital technology and company performance through increased operational efficiency and market reach.

b) Growth and Productivity: According to Exposito and Sanchis-Llopis (2019), innovative small enterprises typically outperform their non-innovative counterparts regarding growth and productivity, with the most significant positive effect observed in product innovation.

4.6 Challenges in Implementation

Numerous studies point out difficulties in integrating technology and encouraging creativity:

a) Change Management: Garzoni et al. (2020) cited employee resistance to change as a significant obstacle to adopting technology.

b) Technology Selection: According to Gobakhloo et al. (2021), a common obstacle for small enterprises is identifying and selecting relevant technology.

c) Balancing Act: According to Leckel et al. (2020), small enterprises frequently need help to strike a balance between the needs of daily operations and the need for innovation.

4.7 Contextual Factors

The study highlights how crucial context is to comprehending small business innovation and technology adoption:

a) Industry Differences: According to Li et al. (2022), there can be substantial differences in technology adoption and innovation trends among various sectors.

b) Business Size: Barroso-Simao et al. (2020) discovered that variations in size can affect a company's capacity for innovation and adoption of technology, even within the small business category.

c) Geographic Location: According to Soluk and Kammerlander (2021), a small business's capacity to innovate and embrace new technologies can strongly impact the external environment, particularly the local infrastructure and support systems.

Collectively, these results provide a complicated picture of adopting small business technology and innovation, showing both the potential advantages and the problems that arise. In order to help small firms successfully use technology and innovation for growth and competitiveness, they emphasize the necessity for specific strategies and support systems.

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5 Practical Application

Policymakers, business consultants, and small business owners should all note the research's conclusions. The application of these findings to current business and professional practices concerning technology adoption and innovation in small enterprises is discussed in this part, along with how they might be improved.

5.1 Developing a Strategic Approach to Technology Adoption

A strategic approach to implementing technology is something that small business owners should consider:

a) Compile a list of your company's digital capabilities and identify areas for improvement. Li et al. (2022) advise small enterprises to start with a digital readiness assessment. This can facilitate aligning technology expenditures with business objectives and prioritizing them.

b) Organize Your Digital Transformation: Garzoni et al. (2020) offer a four-level strategy for digital transformation, stressing the importance of having a well-organized plan that specifies both short- and long-term objectives for technology adoption.

Practical steps:

- Develop a clear vision for how technology can support business objectives
- Prioritize technologies based on potential impact and feasibility
- Create a phased implementation plan with clear milestones and metrics for success

5.2 Addressing Resource Constraints

To overcome resource limitations, small businesses can:

a) Leverage External Support: Leckel et al. (2020) highlight the potential of open innovation and collaboration. Small businesses can partner with technology providers, universities, or industry associations to access expertise and resources.

b) Explore Funding Options: Barroso-Simao et al. (2020) suggest that small businesses should actively seek out government grants, subsidies, or low-interest loans specifically designed to support digital transformation in SMEs.

Practical steps:

- Identify potential collaboration partners in your industry or local business ecosystem
- Research and apply for relevant government support programs
- Consider cloud-based solutions that offer lower upfront costs and scalability

5.3 Enhancing Digital Skills and Managing Change

To address the skills gap and manage organizational change:

a) Invest in Training and Development: According to Ghobakhloo et al. (2021), skill development and ongoing education are crucial. Employees at all levels should get priority training in digital skills from small enterprises.

b) Promote an Innovative Culture: According to Expósito and Sanchis-Llopis (2019), innovation and technology adoption may both be aided by establishing an organizational culture that welcomes experimentation and change.

Practical steps:

- Develop a comprehensive digital skills training program for employees
- Encourage experimentation and learning from failures
- Recognize and reward innovative ideas and successful technology adoption efforts

5.4 Balancing Different Types of Innovation

To leverage the full potential of innovation:

a)Diversify Your Innovation Efforts: Although Expósito and Sanchis-Llopis (2019) discovered that small enterprises frequently succeed in product innovation,

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they advise striking a balance between this and organizational and process innovations for best results.

b) Put in Place Innovation Management Processes: To promote ongoing innovation, Soluk and Kammerlander (2021) advise putting in place organized procedures for idea generation, assessment, and execution.

Practical steps:

- Regularly assess and improve internal processes using digital tools
- Encourage cross-functional collaboration to spark organizational innovation
- Implement an idea management system to capture and evaluate innovative ideas from all employees

5.5 Mitigating Risks and Addressing Concerns

To address concerns about technology adoption:

a) Put Strong Cybersecurity Measures in Place: Li et al. (2022) stress the significance of tackling cybersecurity issues. When implementing new technologies, small firms should give privacy and data protection top priority.

b) Start Small and Scale: Ratzmann et al. (2018) recommend a step-by-step strategy for adopting new technologies, beginning with pilot programs to establish credibility and prove benefits before expanding.

Practical steps:

- Create a thorough cybersecurity plan
- Conduct regular risk assessments and updates
- Begin with small-scale technology installations and grow based on success

5.6 Leveraging Technology for Enhanced Performance

To maximize the impact of technology on business performance:

a) Prioritize Customer-Centric Digital Solutions: Ferreira et al. (2019) discovered a noteworthy beneficial influence on performance from technologies that improve market reach and customer experience.

b) Use Data to Make Decisions: Ghobakhloo et al. (2021) stress the significance of data-based decisions. Analytics tools are valuable for small firms to obtain insights and enhance their operations.

Practical steps:

- Implement customer relationship management (CRM) systems
- Use analytics tools to track key performance indicators
- Make data-driven decisions to optimize operations and strategy

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5.7 Policy Recommendations

For policymakers and business support organizations:

a) Create Targeted Support Programs: In light of Barroso-Simao et al. (2020)'s results, policymakers ought to create support initiatives that specifically tackle the obstacles small firms confront in embracing new technologies and fostering creativity.

b) To promote knowledge sharing and collaboration between small firms, technology providers, and academic institutes, Leckel et al. (2020) recommend developing platforms.

Practical steps:

- Establish initiatives that match companies who are already well-versed in digital to those that are just beginning their path.
- Create centres for digital transformation or innovation tailored to small enterprises.
- Provide specialized financial incentives to encourage small firms to innovate and adopt new technologies.

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Small firms can improve their approach to technology adoption and innovation by implementing these research-based guidelines, which could result in increased growth and competitiveness in the digital era.

Conclusion

This study of the literature has looked at how innovation and technology adoption are crucial for small firms to expand and remain competitive. The results draw attention to the main motivators, such as competitive pressure, strategic vision, and perceived advantages, as well as the major obstacles, including a lack of resources and a skills gap. According to the findings, small enterprises frequently lead in organizational and procedural innovations but trail behind in product innovation. Resource constraints can be addressed by collaborating with other parties to engage in open innovation. Although there is a broad correlation between increased operational efficiency and company success and technology adoption and innovation, the precise linkages are context-specific and intricate.

Small business leaders should create an innovative culture, solve resource limitations, improve digital skills, and take a strategic approach to technology in order to take full use of these insights. By creating focused initiatives and encouraging information exchange, policymakers can assist small firms even more. In the digital age, success for small businesses will largely depend on how well they use innovation and technology.

References

- Braun, V., & Clarke, V. (2022). Conceptual and design thinking for thematic analysis. *Qualitative Psychology*, *9*(1), 3–26. https://doi.org/10.1037/qup0000196
- Brem, A., Viardot, E., &Nylund, P. A. (2020). Implications of the coronavirus (COVID-19) outbreak for innovation: Which technologies will improve our lives? *Technological Forecasting and Social Change*, *163*(163), 120451. https://doi.org/10.1016/j.techfore.2020.120451
- Chester Goduscheit, R., &Faullant, R. (2018). Paths Toward Radical Service Innovation in Manufacturing Companies-A Service-Dominant Logic Perspective. *Journal of Product Innovation Management*, *35*(5), 701–719. https://doi.org/10.1111/jpim.12461
- Crupi, A., Del Sarto, N., Di Minin, A., Gregori, G. L., Lepore, D., Marinelli, L., &Spigarelli, F. (2020). The digital transformation of SMEs – a new knowledge broker called the digital innovation hub. *Journal of Knowledge Management*, *24*(6), 1263–1288. https://doi.org/10.1108/jkm-11-2019-0623
- Expósito, A., &Sanchis-Llopis, J. A. (2019). The relationship between types of innovation and SMEs' performance: a multi-dimensional empirical assessment. *Eurasian Business Review*, *9*(2), 115–135. https://doi.org/10.1007/s40821-018-00116-3
- Ferreira, J. J. M., Fernandes, C. I., & Ferreira, F. A. F. (2018). To be or not to be digital, that is the question: Firm innovation and performance. *Journal of Business Research*, *101*. https://doi.org/10.1016/j.jbusres.2018.11.013
- Garzoni, A., De Turi, I., Secundo, G., & Del Vecchio, P. (2020). Fostering digital transformation of SMEs: A four levels approach. *Management Decision*, *58*(8), 1543–1562. https://doi.org/10.1108/md-07-2019-0939
- Ghobakhloo, M., Fathi, M., Iranmanesh, M., Maroufkhani, P., & Morales, M. E. (2021). Industry 4.0 ten years on: A bibliometric and systematic review of concepts, sustainability value drivers, and success determinants. *Journal of Cleaner Production*, *302*, 127052.

DOI: https://doi.org/10.5281/zenodo.13822775

https://doi.org/10.1016/j.jclepro.2021.127052

- Han, X., Liu, X., Xia, T., & Gao, L. (2018). Home-country government support, interstate relations and the subsidiary performance of emerging market multinational enterprises. *Journal of Business Research*, *93*, 160–172. https://doi.org/10.1016/j.jbusres.2018.04.021
- Heikkilä, M., Bouwman, H., &Heikkilä, J. (2018). From strategic goals to business model innovation paths: an exploratory study. *Journal of Small Business and Enterprise Development*, *25*(1), 107–128. Emerald. https://doi.org/10.1108/jsbed-03-2017-0097
- Leckel, A., Veilleux, S., & Dana, L. P. (2020). Local Open Innovation: A means for public policy to increase collaboration for innovation in SMEs. *Technological Forecasting and Social Change*, *153*, 119891. https://doi.org/10.1016/j.techfore.2019.119891
- Long, H. A., French, D. P., & Brooks, J. M. (2020). Optimising the Value of the Critical Appraisal Skills Programme (CASP) Tool for Quality Appraisal in Qualitative Evidence Synthesis. *Research Methods in Medicine & Health Sciences*, *1*(1), 31–42. SAGE Journals.
- Nguyen, T. H., Newby, M., & Macaulay, M. J. (2013). Information Technology Adoption in Small Business: Confirmation of a Proposed Framework. *Journal of Small Business Management*, *53*(1), 207–227. https://doi.org/10.1111/jsbm.12058
- OECD. (2021). *OECD SME and Entrepreneurship Outlook 2021*. OECD. https://doi.org/10.1787/97a5bbfe-en
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., & McGuinness, L. A. (2021). The PRISMA 2020 statement: an Updated Guideline for Reporting Systematic Reviews. *British Medical Journal*, *372*(71). https://doi.org/10.1136/bmj.n71
- Snyder, H. (2019). Literature Review as a Research methodology: an Overview and Guidelines. *Journal of Business Research*, *104*(1), 333–339. ScienceDirect. https://doi.org/10.1016/j.jbusres.2019.07.039
- Soluk, J., &Kammerlander, N. (2021). Digital transformation in family-owned Mittelstand firms: A dynamic capabilities perspective. *European Journal of Information Systems*, *30*(6), 1–36. https://doi.org/10.1080/0960085x.2020.1857666
- Templier, M., &Paré, G. (2017). Transparency in literature reviews: an assessment of reporting practices across review types and genres in top IS journals. *European Journal of Information Systems*, *27*(5), 503–550. https://doi.org/10.1080/0960085x.2017.1398880
- Tim, Y., Cui, L., & Sheng, Z. (2020). Digital resilience: How rural communities leapfrogged into sustainable development. *Information Systems Journal*, *31*(2), 323–345. https://doi.org/10.1111/isj.12312
- Torraco, R. J. (2016). Writing Integrative Literature Reviews: Using the past and Present to Explore the Future. *Human Resource Development Review*, *15*(4), 404–428. https://doi.org/10.1177/1534484316671606

Wu, J., Ge, Z., Han, S., Xing, L., Zhu, M., Zhang, J., & Liu, J. (2020). Impacts of agricultural industrial agglomeration on China's agricultural energy efficiency: A spatial econometrics analysis. *Journal of Cleaner Production*,

DOI: https://doi.org/10.5281/zenodo.13822775