

Digital transformation in SMEs from the perspective of sustainability

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Abstract

The "digital transformation of Small and Medium-sized Enterprises (SMEs)" has become a critical area of research and practice in recent years. This review paper aims to explore the "relationship between digital transformation and sustainability" within the context of SMEs. It critically examines the existing literature on this topic, highlighting key theoretical frameworks, empirical studies, and practical implications. The paper first provides an overview of the concept of digital transformation and its various dimensions, including technological advancements, organizational change, and business models. It then shifts its focus to the concept of sustainability, encompassing environmental, social, and economic aspects. The interplay between digital transformation and sustainability is explored, with a particular emphasis on the unique challenges and opportunities faced by SMEs. Through the review of relevant studies, the paper uncovers the potential impacts of digital transformation on the sustainability performance of SMEs. It analyzes how digital technologies can contribute to environmental sustainability through the reduction of resource consumption, waste generation, and carbon emissions. Additionally, it examines the social and economic implications of digital transformation, such as enhancing social inclusion, promoting equitable growth, and increasing competitiveness. The paper identifies critical factors that influence the successful integration of digital transformation and sustainability in SMEs. It discusses the importance of leadership commitment, organizational culture, supportive policies, and strategic partnerships in facilitating sustainable digital transformation initiatives. It also highlights potential challenges, including limited resources, resistance to change, and ethical considerations that need to be addressed for a comprehensive and ethical approach to digital transformation. This review paper offers insights into the potential benefits, challenges, and best practices that can guide future research and inform practical strategies for fostering sustainable digital transformation in SMEs. By addressing this important topic, the paper contributes to the literature on sustainable business practices, digital transformation, and SME development.

Keyword: Start-Ups, Unicorn, Startup Ecosystem, Startup India scheme.

1. INTRODUCTION

The "digital transformation of Small and Medium-sized Enterprises (SMEs)" signifies a crucial transition in their operational methods and competitive strategies within today's economy. Digital transformation entails incorporating digital technologies across all business functions, fundamentally reshaping processes, services, and business models to harness technological capabilities. For SMEs, this transformation entails various endeavors, such as integrating cloud computing, utilizing e-commerce platforms, employing data analytics, and implementing digital marketing strategies. These technological advancements empower SMEs to streamline operations, enrich customer interactions, enhance decision-making processes, and attain a competitive advantage in the ever-expanding digital marketplace. [1]

Among the many steps that make up a digital transformation journey, digitalization is the first and most common for small and medium-sized enterprises (SMEs). Accounting, customer relationship management (CRM), and inventory management are just a few examples of the areas that can benefit from a digital upgrade..

Small and medium-sized enterprises (SMEs) may automate processes, personalize consumer interactions, and open new revenue streams by implementing more advanced technologies like “blockchain, Internet of Things (IoT), artificial intelligence (AI), and machine learning” as they move along the digital transformation continuum

Digital transformation extends beyond internal operations to encompass the entire value chain, from supply chain management and procurement to sales and customer service. SMEs can leverage digital technologies to optimize supply chain logistics, improve inventory management, and strengthen relationships with suppliers and partners. Furthermore, digital transformation enables SMEs to reach new markets and customers through online channels, expanding their reach and driving business growth. [2]

1.1. Importance of Sustainability in the Context of SMEs

In the context of “Small and Medium-sized Enterprises (SMEs)”, sustainability holds paramount importance as it encompasses environmental, social, and economic dimensions crucial for long-term viability and success. Firstly, environmental sustainability is essential for SMEs to mitigate their impact on the planet, conserve resources, and minimize ecological footprints. By “adopting sustainable practices such as energy efficiency, waste reduction, and responsible sourcing”, SMEs can contribute to environmental conservation and mitigate climate change while potentially reducing operational costs and enhancing brand reputation.

Secondly, social sustainability is critical for SMEs to foster inclusive workplaces, support local communities, and uphold human rights. Small and Medium-sized Enterprises (SMEs) wield substantial influence in job creation, economic expansion, and fostering social unity in their localities. By emphasizing equitable labor standards, diversity initiatives, and active community involvement, SMEs bolster their societal legitimacy, fostering trust among stakeholders like employees, customers, and the wider community. [3]

Lastly, economic sustainability is essential for SMEs to ensure their long-term financial viability and resilience in a dynamic business environment. By adopting sustainable business models, SMEs can drive innovation, improve productivity, and create value for shareholders while managing risks and seizing opportunities in a rapidly evolving marketplace. Moreover, integrating sustainability

into business strategies can enhance competitiveness, attract investment, and unlock new markets and growth opportunities for SMEs.

1.2. The dynamic interaction between “Digital Transformation and Sustainability”

The relationship between digital transformation and sustainability within Small and Medium-sized Enterprises (SMEs) is complex and carries substantial implications for their future viability and influence. Firstly, digital transformation can enhance sustainability by enabling SMEs to optimize “resource utilization, reduce waste, and minimize environmental impact”. By adopting technologies such as data analytics, IoT sensors, and smart energy management systems, SMEs can monitor and optimize energy consumption, water usage, and waste generation, leading to efficiencies and cost savings while promoting environmental sustainability. [4]

Secondly, digital transformation can facilitate social sustainability by fostering inclusive and equitable practices within SMEs and their broader ecosystems. By leveraging digital platforms and tools for communication, collaboration, and stakeholder engagement, SMEs can create transparent and inclusive workplaces, promote diversity and equality, and empower employees and communities. Moreover, digital technologies can enable SMEs to better understand and respond to the needs of diverse customer segments, fostering stronger relationships and social cohesion. [5]

Furthermore, digital transformation can drive economic sustainability by enhancing SMEs' competitiveness, resilience, and growth potential. By digitalizing processes, optimizing operations, and leveraging data-driven insights, SMEs can improve efficiency, agility, and innovation, enabling them to adapt to changing market conditions and seize emerging opportunities. Additionally, digital transformation can open up new markets and revenue streams for SMEs, expanding their reach and impact while driving economic growth and prosperity.

1.3. Environmental Sustainability through Digital Transformation

Digital transformation offers significant opportunities for “Small and Medium-sized Enterprises (SMEs)” to enhance their environmental sustainability through various initiatives and technological advancements. One key aspect is the optimization of resource utilization and energy

efficiency. Through the adoption of digital technologies such as IoT sensors, smart meters, and energy management systems, SMEs can monitor and control energy consumption in real-time, identify inefficiencies, and implement targeted measures to reduce waste and conserve resources. Additionally, cloud computing and virtualization enable SMEs to optimize their IT infrastructure, reducing energy consumption associated with on-premises servers and hardware. [6]

Moreover, digital transformation facilitates the transition to paperless operations and digital workflows, minimizing paper usage, printing, and waste generation. By digitizing documents, processes, and communications, SMEs can streamline operations, reduce reliance on paper-based materials, and decrease their environmental footprint. Furthermore, e-commerce platforms and digital marketing enable SMEs to reach customers online, reducing the need for physical storefronts and transportation, thus lowering carbon emissions associated with traditional retail operations. [7]

Through digital transformation, SMEs may embrace the concepts of the circular economy, which include repairing, refurbishing, and reusing items and resources to prolong their lives. Small and medium-sized enterprises (SMEs) may optimize resource utilization, eliminate waste, and encourage a more sustainable approach to production and consumption by deploying digital platforms for product lifecycle management, supply chain optimization, and reverse logistics. More than that, small and medium-sized enterprises (SMEs) may drive continuous improvement and environmental sustainability using data analytics and machine learning algorithms by identifying opportunities to reduce waste, optimize products, and innovate sustainably.

1.4. Social and Economic Implications

The “digital transformation of Small and Medium-sized Enterprises (SMEs)” brings about significant social and economic implications, shaping both internal operations and external interactions within their respective ecosystems. Socially, digital transformation fosters inclusivity and accessibility, as SMEs leverage technology to connect with diverse stakeholders and communities. Digital platforms enable SMEs to engage with customers, suppliers, and employees in real-time, fostering transparent communication, collaboration, and feedback loops. Moreover, digital tools and remote work arrangements facilitate flexibility and work-life balance, empowering

employees to work from anywhere and adapt to evolving work patterns and preferences. [8]

Economically, digital transformation enhances SMEs' competitiveness, productivity, and growth potential in a globalized marketplace. By leveraging digital technologies for process automation, data analytics, and customer insights, SMEs can streamline operations, improve decision-making, and deliver personalized products and services to meet evolving customer demands. Additionally, e-commerce platforms and digital marketing enable SMEs to reach new markets and customers beyond geographical boundaries, expanding their market share and revenue streams. Furthermore, digital transformation drives innovation and entrepreneurship, as SMEs embrace new business models, partnerships, and revenue opportunities enabled by technology.

Digital transformation also poses challenges and risks for SMEs, particularly concerning cybersecurity, data privacy, and digital skills gaps. Cybersecurity threats such as data breaches, phishing attacks, and ransomware pose significant risks to SMEs' operations, reputation, and financial stability. Moreover, concerns about data privacy and regulatory compliance can hinder SMEs' adoption of digital technologies and limit their ability to leverage data-driven insights for business growth. Additionally, the digital divide between digitally literate and underserved communities may exacerbate social inequalities and hinder inclusive economic growth. [9]

1.5. Critical Factors for Successful Integration

Successful integration of digitalization in “Small and Medium-sized Enterprises (SMEs)” hinges on several critical factors that influence the adoption and implementation of digital technologies. Firstly, leadership commitment and vision are paramount, as SMEs require strong leadership to champion digital transformation initiatives, allocate resources, and drive organizational change. Leadership buy-in fosters a culture of innovation, collaboration, and continuous improvement, laying the foundation for successful digitalization efforts.

Secondly, organizational culture plays a crucial role in shaping SMEs' readiness and receptiveness to digital transformation. A culture that values experimentation, learning, and adaptation encourages employees to embrace new technologies, explore innovative solutions, and adapt to changing business realities. Moreover, fostering a culture of digital literacy and empowerment empowers employees to

leverage digital tools and contribute to digitalization efforts across all levels of the organization.

Thirdly, supportive policies and incentives are essential for SMEs to overcome barriers and capitalize on opportunities associated with digital transformation. Governments, industry associations, and other stakeholders can provide financial incentives, training programs, and regulatory frameworks to support SMEs' digitalization efforts. Additionally, fostering strategic partnerships and collaboration between SMEs, technology providers, and academia can facilitate knowledge sharing, resource pooling, and innovation diffusion, accelerating digitalization across sectors and regions. [10]

Access to digital infrastructure and technology resources is critical for SMEs to successfully integrate digitalization into their operations. This includes reliable internet connectivity, affordable digital tools and software, and technical support services. Governments and policymakers can play a vital role in improving digital infrastructure and reducing barriers to access, particularly in underserved and rural areas where SMEs may face greater challenges in adopting digital technologies. [11]

2. Literature Reviews

Finding a way to make SMEs more sustainable is the aim of this article. In terms of impact, COVID-19 is heaviest on SMEs. When individuals practice social distance, they spend less time outside the house, which in turn reduces business activity. Consequently, small and medium-sized enterprises (SMEs) must adjust their perspective on managing their businesses in order to take advantage of technological advancements. That it will keep SMEs afloat is widely regarded to be true. On the other hand, not all SMEs are up-to-date on the digital skills that might be useful for their operations. As a matter of fact, internet businesses may achieve both short-term and long-term sustainability under the COVID-19 condition. [12]

This paper aims to clarify the connections between digital transformation and sustainability improvement in response to the growing interest from both companies and authorities in this area. This research is groundbreaking because it is the first of its kind to conduct a systematic review of 153 scholarly articles on the subject of "digital sustainability" with the goals of 1) synthesising the current body of knowledge, 2) establishing common themes across the studies, and 3) pinpointing areas where further investigation is needed. Both theoretical and practical considerations are very relevant to the proposed study

program. The study fills in the gaps in the literature by recognizing the management scholarship's mistakes and setbacks in relation to the research issue, and it offers comprehensive recommendations for the future of this emerging field of study. This research takes advantage of a gap in the literature by offering a pragmatic framework for comprehending digitalization's role in achieving sustainability-related objectives. Many practitioners, including managers, consultants, and lawmakers, are directly affected by this study. [13]

The "digital transformation of business models of Russian SMEs" is discussed in this article, together with the management and technical components. This article aims to provide a foundation for future research on "small and medium-sized enterprise (SME)" business models in Russia by analyzing the index of "digital transformation of SMEs" in the country. The goal is to support policies that will lead to long-term economic and social growth in the country. The article uses the SMEs digitalization index to quantify estimate a number of parameters related to the "digitization of small and medium-sized enterprise (SME)" business models. It also highlights the fact that SME business models have not all been digitally developed to the same extent across different sectors of the economy and structurally different types of economic actors. Lastly, it points out that there are differences in "digital maturity" between SMEs in the capital and SMEs in the regions. Noted are the distinctions and distinguishing characteristics among the various SME business models based on their level of digital maturity. [14]

Academic researchers and industry decision-makers may use this study as a reference; it employs an empirical investigation of the performance of SMEs going through digital transformation to try to find the influencing elements that affect their sustainable growth. This research begins with conducting interviews to learn more about the effects of digital technology, digital skills among employees, and digital transformation strategy on digital transformation in small and medium-sized enterprises (SMEs). Our second step is to determine how digital transformation has affected profit margins. After recovering 335 valid questions using the questionnaire technique and using SPSS and SPSSAU tools to identify the essential components, the structural equation model was used. The three resources listed above have a favorable correlation with digital transformation among SMEs in China, and digital transformation impacts the performance of SMEs. [15]

Determining what influences small and medium-sized enterprise (SME) perspectives on digitization and firm sustainability is the primary goal of this master's thesis. Also, it shows how the digitization of SMEs is related to their long-term viability. Prior studies and literature on the topic of digitization and the long-term viability of SMEs formed the basis of this master's thesis. Furthermore, it put up a theoretical framework that relates the digitization of SMEs with their long-term viability. The data for this qualitative study came from eight SMEs that participated in semi-structured interviews. The countries of Sweden, France, and Iran are home to these SMEs. But we used the secondary analysis approach to look at the replies. Digitalization impacts the long-term viability of SMEs via growth, competitive advantages, value creation, internal efficiency, and cost savings, according to the study's results. Small and medium-sized enterprises (SMEs) from all over the world have a common understanding of digitalization but lack information on the long-term viability of their businesses. Additionally, the variables influencing their digitalization process and sustainability are mostly consistent. A view on how SMEs could implement the new technology may emerge from this study's findings. In order to secure their businesses' long-term viability, SMEs may be motivated to enhance their digitalization capabilities via the use of new technology. This clarifies the need for SMEs to examine whether or not they are conflating the sustainability of the enterprise with the SDGs. [16]

The function of small technology solution providers (TSPs) in facilitating digital transformation and sustainability within the industrial sector is the primary emphasis of this research. It delves into the role of TSPs in designing, creating, and implementing such solutions in value constellations, as well as the difficulties and potential benefits of adopting and developing bespoke technological solutions for sustainable manufacturing. In addition to outlining a model and conceptual framework for collaboration, it highlights important players and outlines the characteristics of a cooperation strategy. The results highlight the significance of industrial firms and TSPs establishing long-term collaborative ties in order to effectively implement digital transformation. In addition, the study's suggested collaborative method for creating customized technological solutions for sustainable manufacturing incorporates sustainability as a result. Additionally, TSPs play an essential role in facilitating the twin transition, and cooperation may aid in overcoming the obstacles associated with digital transformation and sustainability. Both TSPs and manufacturing enterprises

may use the findings as a roadmap for digital transformation that leads to sustainable and competitive production operations. [17]

The primary objective of the authors was to provide a description and analysis of the “most recent performance assessments of digital transformation in SMEs”, with an emphasis on measuring performance. The three tenets of sustainability were another target of our investigation (environmental, social, and economic). Results from a search on Scopus and the Web of Science (WoS) led to the approval of seventy-four peer-reviewed articles published up to December 2021. Furthermore, a study focusing on bibliometrics was carried out. The lack of a publication date constraint suggests that DT is still a relatively young field of study, but one that is attracting a growing amount of attention. Most publications on the subject have come from Italy, China, and Finland. An overarching theoretical structure is suggested in light of the findings. We also describe and analyze two potential avenues for future research: one that is more theoretical and one that is more practical. Finding a consensus on what a SME is and how to define it should be a top priority in the realm of theoretical development. There are nine recognized areas of practical research, such as using big data, prioritizing sectors and regions, conducting investigations across time, etc. Researchers may use the paths and routes provided to direct their efforts toward the most pressing and relevant research questions. [18]

This research aims to help policymakers by identifying the public assistance measures that “small and medium-sized firms (SMEs) need to successfully undergo digital transformation”. A representative survey of 425 SMEs in Latvia was conducted in the spring of 2021 and is the basis of the research. A survey of SMEs, a qualitative comparison analysis, and a regression analysis are the three methods we use. The study's findings reveal that many SMEs are of the belief that they would need some type of aid in order to manage digital transformation. Of particular importance are tax incentives and direct financial support from the state or EU funding. There is a broad spectrum of public support that is needed, from tax relief and direct financial assistance to staff training and mentorship as well as boosting the prospective workforce. The level of governmental assistance that small and medium-sized enterprises (SMEs) need varies significantly according on their size and their capacity to handle digital transformation on their own. To optimize the effect of digital transformation on businesses and society at

large, these results might help policymakers, managers, and practitioners identify different types of public support. [19]

Since the advent of the fourth industrial revolution (4.0), digitalization and digital strategy have emerged as alternative ideas. There has only been preliminary discussion of how a company's digital strategy and level of digitalization affect its environmental and long-term success. Using a random selection approach, 298 individuals were surveyed for this investigation. Managerial personnel and workers with a minimum of five years of service were the units of analysis. We thought of Structural-equation modeling (SEM) using SMART-PLS as a way to look at the interstructural connection. Using the framework of contingency theory, the study's results demonstrate that digital strategy improved digitalization metrics but hurt environmental performance as a whole. Furthermore, the association between digital strategy and environmental performance was partly mediated by (DP) ODD, OM, and DPS, and these factors had a (negative) positive substantial influence on environmental performance. Despite digitalization's critical role in ensuring environmental sustainability, the digital strategy was unable to enhance environmental performance. [20]

One of the most basic social and economic events of our day is digital transformation, which affects company operations. The purpose of this article is twofold: first, to investigate the effects of digital transformation on marketing efforts in SMEs in Poland; and second, to survey the broader changes brought about by digital technology in the marketing idea, its tools, and SMEs' marketing operations. The current trend in the evolution of marketing activities conducted by organizations is the primary subject of the research inquiry. Critical literature research, author's market observations, logical reasoning, and assessment of empirical study data form the basis of analyses and considerations. The results of the analysis show that digital technologies are used for marketing purposes by the firms that were part of the research, even though these technologies are often seen as more conventional tools. In addition to influencing marketing, information technology (IT) and digital tools facilitate the development of customer interactions and contribute to the monetary worth of all businesses. [21]

3. Conclusion

This review paper provides a comprehensive examination of the intersection between “digital transformation and sustainability in Small and Medium-sized Enterprises (SMEs)”. By critically analyzing existing

literature and empirical studies, the paper has shed light on the complex interplay between these two concepts and highlighted key theoretical frameworks and practical implications. Through this exploration, several key insights have emerged.

The paper underscores the importance of understanding “digital transformation” not merely as a technological shift but as a holistic process encompassing organizational change and business model innovation. Secondly, it emphasizes the significance of sustainability in the context of SMEs, encompassing environmental, social, and economic dimensions. Moreover, the paper illuminates the potential synergies between digital transformation and sustainability, demonstrating how digital technologies can contribute to environmental conservation, social inclusion, and economic growth in SMEs.

This review paper offers valuable insights into the potential benefits, challenges, and best practices associated with sustainable digital transformation in SMEs. By addressing this important topic, the paper contributes to the literature on sustainable business practices, digital transformation, and SME development, providing a roadmap for future research and informing practical strategies for fostering sustainable growth and innovation in SMEs in the digital age.

References

- [1] I. Šimberová, A. Korauš, D. Schüller, L. Smolíková, J. Straková, and J. Váchal, “Threats and Opportunities in Digital Transformation in SMEs from the Perspective of Sustainability: A Case Study in the Czech Republic,” *Sustain.*, vol. 14, no. 6, 2022, doi: 10.3390/su14063628.
- [2] R. Rupeika-apoga and K. Petrovska, “Barriers to Sustainable Digital Transformation in Micro-,” *Sustain.*, vol. 14, 2022.
- [3] V. A. Ta and C. Y. Lin, “Exploring the Determinants of Digital Transformation Adoption for SMEs in an Emerging Economy,” *Sustain.*, vol. 15, no. 9, pp. 1–13, 2023, doi: 10.3390/su15097093.
- [4] CODES, “Accelerating Sustainability Through Digital Transformation Use Cases and Innovations,” *Coalit. Digit. Environ. Sustain.*, no. 1, pp. 1–34, 2022.

- [5] R. Martínez-Peláez et al., "Role of Digital Transformation for Achieving Sustainability: Mediated Role of Stakeholders, Key Capabilities, and Technology," *Sustain.*, vol. 15, no. 14, 2023, doi: 10.3390/su151411221.
- [6] B. Marco, "SME digitalisation for resilience and sustainability," 2023.
- [7] H. Magd and H. Jonathan, "Digitalization - An Emerging Business Trend for Sustainable Transformation of SMEs Sectors: A Proposed Model for Survival and Sustainability in Uncertainties," *Glob. Bus. Manag. Res. An Int. J.*, vol. 14, no. 2, pp. 51–65, 2022.
- [8] C. C. Huang, J. H. Wu, J. H. Wu, and W. C. Liu, "Digital transformation of SMEs during COVID-19," *Digit. Transform. SMEs Dur. COVID-19 A Syst. Rev. J. Bus. Res.*, 2021, [Online]. Available: <https://t4.oecd.org/industry/smes/PH-SME-Digitalisation-final.pdf>.
- [9] U. N. I. D. Organization, "Empowering Digital Transformation in Small Enterprises Through National Policies: An International Benchmarking," 2023.
- [10] A. Jamwal, R. Agrawal, and M. Sharma, "From Digital Transformation to Sustainability in SMEs: Opportunities for Net Zero Economy," pp. 997–1007, 2023, doi: 10.46254/an13.20230274.
- [11] S. Philbin, R. Viswanathan, and A. Telukdarie, "Understanding how digital transformation can enable SMEs to achieve sustainable development: A systematic literature review," *Small Bus. Int. Rev.*, vol. 6, no. 1, p. e473, 2022, doi: 10.26784/sbir.v6i1.473.
- [12] Winarsih, M. Indriastuti, and K. Fuad, Impact of covid-19 on digital transformation and sustainability in small and medium enterprises (smes): a conceptual framework, vol. 1194 AISC. Springer International Publishing, 2021.
- [13] I. Guandalini, "Sustainability through digital transformation: A systematic literature review for research guidance," *J. Bus. Res.*, vol. 148, pp. 456–471, 2022, doi: 10.1016/j.jbusres.2022.05.003.
- [14] T. Sinyuk, E. Panfilova, and R. Pogosyan, "Digital transformation of SME business models as a factor of sustainable socio-economic development," *E3S Web Conf.*, vol. 295, 2021, doi: 10.1051/e3sconf/202129501028.
- [15] X. Teng, Z. Wu, and F. Yang, "Research on the Relationship between Digital Transformation and Performance of SMEs," *Sustain.*, vol. 14, no. 10, pp. 1–17, 2022, doi: 10.3390/su14106012.
- [16] K. K. & V. LalipourDizaji, "Sustainability of the firm through digitalization," *impact Digit. competencies firm's Sustain. small Mediu. sized Enterp.*, no. June, 2022.
- [17] H. Rahnama, "Integrating Digital Transformation and Sustainability in Manufacturing," 2023.
- [18] D. I. Costa Melo, G. A. Queiroz, P. N. Alves Junior, T. B. de Sousa, W. F. Yushimito, and J. Pereira, "Sustainable digital transformation in small and medium enterprises (SMEs): A review on performance," *Heliyon*, vol. 9, no. 3, p. e13908, 2023, doi: 10.1016/j.heliyon.2023.e13908.
- [19] R. Rupeika-Apoga, L. Bule, and K. Petrovska, "Digital Transformation of Small and Medium Enterprises: Aspects of Public Support," *J. Risk Financ. Manag.*, vol. 15, no. 2, pp. 0–21, 2022, doi: 10.3390/jrfm15020045.
- [20] I. U. Haq and C. Huo, "Digital strategy and environmental performance: the mediating role of digitalization in SMEs," *Digit. Econ. Sustain. Dev.*, vol. 1, no. 1, pp. 1–13, 2023, doi: 10.1007/s44265-023-00010-5.
- [21] M. J. Ziółkowska, "Digital transformation and marketing activities in small and medium-sized enterprises," *Sustain.*, vol. 13, no. 5, pp. 1–16, 2021, doi: 10.3390/su13052512.