

# Integration of Digital Technology in the Empowerment of Songkok Recca Micro, Small, and Medium Enterprises (MSMEs)

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## Abstract

This study aims to evaluate the effectiveness of government policies in supporting the empowerment of Songkok Recca MSMEs in Bone Regency, focusing on digital technology integration and its impact on innovation and human resource (HR) quality. A qualitative research approach with a case study method was used to explore the experiences of MSME players in adopting digital technology, along with the role of government support in enhancing competitiveness, innovation, and HR development. Data was obtained through in-depth interviews with MSME players, representatives from the Bone Regency Cooperative and MSME Office, and direct observation of the operational process at the Songkok Recca MSME. The results show government policies in digital marketing have positively impacted market expansion and increased MSME revenues, aligning with findings in similar studies on MSME digital empowerment and competitiveness in traditional industries. However, challenges remain regarding low production technology adoption, high raw material costs, and difficulties adapting to digital platforms, particularly among senior MSME actors. To address these issues, the government is advised to provide more holistic support by introducing production technologies compatible with traditional craftsmanship and developing local raw material supply chains to reduce production costs. Additionally, tailored digital literacy programs, such as hands-on workshops with simplified learning materials, are recommended for older MSME players to improve technological adaptation. With a more comprehensive approach that combines digital integration, innovation in production, and targeted HR development, the empowerment of Songkok Recca MSMEs can contribute more significantly to local and national economic growth.

**Keywords:** MSMEs; Songkok Recca; government policy; digital technology; empowerment

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## INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are a cornerstone of economic growth in many countries (Budianto & Dewi, 2023), including Indonesia, where they contribute significantly to national economic development (Sudarno, 2012). Their role in generating employment and enhancing public welfare cannot be understated. In 2019, MSMEs contributed a substantial 60.51% to Indonesia's Gross Domestic Product (GDP), equivalent to IDR 9,580 trillion. At the same time, they employed 119.56 million people, accounting for 96.92% of the nation's total workforce (Viddy & Herlina, 2023). These impressive statistics underscore the critical importance of MSMEs as a driver of economic growth (Kementerian Koordinator Bidang Perekonomian Republik Indonesia, 2022). The number of MSMEs has steadily increased, from 50 million in 2014 to 67.47 million in 2019, positioning them as a vital sector in Indonesia's economic landscape (Firmansyah et al., 2020).

Bone Regency in South Sulawesi Province exemplifies a region where MSMEs contribute substantially to local economic activities. Among the approximately 13,000 MSMEs operating across various sectors in Bone—such as crafts, food production, and fashion (Fitra R, 2023)—one of the most prominent and culturally significant products is the *Songkok Recca*, a traditional hat intricately woven by local artisans. Over the years, the *Songkok Recca* industry has evolved from small artisan groups to a larger-scale handicraft sector, recognized both locally and nationally. However, this industry faces several challenges, particularly in human resource development, innovation, and market competitiveness. Specific obstacles include a lack of skilled labor, limited market expansion capacity, and minimal creativity in business development, all of which hinder the full potential of the *Songkok Recca* industry (Portal Bone Terkini, 2023).

To address these issues, the Bone Regency government, mainly through its Cooperative and MSME Office, has initiated various empowerment programs such as training and mentoring to improve MSME governance and business practices. Despite these efforts, many MSMEs in the Bone Regency, especially in the *Songkok Recca* sector, struggle to adopt modern business practices, including digital technologies essential for enhancing business efficiency, market reach, and innovation.

This research is motivated by the pressing need to evaluate the effectiveness of government policies aimed at integrating digital technology into MSMEs, with a focus on the *Songkok Recca* industry. Digital transformation has become a crucial factor for business growth globally, and its application within traditional industries, such as handicrafts, offers the potential to enhance competitiveness and sustainability. With its deep cultural roots and growing economic potential, the *Songkok Recca* industry presents a valuable case for examining how digital technologies can address industry challenges and open new avenues for growth.

Given the strategic importance of MSMEs to Bone Regency's local economy, this research is essential. The *Songkok Recca* industry not only preserves local cultural heritage but also serves as a substantial source of income for the region. Understanding how government policies facilitate the digital empowerment of MSMEs, especially in the *Songkok Recca* sector, can offer insights into the broader implications of digital integration for MSMEs across Indonesia. This study evaluates the extent to which government interventions have addressed the needs of *Songkok Recca* MSMEs and the effectiveness of these policies in practice. It examines the impact of digital technology adoption on business growth, human resource development, and market competitiveness.

The findings from this study are expected to contribute significantly in three key areas. First, they will provide policymakers with a clearer understanding of the challenges MSMEs face in the *Songkok Recca* industry and the effectiveness of existing government policies. Second, the results will guide future policy directions by offering practical recommendations for enhancing MSME empowerment through digital technology integration. Finally, the study aims to provide MSME actors with actionable insights into leveraging digital tools and platforms to improve their business operations and sustainability, ultimately contributing to a more resilient and competitive local economy. By addressing these issues, this research supports the ongoing development of MSMEs and contributes to the long-term economic growth of Bone Regency and beyond.

## METHODS

This research adopts a qualitative approach using a case study design (Yin, 2018) to explore the effectiveness of government policies implemented by the Cooperative and Small and Medium Enterprises Office in Bone Regency, with a specific focus on the integration of digital technology in the empowerment of MSMEs producing *Songkok Recca*. The case study approach allows for an in-depth and comprehensive exploration of the unique context of MSMEs in Bone Regency, enabling a holistic understanding of the challenges, opportunities, and impacts of digital technology integration on *Songkok Recca* MSMEs.

A qualitative case study design was chosen as it provides a practical framework for exploring complex phenomena within their real-life context, mainly when the boundaries between phenomenon and context are unclear. By focusing on the *Songkok Recca* industry in Bone Regency, the case study offers rich, contextual insights into how local government policies interact with the MSME environment and how digital technology can enhance or hinder business growth. The Diffusion of Innovations (DOI) theory by Rogers (2003) guides the analytical framework of the research, focusing on how innovations such as digital technologies are adopted and diffused within the MSME sector.

Data was collected through in-depth interviews, direct observations, and documentation analysis. A purposive sampling strategy was employed to select critical informants directly involved in the *Songkok Recca* MSMEs and relevant government offices. A total of 15 informants were chosen, including: 1) MSME actors in the *Songkok Recca* industry: These informants provided insights into their experiences with government policies, the adoption of digital technologies, and the challenges they face in business operations; 2) Staff from the Cooperative and MSME Office in Bone Regency: These informants offered perspectives on the formulation and implementation of MSME empowerment policies, particularly about digital integration; and 3) Other relevant stakeholders: This includes business development experts and local community leaders who are knowledgeable about the MSME landscape in Bone Regency.

Semi-structured interviews were conducted to allow flexibility in exploring critical themes while ensuring that the primary research objectives were addressed. The interviews focused on several key areas they are 1) Experiences and perceptions of MSME actors regarding the effectiveness of government policies; 2) Challenges faced in adopting digital technology and the impact of these technologies on business operations; and 3) The role of government support in improving human resources, innovation, and market competitiveness. Then, the interviews were audio-recorded with the consent of participants and later transcribed for analysis.

Furthermore, direct observations were made at various *Songkok Recca* MSMEs to gather firsthand information on the operational processes and the use of digital technologies in daily business activities. These observations provided practical insights into the extent to which digital tools were being integrated into production, marketing, and distribution processes. Besides, relevant documents, including government policy reports, MSME development plans, and promotional materials, were collected to provide additional context to the data gathered from interviews and observations. These documents helped to triangulate findings and offered an objective basis for evaluating the scope and effectiveness of government policies.

The data collected from interviews, observations, and documentation were analyzed using thematic analysis, guided by Braun & Clarke's (2006) model. The analysis process involved several stages:

1. Familiarization with Data: Transcripts from interviews and notes from observations were read multiple times to gain a comprehensive understanding of the data.
2. Generating Initial Codes: Data were systematically coded, identifying key patterns and recurring themes related to government policy, digital technology adoption, and MSME empowerment.
3. Searching for Themes: Coded data were grouped into broader themes, with particular attention to the challenges, opportunities, and outcomes of digital technology integration in MSMEs.

4. Reviewing Themes: The themes were reviewed to ensure they accurately represented the data and addressed the research questions coherently.
5. Defining and Naming Themes: Clear definitions were assigned to each theme, ensuring they could be linked to the theoretical framework of Diffusion of Innovations and the broader research objectives.

The themes identified in this process were then analyzed through the theoretical lens provided by the Diffusion of Innovations theory, which emphasizes the stages of innovation adoption (knowledge, persuasion, decision, implementation, and confirmation). The theory also focuses on attributes such as relative advantage, compatibility, complexity, trialability, and observability, which were used to assess the factors influencing the adoption of digital technology among *Songkok Recca* MSMEs.

After that, the qualitative data management software NVivo was utilized to organize and analyze the data more systematically. NVivo facilitated the coding process, helping identify patterns and relationships between different themes and ensuring the data analysis was rigorous and thorough.

To enhance the reliability and validity of the findings, several strategies were employed:

- Triangulation: Multiple data sources (interviews, observations, and documents) were used to cross-check and verify findings, ensuring the data was accurate and consistent.
- Member Checking: Key informants were provided with summaries of the findings to verify the accuracy of the interpretations and ensure that their perspectives were correctly represented.
- Saturation: Data collection continued until no new themes emerged, indicating that saturation had been reached and that the findings were comprehensive.

All participants were informed about the purpose of the study and their rights as informants, including the right to withdraw from the research at any time. Informed consent was obtained before conducting interviews and observations. Confidentiality was maintained by anonymizing the data, ensuring no personal identifiers were linked to the responses.

## RESULTS AND DISCUSSIONS

This section presents the results from the interviews and discussions, followed by an analysis of the data gathered from MSME actors and government officials regarding integrating digital technology into the *Songkok Recca* MSME sector in Bone Regency. The analysis revolves around three key areas: (1) MSME actors' experiences and perceptions of government policies, (2) challenges in adopting digital technology, and (3) the role of government support in enhancing human resources, innovation, and market competitiveness.

### Experiences and Perceptions of MSME Actors Regarding Government Policies

The interviews revealed varied perspectives on government policies supporting *Songkok Recca* MSMEs. Many experienced MSME actors acknowledged that government initiatives, particularly in digital marketing and international exhibition participation, such as in Germany, have helped them reach broader markets beyond Bone Regency. These MSMEs have leveraged platforms like WhatsApp, Facebook, and Tokopedia to expand their customer base. One owner stated, "Pemasaran *Songkok Recca* saya menggunakan pemasaran langsung grosiran dan menggunakan teknologi digital seperti WhatsApp, Facebook dan lain-lain," emphasizing the effectiveness of digital tools in promoting their products.

However, challenges persist, especially concerning the production process. Some MSMEs reported that government-provided machinery was unsuitable and even damaging to materials. As one owner explained, "*Sebelumnya pemerintah pernah merekomendasikan mesin tetapi belum efektif digunakan karna mesin tersebut menyebabkan bahan pembuatan *Songkok Recca* menjadi hancur,*" (Previously the government had recommended a machine but it has not been effectively used because the machine causes the material for making *Songkok Recca* to be destroyed)," reflecting a sentiment that was echoed by several other MSME owners. This mismatch between policy and actual needs indicates a disconnection between government efforts and the realities faced by small-scale producers.



Similarly, other owners expressed gratitude for the government's focus on digital marketing and legal support. Still, they noted that no substantial progress had been made regarding technological advancements for production. Their business relies heavily on traditional, manual production methods, and they mentioned that while digital marketing has expanded their customer base, it has not addressed their need for improved production processes. *“Dalam operasional pembuatan Songkok Recca hingga saat ini belum tersentuh teknologi, semuanya masih tradisional dan masih manual menggunakan tangan manusia”* (In the operation of making Songkok Recca until now has not been touched by technology, everything is still traditional and still manually using human hands.)

On the government side, R, M, S, a representative from the Cooperative and MSME Office, highlighted the substantial efforts made to introduce digital tools and provide legal support for MSMEs, such as helping businesses obtain Business Identification Numbers (NIB) and intellectual property rights (HaKI). While these efforts have helped MSMEs formalize their operations and reach new markets, challenges remain, particularly in production and digital literacy.

The findings highlight the strengths and shortcomings of government policies supporting *Songkok Recca* MSMEs. On the one hand, the government's digital marketing and legal support initiatives have been well-received, with MSMEs appreciating the expanded market reach and formalization of their businesses. Using platforms like WhatsApp, Facebook, and Tokopedia has allowed MSMEs to connect with a broader customer base, positively impacting their sales.

On the other hand, the lack of suitable production technology remains a critical issue. Government efforts to introduce machinery have not aligned with the specific needs of *Songkok Recca* producers, leading to inefficiencies and material waste. This disconnect suggests that while the government is focused on digitalization and legal formalization, more attention must be paid to the operational challenges MSMEs face. Introducing tailored production technologies compatible with traditional crafting methods could significantly improve the productivity and sustainability of *Songkok Recca* businesses.

Additionally, these findings point to a broader issue of policy implementation. While the government has been successful in promoting digital platforms, there is a need for more direct consultation with MSMEs to understand their production needs better. A more holistic approach that combines marketing, legal support, and operational advancements would create a more conducive environment for *Songkok Recca* MSMEs to thrive.

The findings resonated with broader trends observed in research on technology adoption and policy support for craft-based enterprises (Haqqi, 2023). Producers' difficulties in adopting new machinery reflect a common challenge within the craft sector. As highlighted in studies on Indonesian craft competitiveness and preservation (Lantu et al., 2022; Yang et al., 2018), finding technologies that enhance productivity without compromising the handmade quality of craft goods is a persistent issue. The mismatch between government-provided machinery and the specific needs of *Songkok Recca* production underscores the need for context-specific technological solutions, echoing findings from (Northcote & Alonso, 2011) that emphasize the importance of understanding the unique constraints of specific craft sectors.

Furthermore, the gap between government policies promoting digitalization and the on-the-ground realities of *Songkok Recca* producers points to a need for more holistic MSME support. While digitalization and legal support are beneficial, they must be complemented with measures that directly address operational challenges (Setiawan et al., 2023). This aligns with research advocating for a multi-faceted approach that combines digital literacy initiatives with support for technology access, skills development, and market linkages (Gunawan et al., 2022; Ramadhona et al., 2023; Suliswanto & Rofik, 2019). The case of *Songkok Recca* underscores the importance of incorporating the voices and experiences of producers in policy design and implementation, ensuring that initiatives genuinely reflect the needs of those they aim to support (Aminullah et al., 2024; Larasati, 2022).

## Challenges Faced in Adopting Digital Technology

The adoption of digital technology among *Songkok Recca* MSMEs has been uneven, with several actors reporting difficulties in fully integrating these tools into their business operations. For example, HNS, MS, SS, and RSA praised digital platforms for helping her reach more customers, especially outside of Bone, but also noted the challenges she faced in adapting to the new technology. "*Harga yang saya posting di sosial media itu 200 ribu, tetapi jika pembeli tersebut datang secara langsung ke toko maka saya akan memberikan harga 130,*" underscoring how digital platforms have complicated her pricing strategies.

Other owners also reported that while social media marketing has been helpful, adapting to these platforms was initially challenging. They said, "*Awalnya ada kesulitan dengan perkembangan teknologi saat ini karna saya belum terbiasa dan belum terlalu mengerti dengan sosial medianya*" (Initially, there was difficulty adapting to the advancement of technology because I wasn't used to it). Although they eventually became more comfortable using platforms like Facebook and WhatsApp, the learning curve was steep, and they had to invest considerable time and effort in mastering these tools.

From the government's perspective, they emphasized that not all MSMEs have been able to embrace digital technology fully. "*Tantangan dari setiap perubahan teknologi tersebut yang tentunya tidak semua masyarakat bisa langsung beradaptasi dengan perkembangan yang ada*" (The challenge of each technological change is that of course not all people can immediately adapt to existing developments), noting that many MSMEs, especially those run by older generations, struggle with technological adaptation. The digitalization programs initiated by the government have been beneficial for those who are tech-savvy. Still, they have left behind a significant portion of the MSME population unwilling or unable to adopt new technologies.

The challenges faced by *Songkok Recca* MSMEs in adopting digital technology highlight a critical need for more inclusive digitalization efforts in Indonesia. The generational divide observed among *Songkok Recca* producers, with older business owners struggling to navigate new platforms, mirrors broader trends documented in digital literacy and technology adoption research. Studies like Purnama et al. (2023), Putri et al. (2023), and Sari & Takariani (2024) demonstrate that older entrepreneurs often face more significant barriers in accessing and utilizing digital tools, hindering their ability to participate in the digital economy.

While government programs introducing MSMEs to digital marketing have yielded positive results for some, the experiences of *Songkok Recca* producers underscore the importance of tailoring interventions to varying levels of digital literacy. Manu et al. (2023), Shakira (2024), and Trisninawati & Sartika (2024) emphasize the need for training programs that cater to different age groups and technological proficiency levels. Providing simplified platforms, continuous hands-on training, and ongoing support would help bridge the digital divide and ensure that all MSMEs, regardless of their technological familiarity, can benefit from digital tools.

Moreover, the complexities some *Songkok Recca* producers face in integrating digital tools into pricing and customer interaction highlight the need for training beyond basic platform introduction. Aminullah et al. (2024), Eldila & Anggraini (2023), and Sanusi & Roostika (2023) argue that MSMEs require support in leveraging digital technologies for strategic business functions, such as market analysis, financial management, and customer relationship management. By equipping *Songkok Recca* producers with these advanced digital skills, policymakers can empower them to harness the digital economy's full potential.

## The Role of Government Support in Improving Human Resources, Innovation, and Market Competitiveness

Government support has been instrumental in improving the market competitiveness of *Songkok Recca* MSMEs, mainly through the promotion of digital marketing and e-commerce platforms. As employees explained, "*Penjualan melalui sosial media seperti TikTok, Instagram, Facebook dan WhatsApp memberikan peranan yang sangat positif terhadap UMKM*" (Sales through social media like TikTok, Instagram, Facebook, and WhatsApp have had a very positive impact on

MSMEs). Due to these efforts, many MSMEs have seen significant revenue and customer engagement increases.

Despite these successes, MSME actors highlighted areas where government support could be improved. For instance, BA, SS, MS, HNC, and RSA pointed out the high cost of raw materials, often sourced from outside Bone. He suggested that the government could do more to support local suppliers, thereby reducing costs and improving the sustainability of *Songkok Recca* production. Additionally, while government programs have focused heavily on marketing innovations, less attention has been paid to developing human resources and production efficiency. Others echoed this sentiment, calling for more support in improving production processes and reducing reliance on manual labor.

While the Indonesian government's efforts in promoting market competitiveness through digital marketing and legal support have yielded positive results, the case of *Songkok Recca* producers highlights the need for a more comprehensive approach to MSME development. As Nursini (2020) and Tambunan (2011) argue, expanding market reach without addressing underlying operational challenges can limit MSMEs' long-term sustainability and growth.

As suggested by *Songkok Recca* producers, developing local supply chains for raw materials aligns with research advocating for strengthening backward linkages within MSME ecosystems. Hamisi (2011) and Iqbal et al. (2024) demonstrate that sourcing raw materials locally can reduce production costs, improve access to quality inputs, and enhance the resilience of MSMEs against external shocks.

Furthermore, the call for enhanced human resource development and innovation within the *Songkok Recca* sector resonates with studies emphasizing the importance of knowledge and skills in MSME competitiveness. Muslim & Nurulita (2021) and Soetjipto et al. (2023) highlight that training programs that enhance marketing and production skills can enable MSMEs to adapt to changing market demands and technological advancements.

Finally, the careful introduction of appropriate technologies that complement, rather than displace, existing labor practices aligns with the concept of "pro-poor" technological upgrading advocated by (Kaplinsky, 2014b, 2014a). By prioritizing technologies that enhance productivity without exacerbating unemployment, policymakers can ensure that the benefits of technological advancements are shared more equitably among MSME stakeholders.

## CONCLUSION

This study has shown that while government policies have positively impacted the marketing capabilities of *Songkok Recca* MSMEs through digital platforms and legal support, significant challenges remain in technological support for production and the ability of some MSME actors to adapt to new marketing tools. The government's efforts to promote digital integration have successfully expanded market access for many MSMEs, allowing them to leverage platforms like WhatsApp, Facebook, and Tokopedia. However, these policies have been primarily focused on marketing, leaving crucial gaps in the support needed for improving production efficiency and addressing the cost of raw materials. Additionally, the generational divide in adopting digital technology has presented extra challenges, with older business owners struggling to adapt to new marketing tools and platforms, limiting digital initiatives' reach and sustainability.

The findings suggest that government policies to empower MSMEs, particularly in the *Songkok Recca* industry, should adopt a more holistic approach beyond marketing. There is a clear need for tailored technological solutions compatible with traditional craft production to support MSMEs effectively. For example, technologies such as low-impact mechanized tools that preserve the handmade quality of *Songkok Recca* while enhancing production speed and consistency could significantly improve the productivity of MSMEs in this sector. Incorporating production technology specifically adapted to the needs of traditional crafts, such as semi-automatic looms or hand-operated cutting tools, may bridge the gap between manual processes and digital efficiency without sacrificing the craftsmanship of the *Songkok Recca*.

Furthermore, developing age- and skill-based digital literacy programs is essential, particularly for older MSME actors who face challenges adapting to rapidly evolving digital

platforms. A more inclusive digital literacy approach could involve user-friendly training methods, such as step-by-step tutorials and hands-on workshops tailored to the learning pace of older participants. This targeted training would help ensure that all MSMEs, regardless of age or digital proficiency, can effectively engage with and benefit from digital marketing tools.

Addressing the high cost of raw materials is another critical area. Developing a local supply chain for raw materials could contribute significantly to the sustainability and competitiveness of the Songkok Recca industry. Sourcing materials locally could lower production costs, enhance quality control, and reduce dependence on external suppliers. Such initiatives would require collaboration with local farmers or suppliers to build reliable and sustainable partnerships, benefiting the local economy and improving the resilience of MSMEs.

Future research should explore the impact of introducing contextually suitable technological innovations to improve production processes within traditional industries such as Songkok Recca. Examining how such tools affect production efficiency, product quality, and overall business growth would provide valuable insights for policymakers aiming to support MSMEs effectively. Additionally, investigating generational differences in technology adoption could offer more effective strategies for designing digital literacy programs tailored to various age groups, ensuring that digital initiatives are accessible and inclusive. Finally, researching the potential for local supply chain development could inform sustainable models for Songkok Recca MSMEs and similar craft industries. Understanding the feasibility and impact of reducing dependency on external suppliers and lowering production costs through local sourcing would be essential in building a more resilient and cost-effective production ecosystem. These research areas provide critical guidance for shaping future government policies that more effectively address the needs of MSMEs, ensuring their resilience and contribution to Indonesia's digital economy.

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