

DIGITAL MARKETING ADOPTION BY MSMES IN INDONESIA: BETWEEN TECHNOLOGICAL AWARENESS AND RESOURCE LIMITATIONS

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Abstract

This research delves into the burgeoning landscape of digital marketing adoption among Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. While technological awareness of digital marketing's potential benefits is growing, significant resource limitations often hinder widespread implementation. This abstract explores the interplay between this awareness and these constraints, examining the opportunities and challenges faced by Indonesian MSMEs in leveraging digital tools for growth and competitiveness. The study investigates the key factors influencing the adoption of digital marketing strategies, including the level of digital literacy, financial resources, access to infrastructure, and perceived benefits. It also considers the types of digital marketing tools and platforms most commonly utilized by MSMEs in the Indonesian context. Furthermore, the research analyzes the impact of digital marketing adoption on various aspects of MSME performance, such as market reach, customer engagement, and sales growth. Ultimately, this research aims to provide insights into the current state of digital marketing adoption within the Indonesian MSME sector, identify the key barriers to broader uptake, and suggest potential strategies to facilitate more effective integration of digital marketing practices. By understanding these dynamics, stakeholders can develop targeted interventions to empower Indonesian MSMEs to thrive in the digital economy.

Keywords: *Digital Marketing; Technology Acceptance Model; Technological Awareness; Resource Limitations; MSMEs*

INTRODUCTION

MSMEs hold significant importance in Indonesia's economy (Nurjannah et al., 2022). They contribute significantly to employment, GDP, and regional income (Rochman et al., 2021; Salim et al., 2020). MSMEs are a major source of employment in Indonesia, absorbing a large portion of the workforce. They employ around 97% of Indonesia's total workforce (Riananda et al., 2022; Soemitra et al., 2021). MSMEs also contribute significantly to Indonesia's Gross Domestic Product. MSMEs contribute to GDP of around 60% (Salim et al., 2020). MSMEs play an important role in encouraging Indonesia's economic growth (Nurjannah et al., 2022). MSMEs account for a large percentage of the total business units in Indonesia (Riananda et al., 2022). Nearly 99% of businesses in Indonesia are micro, small, or medium enterprises (Gr, 1992). Despite their significant contributions, MSMEs in Indonesia also face several challenges, including limited access to finance, cumbersome regulations, and lack of skilled manpower (Riananda et al., 2022; Soemitra et al., 2021; Tambunan, 2007). The government has been supporting SME development, but the effectiveness of these programs has been mixed (Tambunan, 2007). In essence, MSMEs are crucial for Indonesia's economic stability, growth, and social well-being. They not only contribute to the country's wealth but also ensure that the benefits of economic development are distributed more equitably across society.

In today's interconnected world, digital marketing has become increasingly important for MSMEs to reach wider markets. By leveraging online platforms and digital tools, MSMEs can effectively expand their customer base beyond traditional geographical boundaries. This enhanced market reach not only boosts sales potential but also contributes to the overall economic growth and stability of Indonesia. The growing relevance of digital marketing in reaching wider markets is driven by several key trends and technological shifts. Digital marketing enables businesses to reach audiences across the globe at a fraction of the cost of traditional marketing methods. Platforms like social media, search engines, and email allow companies to access diverse markets regardless of geographic boundaries. Digital marketing allows for detailed tracking and analytics. Marketers can monitor user behavior, engagement, and

conversions in real time, which helps in refining strategies and maximizing ROI. Digital channels now connect businesses to billions of consumers worldwide, making digital marketing crucial for expansion. While digital marketing offers immense opportunities, many Micro, Small, and Medium Enterprises (MSMEs) face significant barriers in adopting it effectively. Challenges MSMEs Face in Adopting Digital Marketing such as limited digital skills and knowledge; budget constraints; lack of strategic planning; technology and infrastructure gaps; fear of complexity or change; difficulty measuring roi and overwhelming platform choices.

This study will discuss about a practical challenge faced by many businesses, particularly SMEs in developing economies or those with limited resources. Understanding this balance can lead to more effective and realistic digital marketing strategies. It acknowledges that digital marketing adoption isn't a one-size-fits-all approach. What works in a technologically advanced, resource-rich environment might not be feasible or effective in a context with different constraints. The findings can provide valuable insights for businesses, policymakers, and digital marketing practitioners on how to best leverage digital tools within specific resource limitations. By understanding the interplay, the study can contribute to strategies that help bridge the digital divide and enable wider participation in the digital economy. For businesses with limited resources, understanding how technological awareness can be strategically applied can lead to more efficient allocation of those resources in their digital marketing efforts. **The purpose of this study are to explore the balance between technological awareness and resource limitations in shaping digital marketing adoption.**

LITERATURE REVIEW

A. Definition and Scope of Digital Marketing

Definition of Digital Marketing

Digital marketing, also known as online marketing, encompasses all marketing efforts that utilize electronic devices or the internet. It involves leveraging various digital channels to connect with current and potential customers, build brand awareness, promote products or services, and ultimately drive sales and business growth. Essentially, if a marketing campaign involves digital communication, it falls under the umbrella of digital marketing. This includes a wide array of online tactics and strategies.

Scope of Digital Marketing

The scope of digital marketing is broad and continues to evolve with technological advancements. It encompasses a multitude of channels and techniques, including but not limited to:

- Search Engine Optimization (SEO): Optimizing website content and structure to rank higher in search engine results pages (SERPs) for relevant keywords, driving organic (non-paid) traffic.
- Search Engine Marketing (SEM) / Pay-Per-Click (PPC) Advertising: Running paid ad campaigns on search engines like Google to appear prominently in search results. Advertisers pay only when their ad is clicked.
- Social Media Marketing (SMM): Utilizing social media platforms (e.g., Facebook, Instagram, TikTok, LinkedIn) to build brand presence, engage with audiences, run targeted advertising campaigns, and foster community.
- Content Marketing: Creating and distributing valuable, relevant, and consistent content (e.g., blog posts, articles, videos, infographics, e-books) to attract and retain a clearly defined audience.
- Email Marketing: Communicating directly with leads and customers through email campaigns to nurture relationships, promote offers, and provide updates.
- Mobile Marketing: Reaching audiences through mobile-specific channels such as SMS/MMS marketing, in-app advertising, and mobile-optimized websites.
- Video Marketing: Creating and distributing video content on platforms like YouTube and social media to engage audiences and convey brand messages.
- Affiliate Marketing: Partnering with individuals or websites (affiliates) who promote your products or services in exchange for a commission on sales generated through their unique links.
- Influencer Marketing: Collaborating with individuals who have a significant and engaged audience on social media (influencers) to promote your brand or products.
- Digital Analytics: Tracking, measuring, and analyzing the performance of digital marketing campaigns using various tools to gain insights, optimize strategies, and improve ROI.
- Conversion Rate Optimization (CRO): Optimizing website elements and user experience to increase the percentage of visitors who complete a desired action (e.g., making a purchase, filling out a form).
- Marketing Automation: Utilizing software to automate repetitive marketing tasks, such as email nurturing and social media posting, to improve efficiency and personalize customer journeys.

- Web Design and Development: Creating and maintaining user-friendly and effective websites that serve as a central hub for digital marketing efforts.
- Online Reputation Management (ORM): Monitoring and influencing online conversations and brand mentions to maintain a positive brand image.

In the context of your study on the balance between technological awareness and resource limitations in Medan and North Sumatra, the scope of digital marketing becomes particularly relevant. Businesses in this region might have varying levels of adoption across these different areas depending on their access to technology, digital skills, and financial resources. For instance, a small local business might focus primarily on social media marketing due to its relatively low cost and accessibility via smartphones, while a larger enterprise might invest in a more comprehensive strategy encompassing SEO, PPC, and content marketing. Understanding this differential adoption across the various facets of digital marketing will be crucial for your research.

B. MSMEs in Indonesia

Micro, Small, and Medium Enterprises (MSMEs) are the backbone of Indonesia's economy, accounting for over 99% of all businesses and employing approximately 97% of the national workforce. These enterprises contribute around 60% to the country's Gross Domestic Product (GDP), making them a key driver of economic growth and social development. Predominantly active in sectors such as trade, agriculture, manufacturing, and services, Indonesian MSMEs are diverse and deeply integrated into both urban and rural communities. Despite their critical role, MSMEs face persistent challenges including limited access to finance, low digital literacy, inadequate infrastructure, and difficulty in penetrating global markets. In response, the Indonesian government has implemented various support mechanisms, such as subsidized credit programs (e.g., Kredit Usaha Rakyat), digitalization initiatives, and regulatory reforms aimed at improving ease of doing business. In recent years, there has been a notable shift towards digital adoption among MSMEs, especially through e-commerce platforms, signaling a growing potential for innovation and sustainability within this vital sector.

MSMEs form the robust foundation of Indonesia's economy, constituting over 99% of all business entities and contributing significantly to the nation's GDP and employment. These diverse enterprises, ranging from micro-scale family businesses to small and medium-sized companies, are crucial for job creation, poverty reduction, and regional economic development across the Indonesian archipelago. While they demonstrate remarkable resilience and adaptability, MSMEs in Indonesia often grapple with challenges such as limited access to finance, inadequate digital literacy, and market access constraints. Recognizing their vital role, the Indonesian government has implemented various support initiatives, including subsidized loan programs and digitalization efforts, aiming to empower these businesses to thrive, innovate, and contribute even more substantially to the nation's economic progress in an increasingly digital world.

C. Technology Acceptance Model

The Technology Acceptance Model (TAM) is a widely used theoretical framework that explains how users come to accept and use a technology. Developed by Fred Davis in 1986, TAM proposes that two primary factors influence an individual's decision to adopt new technology: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Perceived usefulness refers to the degree to which a person believes that using a particular technology will enhance their performance, while perceived ease of use relates to how effortless the individual believes the technology is to use. These perceptions shape the user's attitude toward the technology, which in turn influences their behavioral intention to use it, ultimately leading to actual usage. TAM has been widely applied in various contexts, including information systems, e-commerce, and mobile applications, and has been extended by researchers to include other factors such as social influence, trust, and facilitating conditions to improve its explanatory power. TAM suggests that both PU and PEOU influence a user's attitude toward using the technology, which in turn affects their behavioral intention to use it.

Ultimately, this intention is seen as a strong predictor of actual system usage. One of the strengths of TAM is its simplicity and strong empirical support across a variety of technologies and contexts, making it a foundational model in the field of information systems. Over time, TAM has been extended and refined. For example, TAM2 incorporates additional factors such as social influence and cognitive instrumental processes, while TAM3 adds determinants like computer self-efficacy and perceptions of external control. These extensions address criticisms of the original model for being too simplistic and not accounting for social or organizational influences. In practical terms, TAM helps system designers and organizations understand what factors might enhance user acceptance of new technologies. By focusing on improving both the perceived usefulness and ease of use of a system, developers can increase the likelihood that a technology will be embraced by its intended users. Its adaptability and predictive power have led to its wide application in fields such as e-learning, e-commerce, healthcare, and mobile services.

METHOD

A qualitative research method is particularly useful for exploring the adoption of technology among MSMEs (Micro, Small, and Medium Enterprises) because it provides rich, in-depth insights into motivations, challenges, perceptions, and social contexts that influence adoption behavior. Data collection methods in this research are **Indepth Interviews**: One-on-one interviews with MSME owners, managers, or employees to gather detailed narratives on their experiences, motivations, and concerns. **Observations**: Direct observation of how MSMEs use (or avoid) technology in their daily operations to gain contextual understanding. **Document Analysis**: Review of internal documents such as reports, policies, or communication records related to technology implementation. **Data Analysis** that uses is **Narrative Analysis** that will examine the stories told by MSME owners to understand how they frame and make sense of technology adoption.

RESULTS AND DISCUSSION

A. Technological Awareness Among MSMEs

Technological awareness among MSMEs refers to the extent to which micro, small, and medium enterprises are informed about existing and emerging technologies relevant to their operations. This awareness plays a critical role in enabling MSMEs to remain competitive, improve efficiency, and meet changing customer demands. In many cases, however, MSMEs exhibit limited technological awareness due to constraints such as lack of access to information, limited exposure to digital ecosystems, and inadequate technical knowledge. This gap can hinder their ability to recognize the potential benefits of adopting tools such as digital payment systems, e-commerce platforms, cloud computing, or enterprise resource planning (ERP) systems. Enhancing technological awareness involves more than simply introducing new tools—it requires educating business owners and employees about how these technologies can solve specific problems, reduce costs, or open new markets. Government initiatives, industry associations, and technology providers all have a role to play in raising awareness through training programs, workshops, and access to demonstration projects. As awareness grows, MSMEs are better positioned to assess the relevance of different technologies, make informed adoption decisions, and integrate innovations in ways that support long-term sustainability and growth.

Technological awareness plays a foundational role in the Technology Acceptance Model (TAM), as it directly influences both Perceived Usefulness (PU) and Perceived Ease of Use (PEOU)—the two core determinants of technology adoption behavior. When MSME owners and employees possess a high level of awareness about current technologies, they are more likely to understand how these tools can benefit their operations, thereby enhancing their perception of usefulness. Similarly, familiarity with technology concepts can reduce apprehension, making new systems appear easier to use. Without sufficient awareness, even highly beneficial technologies may be viewed as irrelevant or too complex, leading to resistance or delayed adoption. Therefore, technological awareness can be seen as a critical antecedent in the TAM framework, shaping the beliefs that ultimately determine an individual's attitude toward technology and their behavioral intention to use it. Increasing awareness through training, outreach, and exposure to success stories can thus significantly improve technology adoption rates among MSMEs. Technological awareness among Micro, Small, and Medium Enterprises (MSMEs) plays a vital role in enhancing productivity, expanding market access, and increasing overall competitiveness in the modern economy. In Indonesia, a significant portion of MSMEs still operate with limited knowledge of digital tools and innovations, particularly in rural areas or among micro-scale businesses.

Many business owners are unfamiliar with technologies such as cloud computing, digital marketing, inventory management systems, and e-commerce platforms, which could otherwise streamline operations and drive growth. This lack of awareness often stems from low levels of education, limited exposure to digital trends, and concerns about cost or complexity, preventing them from fully leveraging technology to scale their businesses. In recent years, both the government and private sector have intensified efforts to close this digital gap through training programs, financial incentives, and strategic collaborations with tech platforms. Initiatives such as "Go Digital UMKM" and partnerships with marketplaces like Tokopedia and Shopee aim to introduce MSMEs to the digital economy and provide hands-on support for technology adoption. Despite this progress, many MSMEs still face barriers including poor internet infrastructure, lack of trust in digital transactions, and limited follow-up support. Enhancing technological awareness requires not only access to tools but also continuous education and mentoring to ensure long-term adoption. Building a tech-aware MSME ecosystem is essential for Indonesia's inclusive and sustainable economic development.

B. Resource Limitations

1. Budget limitations for digital tools and advertising.

Budget constraints significantly hinder the ability of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia to adopt digital tools and invest in online advertising. Many MSMEs operate on tight budgets, making it challenging to allocate funds for digital technologies and training. According to a report by the Asian Development Bank, 54% of SMEs in Indonesia cited insufficient financial resources as a primary obstacle to adopting digital technologies. This financial limitation restricts their capacity to invest in essential digital infrastructure, such as specialized software and cloud-based services, which often require significant initial investment. Furthermore, the lack of investment in digital tools and advertising hampers MSMEs' ability to compete in an increasingly digital marketplace. Without adequate funding, these enterprises struggle to implement effective digital marketing strategies, limiting their market reach and growth potential. The perception of digital technology as complex and intimidating, coupled with financial constraints, leads to a reluctance to invest in digital solutions. This mindset is compounded by a lack of awareness regarding the potential return on investment that digital tools can provide, resulting in many MSMEs remaining hesitant to embark on their digital transformation journey.

2. Human Capital

A significant barrier faced by many Micro, Small, and Medium Enterprises (MSMEs) is the lack of digital skills and marketing expertise, which limits their ability to effectively leverage technology for business growth. Many MSME owners and employees are unfamiliar with digital tools such as social media marketing, search engine optimization (SEO), website development, and data analytics, which are essential for building a strong online presence and reaching new customers. This skills gap is particularly pronounced among smaller and rural enterprises, where access to training and exposure to digital trends is limited. As a result, even when digital platforms are available, many MSMEs struggle to use them effectively, leading to underperformance in online sales and marketing efforts. Addressing this issue requires targeted education programs, mentorship, and accessible digital literacy initiatives to empower MSMEs with the knowledge and confidence to navigate the digital economy successfully.

3. Infrastructure Gaps

Lack of internet access, devices, and software availability remains a critical challenge for many Micro, Small, and Medium Enterprises (MSMEs), particularly in remote and underdeveloped regions. Reliable internet connectivity is a foundational requirement for digital transformation, yet many MSMEs in rural Indonesia still face slow or inconsistent access, making it difficult to utilize online platforms, cloud services, or digital marketing tools effectively. In addition, limited access to essential devices such as computers, smartphones, or point-of-sale systems hampers daily operations and prevents businesses from engaging fully in the digital economy. The high cost of quality software—especially business management, accounting, and inventory applications—further restricts adoption, particularly among micro enterprises with minimal financial resources. This digital divide not only widens the gap between urban and rural businesses but also slows down the overall progress of digitalization within the MSME sector. Addressing these infrastructure and affordability issues is crucial for enabling inclusive economic growth and ensuring that all MSMEs can benefit from technological advancements.

4. Time and Operational Priorities

Time and operational priorities pose a significant challenge for many Micro, Small, and Medium Enterprises (MSMEs) when it comes to adopting and integrating digital technologies. Due to limited staff and resources, MSME owners often wear multiple hats—managing production, sales, finances, and customer service—leaving little time to explore or implement new digital tools. The immediate focus on daily operations and survival often outweighs long-term strategic planning, such as investing in technology or digital marketing. As a result, digital adoption is frequently postponed or deprioritized, despite its potential to improve efficiency and competitiveness. This short-term mindset can hinder business growth, as MSMEs may miss opportunities to streamline workflows, reach wider markets, or gain insights through data-driven decision-making. Overcoming this issue requires accessible support structures, time-saving digital solutions, and clear demonstrations of how digital tools can directly benefit day-to-day operations.

CONCLUSION

Digital marketing presents a significant opportunity for Micro, Small, and Medium Enterprises (MSMEs) in Indonesia to expand their reach and enhance their competitiveness in the digital age. The increasing internet penetration and mobile usage across the archipelago create a vast potential customer base accessible through various online platforms. From social media marketing and e-commerce to search engine optimization and online advertising, digital tools offer cost-effective ways for MSMEs to promote their products and services, engage with customers, and ultimately drive sales growth. This technological awareness is a crucial first step towards digital transformation for these businesses. However, the adoption of digital marketing by Indonesian MSMEs is not without its challenges, primarily stemming from resource limitations. Many MSMEs operate with tight budgets and lack the financial capacity to invest heavily in digital marketing expertise, tools, and campaigns. Furthermore, the owners

and employees may lack the necessary digital literacy and skills to effectively implement and manage online marketing strategies. Issues such as limited access to reliable internet infrastructure, especially in more remote regions, can also hinder the seamless integration of digital marketing practices into their business operations. Bridging the gap between technological awareness and resource limitations is crucial for fostering widespread digital marketing adoption among Indonesian MSMEs. This requires a multi-faceted approach involving government support, industry initiatives, and educational programs. Providing affordable access to digital marketing training and resources, facilitating the development of digital infrastructure, and offering financial assistance or incentives can empower MSMEs to overcome these hurdles. By addressing these limitations, Indonesia can unlock the full potential of digital marketing for its MSME sector, contributing significantly to economic growth and empowerment.

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