

Information and communication technology in MSMEs: A systematic literature review

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ABSTRACT. The application of information and communication technology (ICT) in Micro, Small, and Medium Enterprises (MSMEs) continues to increase gradually. However, the implementation of ICT in MSMEs is hampered by constraints, such as limited financial resources and ICT knowledge. This study aims to identify and analyze ICT adoption in MSMEs. Additionally, this study aims to provide recommendations on the most effective methods for optimizing ICT utilization in this context. This review was conducted using a sample of four publications that have been published and are available in nationally accredited Sinta 2 journals in the Binus Business Review. The selection process focused on works published between 2015 and 2024. The PRISMA form was used to explain the selection and acceptance procedures for relevant publications comprehensively. The authors' final argument in this article is that, despite extensive research in the field of ICT, there is a need to adapt strategies and policies that can support MSMEs in Indonesia.

Keyword: Information and Communication Technology; MSMEs; Systematic Literature Review

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INTRODUCTION

Information and Communication Technology (ICT) encompasses digital hardware, software, and telecommunications networks that facilitate information collection, processing, storage, and exchange to support organizational activities (Rachmawati, Yogawati, et al., 2022). The application of ICT is crucial for MSMEs to optimize operations, enhance market agility, and develop competencies such as technological, organizational, and entrepreneurial skills that facilitate improved marketing performance (Yuwono et al., 2025). Standard ICT tools used in MSMEs include e-commerce platforms, websites, enterprise resource planning (ERP) systems, cloud computing services, mobile payment applications, and social media, collectively improving overall MSME performance (Yuwono, Novandari, et al., 2024). Utilizing digital marketing solutions such as social media management, search engine optimization, and online advertising dashboards also enables MSMEs to reach a more targeted audience, personalize the customer experience, and drive MSME revenue growth in competitive markets (Yuwono, Triwibowo, et al., 2024).

MSMEs face several barriers to ICT adoption, including limited financial resources, low digital literacy, inadequate infrastructure, and resistance to change (Rachmawati, Yuwono, et al., 2022). The lack of a design thinking framework and innovative mindset also hinders MSMEs ability to adopt the necessary ICT adoption, which could align with operational needs ((Yuwono et al., 2022). The lack of ICT training activities and government regulatory support further limits MSMEs ability to utilize online platforms to expand their markets (Yuwono, Tajudin, et al., 2024). Empirical studies also indicate that low entrepreneurial interest and inadequate guidance reduce business owners' motivation to update and enhance their ICT capabilities in line with technological advancements (Yuwono et al., 2023). It is crucial to address these barriers, as rapidly evolving technology demands that MSMEs remain up-to-date and innovative to avoid falling behind and losing their competitive edge.

Previous systematic reviews used data from Scopus (Yuwono, Suroso, et al., 2024). This study is unique because it uses data from Sinta 2-accredited journals. Sinta 2-accredited journals are scientific journals recognized by the Badan Riset dan Inovasi Nasional (BRIN) of the Republic of Indonesia as journals that meet the quality criteria in the Sinta national accreditation system. This study aims to review the existing literature on ICT in MSMEs and analyze patterns and themes in ICT research by answering the following research questions.

RQ 1. What types of ICT are used by MSMEs?

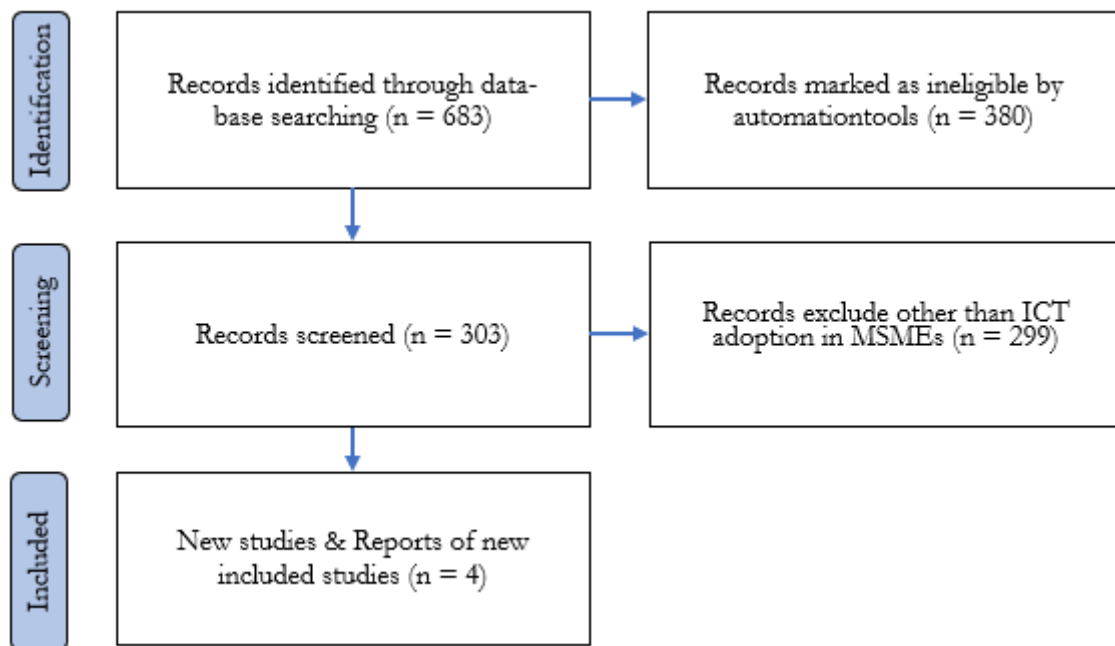
RQ 2. What are the indicators of ICT use?

RQ 3. What are the consequences of ICT adoption?

METHODS

The main objective of this study is to investigate the impact of ICT on the performance of MSMEs. This study has conducted a systematic literature review (SLR) of previous research on ICT in MSMEs. The SLR review aims to address issues in current research by finding, critically evaluating, and integrating all relevant studies conducted on a specific topic while responding to one or more specific studies. An SLR distinguishes itself from a conventional literature review by emphasizing transparency, evidence, impact, validity, and causality. The PRISMA statement form described the comprehensive procedures for selecting and excluding relevant articles in systematic reviews and meta-analyses (Page et al., 2021). This review used research publications published in the Sinta 2-

accredited journal database, specifically the Binus Business Review (BBR) journal from 2015 to 2024.



Source: PRISMA Statement 2020

Figure 1. Flowchart of PRISMA methodology

A literature search was conducted on June 20, 2025, on the Binus Business Review journal website. The search yielded 683 articles from 2015 to 2024, covering ten years. Given the significant increase in publications over the past decade, we chose this time to conduct a systematic review of ICT implementation in MSMEs. After filtering the articles published between 2015 and 2024, 303 were retained. Since our research focuses on ICT adoption in SMEs, we excluded articles on other topics. Based on the selection results, a total of 4 articles were selected. Figure 1 briefly overviews the inclusion and exclusion process for certain elements.

DISCUSSION

MSMEs increasingly rely on various forms of ICT to improve their marketing and operational capabilities. One ICT tool used in research published in the Binus Business Review journal is social media. It has been shown to significantly influence customer engagement and brand loyalty, as Muchardie et al. (2016) demonstrated in their study on cosmetics branding through the Facebook platform. Simbolon & Law (2022) further emphasize the strategic use of Instagram in SMEs, highlighting its role in increasing customer engagement, which leads to higher repurchase intent. Syahchari et al. (2023) identified Instagram social media marketing as an ICT component contributing to SME success in the tourism sector. Wijaya et al. (2024) highlighted the implementation of social media, website, and Search Engine Optimization (SEO) as an essential ICT tool for improving marketing performance in the era of disruption.

The social media, website, and SEO indicators used in Wijaya et al. (2024) research are Electronic Word-of-Mouth Power, Website Integration, Responsive Interaction, Affordable Outreach, and attracting prospective Buyers. The website indicators are efficiency, interaction, product content, marketing reach, and security. The SEO indicators used are website position in search engines, traffic, efficiency, and product marketing. The social media indicator used in Syahchari et al. (2023)

research is the speed of response to changes in social media prices. The Instagram indicators used in Simbolon & Law (2022) research are interaction, content sharing, accessibility, and credibility. The Facebook page indicators used in Muchardie et al. (2016) research are Participation, Openness, Conversation, Community, and Connectedness.

Social media marketing has been proven to produce various satisfactory results for MSMEs. The consequence of social media marketing is increased customer engagement, which positively impacts brand loyalty (Muchardie et al., 2016). Simbolon & Law (2022) show that the consequence of social media marketing is that it increases customer engagement and repurchase intention. In the SME tourism sector, the consequences of social media marketing are found to contribute to overall business success (Syahchari et al., 2023). Finally, the consequences of social media marketing also improve marketing performance and strengthen brand equity in the era of disruption (Wijaya et al., 2024).

CONCLUSION

Four studies collectively highlight the strategic role of Social Media Marketing (SMM) in improving business outcomes across various sectors. Muchardie et al. (2016) highlight how SMM increases customer engagement, strengthening brand loyalty, particularly in the cosmetics industry. Simbolon & Law (2022) expand on these findings by showing that Instagram-based SMM increases customer engagement and positively influences repurchase intentions, with customer engagement as a key mediator. Syahchari et al. (2023) expand the scope by integrating SMM with social capital and entrepreneurial orientation, demonstrating their combined effects on the success of SMEs in the tourism sector. Wijaya et al. (2024) position SMM within a broader digital marketing strategy, emphasizing its contribution to marketing performance and brand equity in the era of disruption.

The limitations of this study include its reliance on the Sinta 2 Binus Business Review journal database, which limits generalizability. Further exploration of broader databases beyond the Binus Business Review database is needed to obtain more articles. Additionally, the mediating and moderating variables used in the study should be included in the review discussion (Sulasih et al., 2023). For practitioners, these findings emphasize the importance of investing in SMM strategies that prioritize customer engagement and brand storytelling. Businesses should tailor their content to the specific behaviours of each platform and leverage user-generated content to strengthen electronic word-of-mouth (Novandari et al., 2023; Roslan et al., 2024).

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