



The Role of Digital Marketing in Technology-Based MSME Development Efforts

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Abstract

Purpose. This study aims to analyze the role of digital marketing in the development of technology-based Micro, Small, and Medium Enterprises (MSMEs) in Indonesia.

Method. Using a literature review approach of 15 scientific articles published from 2015 to 2024, this study identifies effective digital marketing strategies, challenges in their implementation, and opportunities that can be taken advantage of by MSME actors.

Result. The results of the study show that strategies such as the use of social media (Instagram, TikTok), Search Engine Optimization (SEO), storytelling, and partnerships with local influencers contribute significantly in increasing business visibility, customer engagement, and sales turnover.

Conclusion. Limited digital literacy, inadequate human resources, and changes in digital platform algorithms are still major challenges.

Implementation. This study recommends the need for structured digital assistance, cross-sector collaboration, and ecosystem development that supports the digital transformation of MSMEs in a sustainable manner.

Keywords: MSMEs, digital marketing, technology, marketing strategy, literature review.



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INTRODUCTION

Background

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in Indonesia's economic growth. According to the Ministry of Cooperatives and SMEs, MSMEs contribute around 61.07% to the national Gross Domestic Product (GDP) and absorb more than 97% of the workforce. This strategic role shows that MSMEs are the main driving force of the economy, especially in the transition period to the digital era. However, the challenges of globalization and technological disruption require MSME actors to adapt and innovate in their business models. (Nasir, 2024)

In the midst of these changes, digital marketing has emerged as an effective solution to strengthen the competitiveness of MSMEs. Digital marketing allows MSMEs to reach a wider market, minimize promotional costs, and improve business process efficiency. Platforms such as Instagram, TikTok, marketplaces, and websites have become the main medium of modern marketing. Although the opportunities are wide open, reality shows that many MSME actors are still limited in knowledge, skills, and resources to optimize digital marketing. Small and medium-sized businesses (MSMEs) now have new opportunities to market their goods due to the ability to get information quickly and easily. This is due to the fact that the internet has changed traditional marketing standards to digital marketing (Sifwah et al., 2024). MSMEs are the basis of the people's economy that can maintain the stability of national economic resilience. Open thinking and innovation creation are the main keys in the development of MSMEs. The innovation is to use social media as a means to market their products. However, social media as a means of digital marketing has not been fully realized and understood by MSME actors. Therefore, socialization about the use of social media for digital marketing must be carried out (Rengganawati & Taufik, 2020).

Technology-based MSMEs, namely MSMEs that have integrated technology into their business processes, have great potential to grow rapidly through digital marketing strategies. However, improper implementation, lack of technical support, and lack of digital literacy hinder the process. Therefore, this research is important to answer the role of digital marketing in supporting the development of technology-based MSMEs and what strategies can be used to increase their effectiveness.

Research Objectives

This research has several main objectives that it aims to achieve as follows:

1. Analyzing the role of digital marketing in supporting the development of technology-based MSMEs in Indonesia
2. Identify effective and relevant digital marketing strategies implemented by technology-based MSMEs.
3. Examine the main challenges faced by MSME actors in the implementation of digital marketing.
4. Present a synthesis of literature from various previous studies to provide policy recommendations and applicable implementation

LITERATURE REVIEW

Theoretical Studies

Digital Marketing is an activity, ethics, and also methods facilitated by digital technology to create, communicate and convey values to consumers and related parties. Furthermore, digital marketing is also one of the marketing styles that is considered more effective and efficient for obtaining targets in the market. In this increasingly sophisticated era, technology that also continues to develop rapidly digital marketing has been used as one of the marketing alternatives that continues to grow. Digital marketing has many benefits for business people who use it, such as connecting business people with consumers or simpler buyers and sellers, making business people more economical in terms of marketing and generating high turnover compared to without using digital marketing. Apart from utilization, digital marketing also has a strategy, one of which is to strive to improve business interaction through the use of technology with customers and do interesting things through the internet in which there is analysis and planning so that customers feel interested and persist (Mushi, 2024)(Nasution & Silalahi, 2022).

Digital marketing refers to all marketing activities that utilize digital channels such as social media, email, websites, and search engines to reach consumers. Chaffey and Chadwick ((2019), explained that digital marketing allows companies, including MSMEs, to personalize messages, segment markets, and analyze campaign performance in real time. In the context of MSMEs, the use of digital technology has been proven to have a significant impact on business growth, especially in terms of product promotion and distribution.

Technology-based MSMEs are small business entities that utilize technology in their business processes, both in terms of operations, customer service, and marketing. According to Sari and Raharja (2021), MSMEs that adopt technology have a competitive advantage because they are able to achieve cost efficiency, increase productivity, and accelerate product marketing time. Therefore, the connection between digital marketing and technology-based MSMEs is very relevant to be studied.

Previous research by Setiawan and Maulidya (2020), showing that consistent use of social media can increase MSME sales by up to 30%. Another study by Wijaya et al. (2022) found that creative and interactive content on TikTok was able to drive a significant increase in the number of new subscribers. These findings underscore the importance of digital marketing strategies in MSME business development. (Emmanuel Bruce, 2023)

Research Gaps

Although there is a lot of research on digital marketing in MSMEs, most of them focus on descriptive aspects or case studies. There is still limited research that examines how digital marketing strategies can be effectively implemented by technology-based MSMEs. In addition, there have not been many studies that integrate the dimensions of human resource readiness, content, and technology as a determining factor for success.

Another gap lies in the lack of a thematic approach in identifying the most relevant and applicable digital marketing strategies for MSMEs in Indonesia. Most of the literature has not explored the differences in effectiveness between digital platforms, as well as the impact of the demographic characteristics of MSME actors on the selection of digital marketing strategies. Therefore, research based on literature review is needed that is able to synthesize the main findings from various credible sources.

Research Methods

Research Design

This study uses a descriptive-analytical approach with the literature review method. The purpose of this method is to identify and analyze findings from various previous studies

on the role of digital marketing for technology-based MSMEs. By reviewing the relevant literature, this study presents an in-depth and thorough synthesis.

Population and Sample

The population in this study is a scientific article that discusses digital marketing, MSMEs, and digital transformation. Samples are purposively selected, i.e. articles that:

1. Published between 2015–2024,
2. Indexed in an academic database (SINTA, Scopus, or Google Scholar)
3. It has a focus on technology-based MSMEs and digital marketing strategies.
4. A total of 10 articles were selected as the main sample based on the relevance and quality of the journal in which the article was published.

Procedure

The data collection process was carried out by searching the keywords "MSME digital marketing", "small business digital transformation", and "digital marketing strategy" in the academic database. Articles that met the inclusion criteria were then classified based on the main theme, method, research results, and applicable context. Next, data coding and synthesis of findings were carried out to be compiled in the form of an analytical narrative.

Measurement

The measurement in this study was carried out by analyzing the content of the article under review. The main parameters analyzed are:

1. The type of digital marketing strategy used (SEO, social media, email, etc.),
2. Impact on business growth (increased turnover, customers, visibility)
3. Supporting and inhibiting factors for successful implementation.

Each article is categorized according to this classification to facilitate thematic synthesis.

Data Analysis

Data analysis was carried out with a thematic approach. The stages include:

1. Reread the entire article to identify key themes.

2. Perform coding based on the type of strategy, platform used, and effect on the business.
3. Compile a comparison table between findings.
4. Present the results of the analysis in the form of a narrative that explains patterns, tendencies, and recommendations.

Results and Discussion

Based on the results of the search using the Publish or Perish (PoP) application, 10 journal articles were obtained that are relevant to the topic of the role of digital marketing in the development of technology-based MSMEs. This search aims to identify various previous studies that discuss how the implementation of digital marketing strategies contributes to improving the performance, competitiveness, and sustainability of micro, small, and medium enterprises (MSMEs), especially in the context of digital transformation.

Table 1. Analysis of Selected Articles

Author and Year	Variable	Research Methods	Research Objectives	Research Findings
Chaffey & Chadwick (2019)	Marketing Mix (4P)	Literature studies / Conceptual textbooks	Present a theoretical framework and best practices in modern digital marketing, including channel strategy, planning, metrics, and digital performance analysis.	The book provides comprehensive models such as <i>the RACE Framework</i> , omnichannel strategies, and data-driven approaches. Emphasizing the importance of data analysis, channel integration, and content personalization for digital marketing effectiveness.
Chen & Lin (2021)	Technology and Innovation,	Quantitative	Analyze the influence of SEO strategies (<i>on-page</i> , <i>off-page</i> , and technical) on online sales performance.	A good SEO strategy has a positive effect on increasing online sales. Technical aspects such as site speed and content quality are key factors in driving sales conversions.
Kotler, Keller & Chernev (2022)	Market Segmentation Theory.	Literature studies / Conceptual textbooks	Provides the foundation of modern marketing management theory, including strategy, segmentation, branding, and the influence of	The book emphasizes customer-oriented marketing paradigms, brand value, and digital integrations such as data analytics and omnichannel marketing.

			digitalization on marketing.	
Nasution & Silalahi (2022)	Marketing Mix	Quantitative / Mixed Method	Analyzing the extent to which the application of digital marketing can increase the income of sharia-based culinary MSMEs in Medan City.	Digital marketing (social media, marketplaces, and digital promotions) has a positive effect on increasing MSME income. However, digital literacy and capital limitations are the main challenges.
Nurhadi & Faisal (2021)	Consumer Perceptions & Experience	Qualitative (conceptual & case studies)	Explore the role of storytelling in building a brand and increasing customer engagement in digital media.	Authentic storytelling increases customer trust, audience engagement, and brand loyalty. Narrative strategies help MSMEs compete through emotional differentiation.
Rengganawati & Taufik (2020)	Marketing Mix (4P)	Qualitative (case study)	Analyze the implementation of digital marketing strategies in Tahu Rohmat MSMEs and their impact on marketing and sales.	Digital marketing increases product visibility and demand through social media, but there are still obstacles to content consistency and production capacity.
Sari & Raharja (2021)	Technology and Innovation	Literature / Conceptual Studies	Examine the contribution of digitalization (automation, e-commerce, applications) in the development of MSMEs and the challenges of their implementation.	Digitalization increases the efficiency and market access of MSMEs. The main challenges include infrastructure, human resources, and digital literacy. Policy support and training are needed for the acceleration of technology adoption.
Setiawan & Maulidya (2020)	Consumer Behavior & Marketing Mix (4P)	Quantitative	Measuring the influence of digital marketing activities on the performance of MSMEs (sales, customer growth).	Digital marketing activities have a significant positive influence on the performance of MSMEs. Effectiveness is determined by platform selection, content quality, and results monitoring (analytics).
Sifwah et al. (2024)	Marketing Mix (4P) and Brand Equity	Mixed Methods	Identify the role of digital marketing as a strategy to increase the competitiveness of MSMEs and the	Digital marketing expands market reach and increases competitiveness. However, there is still a need to strengthen human resource capacity, content management, and ecosystem

			challenges of their implementation.	support such as logistics and payment systems.
Wijaya, Harini & Nisa (2022)	Marketing Mix (4P)	Conceptual / Descriptive	Providing practical strategies for implementing digital marketing for MSMEs in the digital era.	Strategies include market segmentation, selection of the right platform, creation of relevant content, and performance analysis. The importance of consistency and continuous learning for MSME actors was emphasized.
Nurul Hayati, Siti Fatimah, and Ahmad Ramadhan (2023)	Marketing Mix (4P)	Quantitative (SEM) on 210 MSME actors	Analyzing the influence of digital marketing strategies on the sustainability of MSMEs in the digital economy era.	Digital marketing has a positive effect on the performance and sustainability of MSMEs; The use of e-commerce increases efficiency and customer loyalty.
Hellena Mohamedy Mushi (2024)	Technology and Innovation	Quantitative (PLS-SEM) with 335 MSME respondents in Tanzania	Assessing the influence of digital marketing strategies on MSME performance and dynamic environmental effects.	Digital marketing strategies have a significant effect on the performance of MSMEs, but the dynamic environment does not moderate the relationship.
Muhammad Rivaldo Darmawan & Moehammad Nasir (2024)	Consumer Behavior & Marketing Mix (4P)	Quantitative (SmartPLS) with 200 e-commerce user respondents	Testing the influence of digital marketing, influencer marketing, and online customer reviews on purchase decisions.	The three variables have a positive and significant effect on purchasing decisions; Digital Marketing and Influencer are the most dominant.
Hosianna Ayu Hidayati, Endang Siti Astuti, Andriani Kusumawati & Mohammad Iqbal (2025)	Marketing Mix (4P) & Brand Equity	Quantitative (PLS-SEM) with 398 MSMEs	Analyze the influence of entrepreneurial orientation and market orientation on digital marketing capabilities and marketing performance of MSMEs.	Entrepreneurial and market orientation have a significant effect on digital marketing capabilities and marketing performance; Digital capabilities are the main mediators.

Sample Description

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DOI 10.62885/ekuisci.v3i2.943

In this literature review, the researcher selected 10 relevant scientific articles from 2015 to 2024 published in SINTA, Scopus, and Google Scholar-indexed journals. From a methodological aspect, most of the articles use a qualitative approach through case studies, interviews, and observations, while the rest use quantitative surveys and mixed methods. The article evaluates digital marketing strategies such as SEO, social media use (Instagram, TikTok), email marketing, storytelling, and partnerships with local influencers.

The characteristics of the articles studied also reflect the diversity in the size of the MSMEs studied, ranging from micro to small-medium. Articles from Indonesia tend to emphasize social aspects and technological limitations, while international articles focus more on data efficiency and analytics. This diversity of approaches strengthens the validity of the results synthesis and provides a comprehensive overview of digital marketing strategies for technology-based MSMEs

Key Results

The main results of this literature review show that digital marketing plays a crucial role in strengthening the growth and competitiveness of technology-based MSMEs. Various digital marketing strategies such as the use of social media, websites, SEO, and partnerships with local influencers have been proven to have a significant impact on increasing turnover, engagement with consumers, and expanding the market. For example, the use of platforms such as Instagram and TikTok has proven to be effective in building brand awareness and reaching a wider market in a short period of time.

In addition, websites and SEO are important elements for MSMEs who want to appear professional and be easily found on search engines such as Google. In some studies, SEO was able to increase MSME website traffic by three times in less than six months. This shows the importance of optimizing structured and sustainable digital content so that MSMEs remain relevant in the competitive digital space.

Not only that, storytelling strategies and the use of short video content have been proven to be able to significantly increase engagement rates. Storytelling is considered to be able to create an emotional closeness between brands and consumers, especially among the younger generation who dominate social media users. Study by Nurhadi & Faisal (2021), showing that storytelling can increase engagement rates by up to 44%. However, the results of this study also highlight the main challenges that hinder the effectiveness of digital marketing among

MSMEs. Some of these challenges include low digital literacy of business actors, limited human resources who master digital marketing, and dependence on platforms whose algorithms change. In addition, budget and time constraints also make it difficult for MSME actors to carry out consistent and measurable digital promotions.

In general, the literature analyzed in this study consistently shows that digital marketing makes a significant contribution to the development of technology-based MSMEs. However, this impact is highly dependent on the internal readiness of business actors, the quality of the content produced, and the appropriate use of technology. Therefore, the success of digital marketing for MSMEs is highly determined by the collaboration between knowledge, creativity, and courage to try new approaches continuously.

Statistics

Most of the articles in this study use a descriptive approach by presenting quantitative data as an indicator of the success of digital marketing strategies. For example, Wijaya et al. (2022) showed that the use of TikTok can increase MSME turnover by up to 40% within three months. Chen and Lin (2021), reported that SEO strategies were able to increase website visits by three times, while Nurhadi and Faisal (2021) noted that storytelling managed to increase engagement rates by 44%. This data shows that a measured digital marketing approach can have a significant impact on the growth of technology-based MSME businesses.

Although most of the data presented is descriptive, it remains valid as empirical evidence regarding the effectiveness of various digital marketing strategies. However, there have not been many studies that use inferential statistical approaches such as regression tests or ANOVA to determine the causal relationship between certain digital strategies and MSME business performance. Therefore, there is still room for more in-depth advanced quantitative research with experimental or longitudinal approaches to strengthen the evidence of causality between variables.

Main Summary

Overall, the results of the study show that digital marketing has a significant contribution to the development of technology-based MSMEs. Digital marketing strategies such as social media use, SEO, and collaboration with influencers have been proven to increase

brand visibility, expand market reach, and drive increased sales. Social media such as Instagram and TikTok are the main choices because of their ease of access, low cost, and high viral potential. SEO also plays an important role in increasing the visibility of MSMEs in search engines, which in turn brings in more visits and transaction opportunities.

In addition to its potential benefits, the results of the study also underscore the importance of the internal readiness of MSMEs in adopting digital technology. Digital literacy, the availability of competent human resources, and an understanding of platform algorithms are crucial factors in determining the success of digital marketing strategies. These findings strengthen the understanding that the success of digital marketing does not only lie in the strategies used, but also in the ability of MSME actors to adapt to changing technological dynamics. Thus, a collaborative approach involving training, mentoring, and continuous adaptation is absolutely necessary.

Comparison with other studies

This research supports the findings of Ayyasy & Maelani (2024) which emphasizes the importance of digital competence in the technological age. However, focusing on technology-based MSMEs provides added value in the form of implementable strategies that can be applied immediately. Unlike studies that only emphasize the importance of digitalization, this article maps out techniques that have proven to be effective.

Implication

The results of this study can be used by the government, training institutions, and MSME actors in designing digital transformation programs that focus on digital marketing strategies. Another implication is the importance of involving the digitally literate young generation to assist MSME actors in managing their digital campaigns.

Research Limitations

This study is limited to secondary data so it cannot describe the actual conditions in the field directly. In addition, the algorithmic dynamics of digital platforms can cause effective

strategies today to become less relevant in the future. Follow-up research with a quantitative or experimental approach is highly recommended.

Conclusions and Suggestions

Conclusion

Digital marketing has a real contribution to the development of technology-based MSMEs, especially in increasing business visibility, reaching a wider range of customers, and driving significant sales growth. This study concludes that the use of digital strategies such as social media, SEO, and storytelling can strengthen the competitive position of MSMEs in the digital economy era. However, the effectiveness of this strategy is greatly influenced by the internal readiness of MSME actors, both in terms of digital literacy, human resources, and technological infrastructure.

With the increasingly complex challenges in the era of digital transformation, a deep understanding of the dynamics of digital platforms and the ability to adapt quickly to changes in algorithms and consumer behavior is needed. Therefore, strengthening the capacity of MSME actors through training, mentoring, and cross-sector collaboration is very important to ensure that the digital marketing strategy implemented can run sustainably and have a positive impact on business growth.

In addition, digital marketing mentoring programs need to be developed in a sustainable manner with a needs-based approach. The government can collaborate with *edutech* startups and digital communities to reach MSMEs in various regions. In addition, the integration of digital marketing materials into entrepreneurship training is strategic.

A. Suggestion

Based on the results of this study, it is recommended that MSME actors actively participate in training and mentoring that focuses on digital marketing practices, such as managing social media accounts, creating quality content, understanding algorithms, and using simple analytical tools. The government and private institutions should expand digital literacy programs in various regions, especially in areas with limited access to technology. In addition, the integration of digital marketing training in entrepreneurship programs in universities and

vocational institutions also needs to be strengthened in order to produce adaptive and technologically literate MSME human resources.

To support sustainability, it is necessary to develop a collaborative ecosystem between MSMEs, digital marketing service providers, academics, and the creative community. The government can facilitate digital business incubation or digital partnerships that provide access to tools, funding, and a wider market network. No less important, MSMEs are also advised to start an evaluative approach to the digital strategies used in order to make adjustments based on relevant data and trends.

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