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Information Technology as a Catalyst for Innovation and Sustainability in the Creative Industry

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ABSTRACT

Creative industries and small and medium-sized enterprises (SMEs) play a vital role in economic growth, innovation, and cultural development, yet they face persistent challenges related to classification, financing, regulation, and market competition. Recent studies highlight that information technology (IT) has become a key enabler for enhancing creative capacity, operational efficiency, and competitiveness among creative SMEs. This paper examines the interconnected relationships between creative industry SMEs, IT usage, government policy, and innovation performance. Drawing on prior literature, it argues that IT adoption supports innovation, collaboration, customer engagement, and business sustainability. The adoption is through digital platforms, e-commerce, and creative technologies. However, effective IT utilization depends on supportive policy frameworks, access to skills, and adequate digital infrastructure. By synthesizing evidence on technological, institutional, and organizational factors, this study emphasizes the importance of integrated strategies that align IT development with government support to foster sustainable growth in creative industry SMEs.

Keywords
Creative industries
Information technology
Innovation
Public policy
SMEs

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Introduction

The creative industries and small and medium-sized enterprises (SMEs) play a significant role in contemporary economic development, contributing approximately 10% to global GDP and serving as key drivers of employment, innovation, and cultural value creation [1]. Creative industries encompass a diverse range of sectors, including arts, design, media, software, advertising, and cultural production, many of which are dominated by SMEs. These enterprises are often characterized by high levels of creativity, intellectual capital, and flexibility, enabling them to respond quickly to changing market trends and consumer preferences. Despite their economic and social importance, creative SMEs continue to face structural and institutional challenges that constrain their growth and sustainability.

One of the persistent challenges in this field relates to defining and classifying creative SMEs. The heterogeneity of creative activities, the blending of artistic and commercial objectives, and the reliance on intangible assets complicate efforts to develop standardized definitions and classifications [2], [3]. Unlike traditional manufacturing or service firms, creative SMEs often operate at the intersection of culture, technology, and commerce, making them difficult to capture within conventional industrial classifications. This definitional ambiguity can have tangible consequences, particularly in terms of policy design, statistical measurement, and access to targeted support programs. As a result, creative SMEs are sometimes excluded from broader SME development initiatives or creative economy policies that fail to reflect their specific needs.

Beyond conceptual challenges, creative SMEs are influenced by a range of internal and external factors that shape their performance and interaction within the creative ecosystem. Administrative burdens, regulatory complexity, limited access to financing, and market competition are among the most frequently cited obstacles [1], [4]. Many creative SMEs struggle to secure funding due to the perceived risk associated with creative ventures, the lack of tangible collateral, and limited financial literacy. At the same time, bureaucratic procedures and inconsistent regulatory frameworks can hinder business formalization, innovation, and scaling. These constraints are particularly pronounced in developing and transitional economies, where institutional support for the creative sector may still be emerging.

To address these challenges and unlock the full potential of the creative economy, governments play a crucial role in shaping enabling environments for creative SMEs. Policy interventions such as reducing administrative barriers, providing preferential loans, offering tax incentives, and establishing targeted support schemes are widely recognized as essential measures [2], [5]. In addition, fostering collaboration through cooperatives, business centers, clusters, and strategic partnerships can help creative SMEs pool resources, share risks, and

enhance their competitiveness. Such cooperative approaches allow SMEs to overcome scale limitations while maintaining their creative autonomy [5], [6]. In this context, the government's dual role as regulator and facilitator becomes particularly important, as it can create favorable institutional conditions while actively supporting capacity building within creative industries [7], [8].

Parallel to policy and institutional considerations, Information Technology (IT) has emerged as a transformative force within creative industries and SMEs. IT not only reshapes how creative products are produced, distributed, and consumed, but also expands the boundaries of artistic expression and innovation. The use of digital tools, platforms, and technologies enables artists and creative entrepreneurs to experiment with new forms, reach global audiences, and integrate interdisciplinary perspectives into their work [8]. From digital art and multimedia design to online content creation and virtual collaboration, IT has become deeply embedded in creative practices.

Creative industries are widely recognized as among the most innovative sectors of the economy, often driving innovation spillovers into other industries such as manufacturing, services, and technology [9], [10]. Sectors like software development and advertising exemplify how creative inputs and technological expertise combine to generate novel solutions and competitive advantage. The integration of IT into creative processes enhances not only artistic outcomes but also organizational efficiency, market responsiveness, and business scalability. Emerging technologies, including digital platforms, data analytics, and automation, are increasingly shaping the future trajectory of creative industries, necessitating strategic planning and technological foresight [11].

Empirical evidence further underscores the importance of information technology for creative small and medium enterprises. Studies indicate that knowledge absorptive capacity, defined as the ability to acquire, assimilate, and apply external knowledge, when combined with effective information technology utilization, significantly enhances innovation performance in creative enterprises [12], [13]. Through IT, creative SMEs can access new knowledge sources, collaborate across geographic boundaries, and implement innovative business models. Digital technologies also support customer engagement, personalization, and service quality, which are critical factors in highly competitive creative markets.

By leveraging IT, creative SMEs can enhance both artistic expression and operational efficiency, adapt to rapidly changing market demands, and strengthen their contribution to economic growth. However, the benefits of IT adoption are not automatic. Financial constraints, skills gaps, and unequal access to digital infrastructure can limit the ability of creative SMEs to fully exploit technological opportunities. Therefore, aligning technological advancement with supportive government policies and institutional frameworks is essential. The interconnected

nature of IT, creative industries, SMEs, and public policy highlights the need for integrated strategies that simultaneously address innovation, capacity building, and sustainability. Understanding these interrelationships is fundamental for designing effective policies and interventions that foster inclusive, resilient, and innovation-driven creative economies.

Results and Discussion

A. SMEs in Creative Industries

The creative industries and small and medium-sized enterprises (SMEs) play a significant role in economic development, contributing around 10% to global GDP [1]. However, defining and classifying creative SMEs presents challenges due to the unique characteristics of the sector [3], [6]. Various external and internal factors influence the interaction between SMEs and creative industries, including administrative burdens and access to financing [2], [3]. To promote the creative economy, governments should reduce administrative obstacles, provide preferential loans, and implement additional support measures for SMEs. Developing cooperation through cooperatives, business centers, and partnerships can help creative SMEs adapt to unconducive business climates. The government can play a crucial role as both regulator and facilitator in strengthening the internal conditions of creative industries and SMEs [5], [7]. Understanding these factors is essential for developing effective policies to support the growth of creative industries and SMEs.

Table 1. Summary of Selected Studies on Creative SMEs: Authors, Research Focus, Key Findings, and Recommendations

No	Author	Title	Year	Abstract	Recommendation
1	A. Pratt et al. [14]	The creative SME: a cautionary tale	2015	The paper explores the challenges in defining and classifying small and medium-sized enterprises (SMEs) in the context of the creative industries.	Not mentioned (the abstract does not contain any explicit recommendations or conclusions from the paper).
2	Li & Liao [4]	Classification of factors influencing the interaction between SMEs and the creative industry	2021	The paper identifies factors influencing the interaction between SMEs and the creative industry in Kazakhstan, and suggests policy measures to support their collaboration.	1. Identify the key parameters for developing the ecosystem of creative industries and SMEs. 2. Investigate the creative industries sector and evaluate the state of the creative economy as a whole. 3. Formulate a list of priority creative industries considering the specialization and differentiation of SMEs. 4. Create conditions for the production, distribution, and popularization of goods and services from domestic creative

No	Author	Title	Year	Abstract	Recommendation
					industries and SMEs. 5. Determine approaches to improving regulatory and financial support for creative industries and SMEs.
3	Wartomo Wartomo [5]	*Menumbuhkan Kesadaran Dalam Manajemen Dan Strategi Pengembangan Industri Kreatif Pada Sektor Usaha Kecil Menengah (UKM)* [Raising Awareness of Creative Industry Management and Development Strategies in the Small and Medium Enterprise (SME) Sector]	2022	SMEs in the creative industries need to develop their own management and strategies to adapt to an unconducive business climate, with government support as a regulator and facilitator.	1. SMEs need to take an active role in resolving their own problems, rather than relying solely on government support. 2. SMEs can solve their problems by developing cooperation through cooperatives, building business centers and clusters, and forming business partnerships. 3. The government can support SMEs by acting as a regulator to reduce the impact of free competition, and as a facilitator to strengthen the internal conditions of the creative industries and SMEs.
4	Kulmaganbetova et al. [1]	The Importance of Interaction Between SMEs and Creative Industries in Kazakhstan	2023	The interaction between small/medium enterprises and creative industries is important for the development of creative industries in Kazakhstan.	Not mentioned (the abstract does not provide any specific recommendations).
5	Ejibe et al. [10]	Eco-sustainable practices through strategic HRM: A review and framework for SMEs in the creative industries	2024	Strategic HRM can help SMEs in the creative industries integrate eco-sustainable practices into their core operations.	1. Engage organizational leaders and secure their commitment to eco-sustainability goals. 2. Foster a culture of inclusivity and collaboration by involving employees in the development and implementation of eco-sustainable HRM practices. 3. Address knowledge gaps and build awareness around eco-sustainability principles through training, communication campaigns, and educational initiatives. 4. Seek partnerships with external organizations, industry associations, and sustainability experts to leverage resources and overcome implementation challenges. 5. Continuously review and refine eco-sustainable HRM practices based on feedback, lessons learned, and changes in organizational priorities and external factors.

No	Author	Title	Year	Abstract	Recommendation
6	Badar Almamari et al. [15]	The Dilemmas of the Creative Industries: Developing a Checklist of the Challenges Faced by Arts-Related Creative Enterprises	2023	The paper identifies challenges faced by small and medium-sized creative enterprises and aims to develop a checklist to improve their working mechanisms.	1. Governments should create specific licenses and regulations for plastic arts-related creative enterprises, rather than having them operate under the regulations of unrelated commercial activities. 2. Governments should provide more targeted funding and support for small and medium-sized arts-related creative enterprises, rather than focusing primarily on job creation projects. 3. Governments should establish specialized incubators and support programs for arts-related creative enterprises, given the unique challenges they face in terms of a limited consumer base but high-paying customers.
7	Chaston & Sadler-Smith [16]	Entrepreneurial Cognition, Entrepreneurial Orientation and Firm Capability in the Creative Industries	2012	Entrepreneurial orientation, firm capabilities, and market conditions influence the performance of small creative industry enterprises.	Not mentioned (the abstract does not explicitly state any specific recommendations).
8	Salder [17]	The creative business: enterprise development in the arts-based creative industries	2020	Arts-based creative industries supplement resource limitations and demands for creative intensity through networks, which could be valuable for SMEs in a network-based economy.	1. ABCI firms should supplement their resource limitations and creative demands through networking and collaboration. 2. The networking techniques used by ABCI firms could be valuable for other SMEs in a more network-based economy. 3. ABCI firms should be cautious of becoming overly dependent on external sources of knowledge and funding, as this can significantly influence their business development.

B. IT usage in creative industries

Information Technology (IT) plays a crucial role in fostering innovation and creativity within the creative industries. IT usage enables artists to explore novel forms of expression and creation beyond traditional methods [8]. Creative industries are among the most innovative sectors, contributing to innovation in other industries through creative inputs and technology adoption, particularly in software and advertising [9]. The integration of IT in creative processes opens up new opportunities for artists and businesses alike, with emerging technologies shaping the future of these industries [11]. Knowledge absorptive capacity and IT utilization significantly impact innovation performance in creative industry SMEs, as

demonstrated in a study of Romanian enterprises [12]. Overall, IT usage in creative industries not only enhances artistic expression but also drives economic growth and innovation across various sectors, highlighting the importance of continued technological development and adoption in these fields.

Table 2. Overview of Selected Studies on Information Technology Impacts in Creative Industries and Creative SMEs

No	Author	Title	Year	Abstract	IT Impacts
1	Brooks [8]	ICT in the arts: creative industries impact and contribution	2014	ICT enables novel opportunities for contemporary artists to create and express in new ways beyond traditional art.	The "IT impact" in A. Brooks (2014) is that the increased use of ICT in art projects opens up new opportunities for artists to create and express in innovative ways, leading to broader and more interdisciplinary philosophical perspectives on art, and increased attention to creativity in both academia and industry.
2	Abbasi et al. [11]	Technology roadmap for the Creative Industries	2017	The paper presents a technology roadmap for the development of desired future technologies in the Creative Industries.	The key "IT impact" discussed in the abstract is the development of a technology roadmap for the Creative Industries that provides guidance on the development of new technologies, related business models and skills, and informed policy-making, with the aim of enabling various stakeholders to maximize the benefits and societal value from the new emerging technology landscape in the Creative Industries.
3	Mueller et al. [9]	The role of creative industries in industrial innovation	2009	Creative industries, especially software and advertising, support innovation in other sectors through creative inputs and use of new technologies.	1. The Creative Industries are heavy users of information and communication technologies (ICT), both in terms of hardware and software. 2. The Creative Industries directly stimulate innovation in technology producers, particularly in the development of new ICT technologies. 3. The Creative Industries, especially those in the Advertising, Software, Engineering, and Consultancy sectors, provide innovation support to their customers, which can include the provision of new ICT technologies and applications.
4	Popescu et al. [12]	Relationships between Knowledge Absorptive Capacity, Innovation Performance and Information Technology: Case study of Romanian Creative Industries SMEs	2019	Knowledge absorptive capacity and information technology positively impact innovation performance in Romanian creative industry SMEs.	The study examines the impact of information technology on the relationship between absorptive capacity and innovation performance in Romanian SMEs in the creative industries.

No	Author	Title	Year	Abstract	IT Impacts
5	Schwarz et al. [13]	Understanding the Impact of Individual Creativity with Information Technology upon the Deep Usage of IT Systems	2013	Individual creativity with IT is a stronger driver of deep usage of IT systems than innovation or self-efficacy.	The key "IT impact" examined in this study was the relationship between individual creativity with IT and the deep usage of IT systems.
6	Dewett [18]	Understanding the Relationship Between Information Technology and Creativity in Organizations	2003	IT plays an integral role in the creative process within organizations by influencing creativity through various benefits.	The "IT impact" discussed in the paper is the influence that information technology has on creativity in organizations. The paper aims to explore the ways that the benefits and capabilities of IT can impact the creative process, creative production, organizational learning related to creativity, and creativity in large-scale projects.
7	Drobot et al. [19]	Information and Communications Technology and Creative Industries in Ukraine	2019	The paper analyzes the role of creative industries in information and communication technologies in Ukraine, including their export and import dynamics.	The key "IT impact" discussed in the paper is the influence and impact of information and communications technology (ICT) on the development and growth of creative industries in Ukraine, including through five key drivers of change (ubiquitous connectivity, mobile consumers, new revenue sources, platform shifts, and personalization), as well as an analysis showing that the export volume and growth of creative industries within the ICT sector in Ukraine is significantly higher than the import volume.
8	Vlasova et al. [20]	Strategic Priorities of Entrepreneurship in Creative Industries	2022	The IT sector occupies a significant share in the structure of creative industries and has significant export potential.	The IT sector occupies a significant share in the structure of creative industries, is the least vulnerable to negative external factors, and has significant export potential, suggesting that the IT impact is significant in the creative industries.

C. Impact of IT usage in creative industries on customer satisfaction

Research indicates that information technology (IT) investments have a positive impact on customer satisfaction in various industries. IT enhances service quality, perceived value, and customer relationship management, leading to increased customer satisfaction [18]. Studies show that IT usage in electronic stores, such as Amazon, significantly affects customer satisfaction by improving service quality and decision-making processes [18]. However, the strength of this relationship may vary over time. IT investments had a stronger positive influence on customer satisfaction [12], [20]. Interestingly, the same study revealed that IT investments positively affected profits in the later period but negatively in the earlier period. The impact of IT on customer satisfaction is primarily mediated through perceived quality and

value, with a stronger effect on perceived quality [13]. These findings underscore the importance of IT in enhancing customer satisfaction across various sectors.

Table 3. Summary of Empirical Studies on Information Technology and Creativity in the Creative Industries

No	Author	Title	Year	Abstract	Main Finding
1	Brooks [8]	ICT in the arts: creative industries impact and contribution	2014	ICT enables novel opportunities for contemporary artists to create and express in new ways beyond traditional art.	The "IT impact" in A. Brooks (2014) is that the increased use of ICT in art projects opens up new opportunities for artists to create and express in innovative ways, leading to broader and more interdisciplinary philosophical perspectives on art, and increased attention to creativity in both academia and industry.
2	Abbasi et al. [11]	Technology roadmap for the Creative Industries	2017	The paper presents a technology roadmap for the development of desired future technologies in the Creative Industries.	The key "IT impact" discussed in the abstract is the development of a technology roadmap for the Creative Industries that provides guidance on the development of new technologies, related business models and skills, and informed policy-making, with the aim of enabling various stakeholders to maximize the benefits and societal value from the new emerging technology landscape in the Creative Industries.
3	Mueller et al. [9]	The role of creative industries in industrial innovation	2009	Creative industries, especially software and advertising, support innovation in other sectors through creative inputs and use of new technologies.	1. The Creative Industries are heavy users of information and communication technologies (ICT), both in terms of hardware and software. 2. The Creative Industries directly stimulate innovation in technology producers, particularly in the development of new ICT technologies. 3. The Creative Industries, especially those in the Advertising, Software, Engineering, and Consultancy sectors, provide innovation support to their customers, which can include the provision of new ICT technologies and applications.
4	Popescu et al. [12]	Relationships between Knowledge Absorptive Capacity, Innovation Performance and Information Technology: Case study of Romanian Creative Industries SMEs	2019	Knowledge absorptive capacity and information technology positively impact innovation performance in Romanian creative industry SMEs.	The study examines the impact of information technology on the relationship between absorptive capacity and innovation performance in Romanian SMEs in the creative industries.
5	Schwarz et al. [13]	Understanding the Impact of Individual Creativity with Information	2013	Individual creativity with IT is a stronger driver of deep usage of IT systems than	The key "IT impact" examined in this study was the relationship between individual creativity

No	Author	Title	Year	Abstract	Main Finding
		Technology upon the Deep Usage of IT Systems		innovation or self-efficacy.	with IT and the deep usage of IT systems.
6	Dewett [18]	Understanding the Relationship Between Information Technology and Creativity in Organizations	2003	IT plays an integral role in the creative process within organizations by influencing creativity through various benefits.	The "IT impact" discussed in the paper is the influence that information technology has on creativity in organizations. The paper aims to explore the ways that the benefits and capabilities of IT can impact the creative process, creative production, organizational learning related to creativity, and creativity in large-scale projects.
7	Drobot et al. [19]	Information and Communications Technology and Creative Industries in Ukraine	2019	The paper analyzes the role of creative industries in information and communication technologies in Ukraine, including their export and import dynamics.	The key "IT impact" discussed in the paper is the influence and impact of information and communications technology (ICT) on the development and growth of creative industries in Ukraine, including through five key drivers of change (ubiquitous connectivity, mobile consumers, new revenue sources, platform shifts, and personalization), as well as an analysis showing that the export volume and growth of creative industries within the ICT sector in Ukraine is significantly higher than the import volume.
8	Vlasova et al. [20]	Strategic Priorities of Entrepreneurship in Creative Industries	2022	The IT sector occupies a significant share in the structure of creative industries and has significant export potential.	The IT sector occupies a significant share in the structure of creative industries, is the least vulnerable to negative external factors, and has significant export potential, suggesting that the IT impact is significant in the creative industries.

D. Central Concepts and Their Relationships

Table 4 summarizes the central concepts and relationships within creative industries by outlining the roles of SMEs, the integration of information technology, and their combined impact on customer satisfaction. It highlights key challenges faced by creative SMEs and the importance of government support. The table also emphasizes how IT adoption enhances innovation, efficiency, and collaboration, while simultaneously improving service quality, personalization, and customer engagement, thereby strengthening the overall competitiveness and sustainability of creative industry SMEs. Overall, the table provides a structured conceptual foundation for understanding how organizational, technological, and market-related factors interact within creative industries. It illustrates that the effective alignment of SME capabilities, supportive policy frameworks, and strategic IT utilization is critical for achieving long-term value creation. These relationships underscore the role of digital

transformation as a strategic lever for sustaining competitiveness in increasingly dynamic and customer-oriented creative markets.

Table 4. Key Concepts and Dimensions of SMEs, Information Technology Usage, and Customer Satisfaction in Creative Industries

No	Central Concept	Key Aspects	Description
1	SMEs in Creative Industries	Role	SMEs play a key role in driving economic growth and innovation within the creative industries.
		Challenges	SMEs face administrative burdens, limited access to financing, and intense market competition.
		Government Support	Governments support SMEs through policies such as reducing regulatory obstacles, providing financial loans, and fostering collaboration networks.
2	IT Usage in Creative Industries	Integration with SMEs	Information technology is integrated into SMEs to enhance operational efficiency and stimulate creativity.
		Innovation	IT enables the development of novel solutions and supports creative processes.
		Efficiency	IT streamlines workflows and improves overall productivity in creative businesses.
		Collaboration	Digital technologies facilitate partnerships, networking, and collaboration among creative industry actors.
3	Impact of IT Usage on Customer Satisfaction	Service Quality	IT enables faster, more reliable, and higher-quality service delivery to customers.
		Personalization	IT supports personalized products and services tailored to customer preferences.
		Customer Engagement	Digital platforms enhance interaction and strengthen relationships between firms and customers.

Conceptual Relationships

The conceptual relationships between information technology (IT), creative industry SMEs, government policy, and customer outcomes highlight a dynamic and interdependent innovation ecosystem. IT usage plays a critical role in enhancing SMEs' capabilities by enabling digital solutions such as e-commerce platforms, online marketplaces, and digital marketing tools. These technologies allow creative SMEs to overcome geographical limitations, expand market reach, and access broader consumer segments at relatively low cost [8], [9]. By integrating IT into creative and business processes, SMEs can improve operational efficiency, accelerate content creation, and respond more effectively to changing market demands [11].

At the customer level, IT adoption directly contributes to improved satisfaction through enhanced service quality, personalization, and engagement. Digital technologies facilitate faster service delivery, customized offerings, and continuous interaction via online platforms and social media, strengthening customer relationships and brand loyalty. Prior studies show that IT-enabled creativity and knowledge utilization significantly support innovation performance and user value creation in creative enterprises [12], [13].

However, the effectiveness of IT usage is strongly influenced by government and policy frameworks. Governments play a pivotal role by providing digital infrastructure, reducing

regulatory barriers, and offering financial and capacity-building support to encourage IT adoption among creative SMEs [1], [5]. Acting as both regulator and facilitator, public institutions can create an enabling environment that aligns technological development with creative industry growth [3].

Despite its benefits, IT adoption also presents challenges. While IT can mitigate operational inefficiencies, many SMEs face financial constraints, limited digital skills, and unequal access to technology. Addressing these barriers through targeted policies, training programs, and collaborative networks is essential to ensure that IT adoption leads to inclusive, sustainable innovation within creative industries [14], [21].

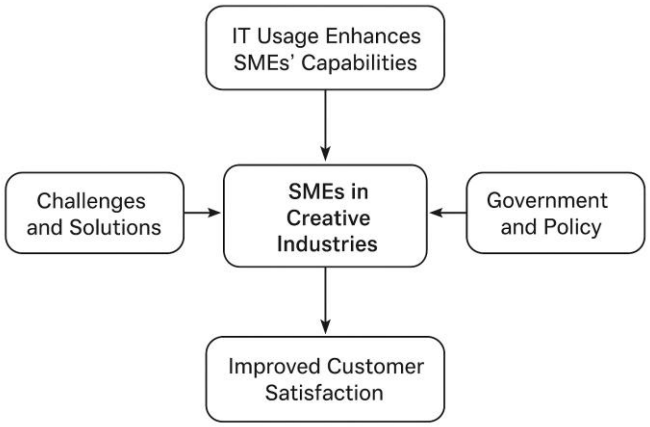


Fig. 1. Conceptual Framework Illustrating the Role of Information Technology, Government Policy, and Challenges in Shaping SMEs' Capabilities and Customer Satisfaction in the Creative Industries

Conclusion

The creative industries and SMEs play a pivotal role in driving economic growth and fostering innovation. SMEs contribute significantly to the creative economy, yet they face unique challenges such as complex classifications, administrative burdens, and limited access to financing. Government support, including reduced administrative barriers, preferential loans, and cooperative strategies, is essential for empowering SMEs to thrive in the creative sector. Additionally, SMEs' adaptability and collaboration through business centers and partnerships enhance their resilience in dynamic market conditions. Information Technology (IT) serves as a transformative force in the creative industries, enabling new forms of artistic expression, improving operational efficiency, and fostering innovation. IT integration enhances the ability of creative SMEs to adapt to evolving market demands and build networks, making them key drivers of innovation across various sectors. Furthermore, IT adoption improves customer satisfaction by offering personalized experiences, streamlining services,

and strengthening customer relationships, ultimately boosting customer engagement and loyalty.

Conflict of Interest

The authors declare that there is no conflict of interest.

References

[1] A. S. Kulmaganbetova and Zh. A. Babazhanova, 'The Importance of Interaction Between SMEs and Creative Industries in Kazakhstan', *ARTS Acad.*, vol. 8, no. 4, pp. 69–80, Dec. 2023, doi: 10.56032/2523-4684.2023.4.8.69.

[2] N. L. P. Hariastuti, P. B. Santoso, and I. P. Tama, 'Identifying driving factors of technological innovation to create sustainable value in metal manufacturing SMEs', *Ind. Eng. Manag. Syst.*, vol. 21, no. 1, pp. 43–57, 2022.

[3] S. Darwish, V. Nadoo, and U. Ahmed, 'Innovation and creativity an important ingredient in the future growth and sustainability of SMEs', in *Artificial intelligence-augmented digital twins: Transforming industrial operations for innovation and sustainability*, Springer, 2024, pp. 341–358.

[4] J. Li and J. Liao, 'Research on influencing factors of the development of cultural and creative industries based on grey factor analysis', *Comput. Sci. Inf. Syst.*, vol. 18, no. 4, pp. 1253–1269, 2021.

[5] W. Wartomo, 'Menumbuhkan Kesadaran dalam Manajemen dan Strategi Pengembangan Industri Kreatif pada Sektor Usaha Kecil Menengah (UKM)', *J. Guru Kita PGSD*, vol. 6, no. 4, p. 638, Sept. 2022, doi: 10.24114/jgk.v6i4.43962.

[6] A. R. Nisa and E. Zulaikha, 'Enhancing the Visibility of Handicraft-Based MSMEs through Strategic Web Design', *J. Manag. Stud. Dev.*, vol. 4, no. 03, pp. 252–274, 2025.

[7] M. Mahrinasari, S. Bangsawan, and M. F. Sabri, 'Local wisdom and Government's role in strengthening the sustainable competitive advantage of creative industries', *Heliyon*, vol. 10, no. 10, 2024.

[8] A. L. Brooks, 'ICT in the arts: creative industries impact and contribution', *Int. J. Arts Technol.*, vol. 7, no. 2/3, p. 278, 2014, doi: 10.1504/ijart.2014.060946.

[9] K. Müller, C. Rammer, and J. Trüby, 'The role of creative industries in industrial innovation', *Innovation*, vol. 11, no. 2, pp. 148–168, Aug. 2009, doi: 10.5172/impp.11.2.148.

[10] I. Ejibe, C. C. Okoye, E. E. Nwankwo, T. C. Nwankwo, and U. C. Scholastica, 'Eco-sustainable practices through strategic HRM: A review and framework for SMEs in the creative industries', *World J. Adv. Res. Rev.*, vol. 21, no. 3, pp. 042–049, 2024.

[11] M. Abbasi, P. Vassilopoulou, and L. Stergioulas, 'Technology roadmap for the Creative Industries', *Creat. Ind. J.*, vol. 10, no. 1, pp. 40–58, Jan. 2017, doi: 10.1080/17510694.2016.1247627.

[12] D. I. Popescu, S.-I. Ceptureanu, A. Alexandru, and E.-G. Ceptureanu, 'Relationships between Knowledge Absorptive Capacity, Innovation Performance and Information Technology. Case study: the Romanian Creative Industries SMEs', *Stud. Inform. Control*, vol. 28, no. 4, pp. 463–476, Dec. 2019, doi: 10.24846/v28i4y201910.

[13] A. Schwarz, W. W. Chin, R. Hirschheim, and C. Schwarz, 'Toward a Process-Based View of Information Technology Acceptance', *J. Inf. Technol.*, vol. 29, no. 1, pp. 73–96, Mar. 2014, doi: 10.1057/jit.2013.31.

[14] A. Pratt and T. E. Virani, 'The creative SME: A cautionary tale', 2015.

[15] D. S. A. Badar Almamari, N. Al Saadi, Y. Monji, and I. Heba, 'The Dilemmas of the Creative Industries: Developing a Checklist of the Challenges Faced by Arts-Related Creative Enterprises'.

[16] I. Chaston and E. Sadler-Smith, 'Entrepreneurial cognition, entrepreneurial orientation and firm capability in the creative industries', *Br. J. Manag.*, vol. 23, no. 3, pp. 415–432, 2012.

[17] J. Salder, 'The creative business: Enterprise development in the arts-based creative industries. Creative Industries Journal, 14 (1), 63-80', 2021.

[18] T. Dewett, 'Understanding the Relationship Between Information Technology and Creativity in Organizations', *Creat. Res. J.*, vol. 15, no. 2–3, pp. 167–182, July 2003, doi: 10.1080/10400419.2003.9651410.

[19] I. Drobot, T. Kalyta, V. Siniuhin, and Y. I. Daradkeh, 'Information and Communications Technology and Creative Industries in Ukraine.', presented at the CMiGIN, 2019, pp. 204–214.

[20] V. Vlasova and I. Tarnovska, 'Strategic Priorities of Entrepreneurship in Creative Industries', *Grail Sci.*, no. 14–15, pp. 128–130, June 2022, doi: 10.36074/grail-of-science.27.05.2022.018.

[21] H. Liang, M. Hussain, and A. Iqbal, 'The dynamic role of green innovation adoption and green technology adoption in the digital economy: the mediating and moderating effects of creative enterprise and financial capability', *Sustainability*, vol. 17, no. 7, p. 3176, 2025.

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