

From Intention to Implementation: Digital Marketing Challenges for Indonesian Seaweed SMEs

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The rapid digital transformation in developing economies presents both unprecedented opportunities and significant challenges for local businesses. This study examines how small and medium-sized enterprises (SMEs) producing seaweed-based products in South Sulawesi, Indonesia, implement digital marketing strategies, and why a gap persists between their intention to adopt such strategies and their capacity to enact them effectively. Adopting a qualitative, multi-case design, data were gathered from owners and managers of twenty SMEs through in-depth interviews, observation, and documentation. The data were analyzed thematically along four dimensions of digital-marketing competence (accessibility, interactivity, credibility, and informativeness) using the Unified Theory of Acceptance and Use of Technology (UTAUT) as the interpretive lens. The findings reveal a consistent intention-implementation gap; strong performance expectancy and social influence sustain adoption intentions, whereas high effort expectancy and weak facilitating conditions constrain effective practice. The study highlights the urgent need for targeted training and ecosystem support, offering a context-specific account of enterprise digitalization in an under-researched agro-marine sector.

Keywords: Developing Economies; Digital Marketing; Seaweed Industry; Small and Medium-Sized Enterprises; Technology Adoption; Unified Theory of Acceptance and Use of Technology

JEL Classification: M31, O33, L26

INTRODUCTION

Digital marketing has become increasingly crucial for small and medium-sized enterprises (SMEs) seeking to expand their reach, engage customers, and compete effectively in today's market. However, the mere adoption of digital tools does not guarantee success; effective implementation is key. This is particularly relevant for SMEs in developing economies, where resource constraints and digital literacy gaps can hinder the successful application of digital marketing strategies. Therefore, a gap exists in understanding the implementation challenges faced by SMEs in specific sectors and geographical contexts. While studies have examined digital marketing in various industries, the research focusing on the seaweed industry, particularly in Southeast Asia, is limited. One of the keys to success in facing these challenges is mastering digital marketing strategies (Chandra et al., 2023).

Through a deep understanding of digital consumer behavior, dynamic market trends, and the use of the latest technology, businesses can develop effective and efficient marketing strategies to achieve their business goals. This study addresses this gap by focusing on seaweed product SMEs in South Sulawesi, Indonesia. Investigating this issue within South Sulawesi provides a highly relevant and strategic context. The region possesses a massive potential for processed seaweed development, with a cultivation area spanning 5,236 hectares across its west and east coasts (Bappelitbangda Sulsel, 2023). Furthermore, total production of processed seaweed products in South Sulawesi reached 2.86 million tons, valued at Rp 10.47 trillion, by the third quarter of 2023. However, despite this economic significance, the utilization of these processed products remains disproportionately low at only seven percent. Many SMEs in this region face severe challenges in reaching wider markets and competing with larger businesses to maximize this regional potential.

Despite the enthusiasm for digital transformation, a persistent intention-implementation gap remains a critical issue. Many SMEs demonstrate a strong intention to adopt digital tools, driven by the necessity to survive in a competitive market, yet they fail to effectively implement these strategies due to technological complexities, lack of digital literacy, and inadequate infrastructure. In the agro-marine sector, particularly for seaweed SMEs, this implementation gap is uniquely challenging because businesses must balance traditional production constraints with the demands of modern digital engagement. South Sulawesi is a major seaweed-producing region, making this sector economically significant. The region not only serves as a primary hub for national seaweed production but also plays a vital role in the global supply chain. However, many SMEs in this region face challenges in reaching wider markets and competing with larger businesses. The sustainable growth of these SMEs, and their contribution to the regional economy, hinges on their ability to effectively leverage digital marketing opportunities to overcome geographic and informational barriers.

Therefore, the primary objective of this study is to investigate how seaweed product SMEs in South Sulawesi implement digital marketing strategies and to uncover the underlying factors causing the gap between their adoption intention and actual implementation capacity. The significance of this study lies in its focus on an under-researched agro-marine sector within a developing economy, providing critical insights into the real-world barriers of digital execution. The novelty of this research is the conceptual integration of four core digital marketing dimensions (accessibility, interactivity, credibility, and informativeness) evaluated through the theoretical lens of the Unified Theory of Acceptance and Use of Technology (UTAUT). Ultimately, this study contributes theoretically by extending the UTAUT framework into qualitative evaluation of digital marketing competence, and practically by offering actionable guidance for

policymakers and stakeholders to design targeted digital ecosystem support for marginalized SMEs.

LITERATURE REVIEW

Digital Marketing Dimensions for SMEs

Digital marketing has become increasingly crucial for SMEs seeking to expand their reach, engage customers, and compete effectively in today's market (Abdullah & Ampauleng, 2024). However, the mere adoption of digital tools does not guarantee success; effective implementation is key (Sachdeva & Mitra, 2023). This is particularly relevant for SMEs in developing economies, where resource constraints and digital literacy gaps can hinder the successful application of digital marketing strategies. Previous research has explored various aspects of digital marketing by SMEs, focusing on factors influencing adoption (Peter & Vecchia, 2021) and the impact of specific channels like social media (Veleva & Tsvetanova, 2020). However, a gap exists in understanding the implementation challenges faced by SMEs in specific sectors and geographical contexts. While studies have examined digital marketing in various industries, research focusing on the seaweed industry, particularly in Southeast Asia, is limited.

The advent of digital technology has fundamentally reshaped the marketing landscape, transforming the global community into a global village where every community is both a target market and a potential market player (Abdullah & Ampauleng, 2024). In this environment, a well-defined marketing strategy is crucial for companies to achieve optimal outcomes, encompassing decisions related to competition, product development, pricing, distribution, and promotion (Veleva & Tsvetanova, 2020). Marketing strategy is not static; it is a dynamic process of planning, introducing products or services, and targeting consumers to achieve organizational goals (Navia et al., 2023; Riantini et al., 2021).

Digital marketing, specifically, involves utilizing digital channels to reach consumers effectively and efficiently (Peter & Vecchia, 2021). It has become essential for modern businesses, particularly SMEs, to compete and thrive. Mastering digital marketing requires a deep understanding of consumer behavior, market trends, and the application of the latest technologies to develop and implement effective strategies (Sachdeva & Mitra, 2023). This includes leveraging various digital platforms, analyzing market data, and interacting with consumers in meaningful ways (Veleva & Tsvetanova, 2020). The research consistently demonstrates that e-commerce applications and digital marketing can significantly enhance brand visibility and extend market reach (Jain et al., 2021).

For SMEs, digital marketing knowledge is particularly crucial for addressing IT-related challenges and overcoming marketing limitations (Adha et al., 2024). Effective management of digital campaigns is vital, especially in competitive environments where other businesses are actively using digital marketing strategies (Mushi, 2024). Key elements of digital marketing skills and knowledge include: (1) accessibility (easy and fast access to clear information); (2) interactivity (active user engagement); (3) credibility (brand trust and content quality); and (4) informativeness (providing valuable content), with adaptations in Indonesia focusing on responsive website design and search engine optimization (SEO) (Ghahremani-Nahr & Nozari, 2021). SEO optimization to increase search engine visibility; providing complete and easily searchable product information (Daud et al., 2022). These indicators emphasize the dynamic nature of digital marketing, requiring continuous evaluation and adaptation to technological advancements and evolving consumer behavior.

Technology Adoption and the UTAUT

The UTAUT, developed by Venkatesh et al. (2003), provides a comprehensive framework for understanding the factors influencing the adoption and use of new information technologies. UTAUT posits that technology acceptance is a dynamic process, requiring ongoing evaluation and user feedback for improvement and adaptation (Puriwat & Tripopsakul, 2021). The model integrates elements from eight prominent technology acceptance models, including the Theory of Reasoned Action (Davis & Granić, 2024; Wisker & Kwiitek, 2018) and the Technology Acceptance Model (Bieli & Aier, 2024), to explain users' intentions and behavior regarding information systems.

UTAUT has been successfully applied in diverse contexts, including studies on consumer perceptions of mobile services and digital marketing acceptance (e-commerce). This study applies UTAUT to examine the factors influencing the adoption and effective utilization of digital marketing technologies by seaweed SMEs. These enterprises play a vital role in the Indonesian economy, demonstrating greater resilience than large enterprises during economic downturns (Novitasari, 2022). Their ability to adapt to technological advancements and changing community needs, particularly in the post-pandemic era, has fueled innovation, including the adoption of digital marketing to enhance business performance (Rifani et al., 2025).

The Context of Seaweed SMEs in Developing Economies

SMEs play a vital role in the Indonesian economy, demonstrating greater resilience than large enterprises during economic downturns. Many Indonesian SMEs have embraced e-commerce, defined as automated buying and selling via the internet, to expand their reach and competitiveness. SMEs are crucial for diversifying Indonesia's export products and generating foreign exchange earnings. Despite facing historical marginalization during the New Order era, SMEs have proven their resilience and are now recognized as essential for income growth and unemployment reduction, particularly in rural areas where they drive regional economic development. Former President Joko Widodo highlighted the importance of resilient SMEs in sustaining Indonesia's economy during global crises.

MSMEs, constituting the backbone of the Indonesian and Association of Southeast Asian Nations (ASEAN) economies, employ a significant portion of the workforce and are critical for overall economic resilience (Aladin et al., 2021). Within this context, the seaweed industry in Indonesia holds significant economic and ecological importance. Seaweed has diverse applications, ranging from food and industrial uses (food processing, building materials, paper) to pharmaceuticals, cosmetics, and agriculture (fertilizer, animal feed). It also plays a crucial role in textile and batik production as a source of natural, environmentally friendly dyes. Furthermore, seaweed functions ecologically as a carbon sink and a potential source of bioethanol (Blikra et al., 2021). The diverse derivative products of seaweed, particularly Rhodophyta, offer opportunities for developing healthy and halal products, including agar-agar, which is widely used in the food industry (Reboleira et al., 2021).

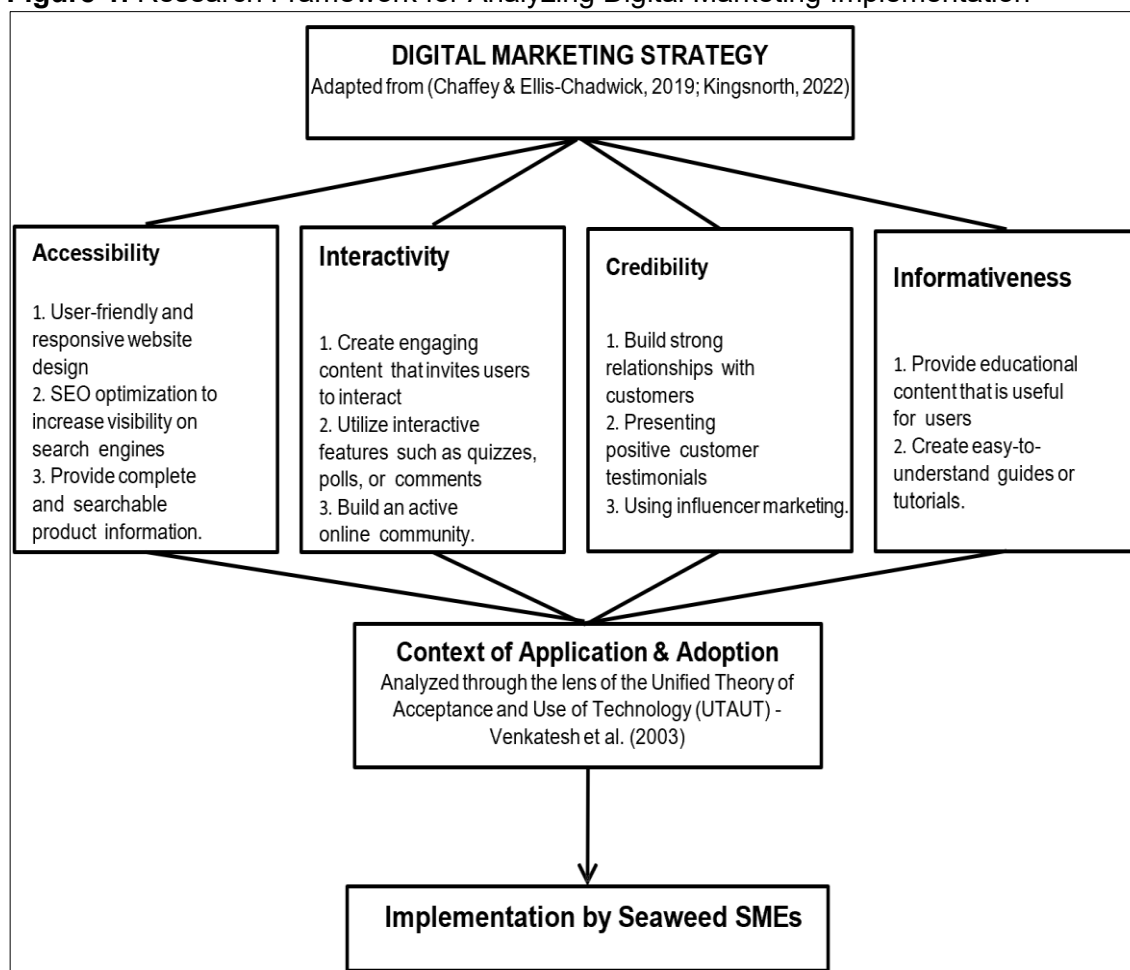
While the literature extensively covers digital marketing strategies and the importance of SMEs, there is a notable gap in research focusing specifically on the implementation of digital marketing strategies by seaweed SMEs in Indonesia. This study addresses this gap by examining how these SMEs utilize digital marketing, considering the four key indicators of accessibility, interactivity, credibility, and informativeness, within the framework of the UTAUT model. The findings will contribute to a deeper understanding of the challenges and opportunities faced by these SMEs in leveraging digital marketing for growth and sustainability.

The main problem in this study is related to the presence of digital marketing technology that changes the way of doing business by providing new challenges that are different from the conventional way. On the other hand, significant obstacles related to marketing media that are currently in great demand by the public to switch to modern marketing, namely digital marketing, will affect the increasing sales of SMEs seaweed products in South Sulawesi Province. To analyze the implementation of digital marketing strategies in this specific context, this study adapts and integrates several established theoretical dimensions, drawing from the literature on digital user engagement and marketing effectiveness (Chaffey & Ellis-Chadwick, 2019; Kingsnorth, 2022). This study proposes a conceptual framework that focuses on four key dimensions: (1) Accessibility, (2) Interactivity, (3) Credibility, and (4) Informativeness. These dimensions were selected for their relevance to the challenges and opportunities faced by MSMEs in adopting digital technologies. Furthermore, the framework situates the application of these strategies within the broader theoretical lens of technology adoption, specifically referencing the UTAUT by Venkatesh et al. (2003) to understand the underlying factors of its implementation by seaweed MSMEs.

Conceptual Framework

Drawing upon the preceding theoretical discussion, this study proposes a synthesized research framework designed to analyze the intention-implementation gap among digitalizing businesses. The framework explicitly links the three core streams of literature reviewed above. First, it adapts the four key Digital Marketing Dimensions (Accessibility, Interactivity, Credibility, and Informativeness) derived from the digital user engagement literature. Second, it situates the application of these strategies within the broader theoretical lens of technology adoption, specifically utilizing the UTAUT framework to evaluate the underlying factors, such as performance expectancy and effort expectancy, that drive or hinder implementation. Third, it contextualizes these dynamics within the specific operational realities of seaweed SMEs in developing economies, recognizing the unique technological and infrastructural challenges present in this agro-marine sector. The resulting synthesized framework, which guides this multi-case study analysis, is depicted in Figure 1.

Figure 1. Research Framework for Analyzing Digital Marketing Implementation



Source: Adapted from [Chaffey & Ellis-Chadwick \(2019\)](#) and [Kingsnorth \(2022\)](#)

Based on [Figure 1](#), the accessibility aspect involves business actors' understanding of how easily potential customers can access product or service information through digital channels. Key indicators include user-friendly and responsive website design, SEO optimization for better search engine visibility, and providing comprehensive and searchable product information. For the interactivity aspect, indicators include creating engaging content, utilizing interactive features like quizzes, polls, or comments, and fostering an active online community. The credibility aspect involves building strong customer relationships, presenting positive customer testimonials, and leveraging influencer marketing. The informativeness aspect encompasses providing educational content and creating easy-to-understand guides or tutorials. This study employs the UTAUT to explore the intention to use digital marketing channels and the competence of companies in managing digital marketing. Previous studies indicate that mastering digital marketing strategies is crucial for SMEs to overcome the challenges of digitalization, enhance business competitiveness, and ensure long-term growth. This study aims to measure the competencies of SMEs in managing digital marketing and their intention to use digital marketing channels, utilizing the UTAUT model.

RESEARCH METHOD

This study investigates the implementation of digital marketing strategies by seaweed product SMEs in South Sulawesi, Indonesia, focusing on four key aspects: accessibility, interactivity, credibility, and informativeness. A qualitative research approach with a

multi-case study design was employed to gain in-depth insights into the SMEs' digital marketing practices.

Research design

A qualitative approach was chosen because it allows for a detailed exploration and understanding of complex phenomena, such as the implementation of digital marketing strategies, within their real-world context. This approach is particularly well-suited for studying business people within SMEs, as it allows researchers to capture their experiences, perspectives, and the circumstances surrounding their connection to the research problem (Creswell, 2013). The multi-case study design enables a comparative analysis across different SMEs, providing a richer and more nuanced understanding of the variations in digital marketing implementation.

Population and Sampling

The study participants comprised owners and managers directly involved in marketing decisions from seaweed product SMEs in South Sulawesi, Indonesia. The initial population consisted of 47 active SMEs registered with the Office of Cooperatives and SMEs in South Sulawesi Province. To select the cases, a purposive sampling strategy was employed based on three specific criteria: the production and marketing of processed seaweed products (such as chips, flour, nuggets, and candied seaweed); continuous operation for at least one year; and the active use of at least one digital marketing channel, such as marketplaces, social media, websites, or influencer marketing. From the initial pool of 47 registered businesses, 20 SMEs that met all criteria were retained for the multi-case study. This final case selection was driven by a combination of participant accessibility, willingness to participate, and the need to achieve data saturation, which was reached when no new themes or information emerged from the data.

Data Collection Methods

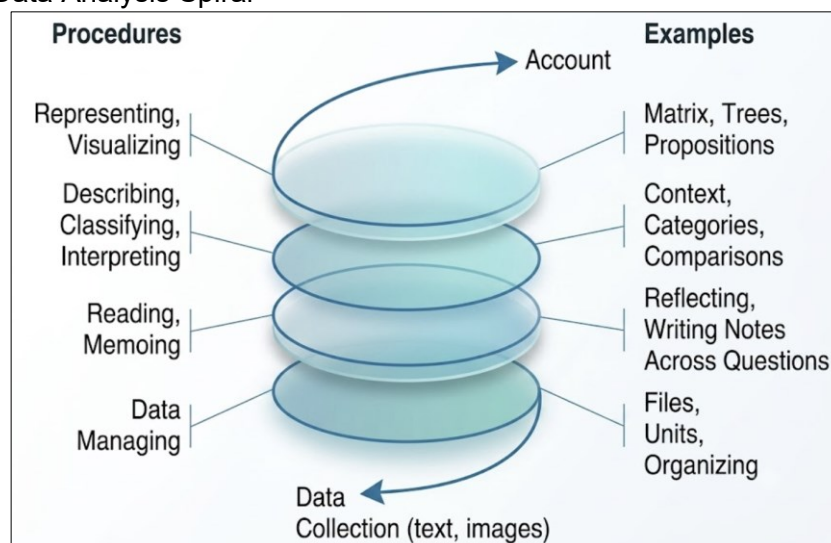
Data were collected using multiple methods to ensure accuracy, validity, and a comprehensive understanding of the research focus. Primary data collection involved in-depth interviews conducted with selected SME owners and managers to gain nuanced insights into their digital marketing strategies. These interviews specifically focused on the four dimensions of the digital marketing strategy: accessibility, interactivity, credibility, and informativeness. Furthermore, direct observation was employed to examine the digital marketing practices and online presence of the SMEs, which included noting the user-friendliness of their websites, engagement levels on social media platforms, customer reviews, and the educational value of their content. Finally, documentation was used to review relevant materials such as marketing plans, digital content, and sales reports, thereby providing secondary data on the number of digital marketing campaigns executed, customer engagement metrics, and overall sales performance. Throughout this process, the researcher acted as the primary instrument, meticulously observing, selecting, and interpreting the various phenomena encountered in the field.

Data Analysis

The study used a spiral model described in several stages: initial data collection (primary and secondary, as well as textual and visual data), the process of reading and memorization, description, categorization, interpretation of data, and representation and visualization of findings through matrices, tree diagrams, and formulation of research propositions. Thematic analysis, following a spiral model, was employed to analyze the data. To obtain accurate, up-to-date, and comprehensive data aligned with the research problem and focus, the researcher employed in-depth interviews, direct observation, and documentation during the data collection process. Consequently, the data collected in

this study were analyzed using the spiral data analysis model popularized by Creswell (2013), as illustrated in Figure 2.

Figure 2. Data Analysis Spiral



Source: Adapted from Creswell (2013)

The data collected in this study were analyzed using the thematic data analysis spiral popularized by Creswell (2013). This analytical process involved several iterative stages, beginning with initial data collection and the management of primary and secondary texts alongside visual data. The researchers immersed themselves in the data through continuous reading and memoing of interview transcripts, observation notes, and documents. Subsequently, initial codes were generated based on the four key aspects of digital marketing: accessibility, interactivity, credibility, and informativeness, alongside any emergent themes from the field data. These codes were grouped and categorized to identify recurring patterns, which were then reviewed and refined to ensure internal consistency and accurate representation. Finally, the data were interpreted, represented, and visualized through matrices, tree diagrams, and the formulation of research propositions linking back to the research questions and existing literature.

Participants must also describe the circumstances under which they are connected to the research problem (Adu et al., 2022). Consistent with this explanation, Mas'ud et al. (2024) argue that qualitative research is well-suited for studying business people who are part of SMEs. To ensure the rigor and trustworthiness of the qualitative findings, several criteria were rigorously applied. Credibility was established through methodological triangulation, cross-verifying data gathered from the in-depth interviews, observations, and document analysis. Dependability and confirmability were maintained by establishing a clear audit trail of the data collection and coding procedures, ensuring the findings accurately reflected the participants' perspectives rather than researcher bias. Transferability was facilitated by providing a thick description of the research context, the participant selection criteria, and the specific characteristics of the seaweed SMEs in South Sulawesi.

RESULTS

This section presents the thematic findings derived from the multi-case study of twenty seaweed product SMEs in South Sulawesi Province. All percentages and quantitative metrics reported in this section represent descriptive frequencies specific to the 20 selected cases. They serve to illustrate cross-case patterns and adoption trends within

this specific sample, rather than statistical generalizations for the broader SME population. The findings are organized according to the four dimensions of digital marketing strategy (accessibility, interactivity, credibility, and informativeness) and are interpreted through the UTAUT lens.

Respondents' Demographic Profile

The focus of the research was on seaweed product MSMEs in South Sulawesi registered with the Cooperative Office, with informants selected theoretically. Out of the 47 active SMEs, 20 were selected based on their capacity to utilize digital marketing. Data were collected through various methods that were accurate, up-to-date, and comprehensive in accordance with the research focus. Secondary data, including internal business documents, marketing plans, and operational reports, were systematically retrieved through direct requests to the purposively selected SME owners during the field visits, ensuring the documents corroborated the findings from the primary interviews. The complete sample data can be seen in Table 1 below.

Table 1. Profile of Participating SMEs and Actors (N=20)

Characteristic	Category	Frequency (n)	Percentage (%)
Length of establishment of the SME	1 – 3 years	9	45
	4 – 7 years	7	35
	8 – 10 years	4	20
Types of seaweed products	Seaweed chips	11	55
	Seaweed flour	4	20
	Seaweed nuggets	3	15
	Candied seaweed	2	10
Last Education of SME Actors	Junior high school	2	10
	Senior high school/ vocational high school	7	35
	Bachelor's degree (S1)	10	50
	Master's degree (S2)	1	5

Based on the demographic profile presented in Table 1, a significant proportion (45%) of the surveyed SMEs have been established for 1 to 3 years, followed by 35% operating for 4 to 7 years, and the remaining 20% having an established presence of 8 to 10 years. Regarding product specialization, the majority of the SMEs (55%) focus on producing seaweed chips, while others diversify into seaweed flour (20%), seaweed nuggets (15%), and candied seaweed (10%). In terms of the educational background of the SME actors, half of the participants (50%) hold a Bachelor's degree (S1). The remaining participants hold a Senior or Vocational high school diploma (35%), a Junior high school certificate (10%), or a Master's degree (5%). This indicates that the majority of the respondents possess a formal educational foundation, which may influence their capacity to absorb and implement digital marketing knowledge.

Accessibility and Marketplace Utilization

Accessibility remains a foundational challenge for many respondents. While a vast majority of the SMEs (85%) regularly utilize digital marketing platforms and find it efficient to manage online stores via marketplaces, establishing independent digital accessibility through dedicated websites is notably low. The data indicates that only 20% of the SMEs possess a personal website, and a mere 5% utilize free digital website services. Conversely, a significant 75% explicitly state they have no intention of using a website for product marketing. Cross-case analysis reveals a clear contrast: established SMEs with slightly more capital tend to invest in websites to build professional branding, whereas newer or smaller operations rely entirely on the pre-built accessibility of

marketplaces. The high effort expectancy associated with website creation and search engine optimization acts as a primary barrier. As one SME manager stated:

"We know a website makes us look professional, but maintaining it and ensuring it appears on Google requires technical skills and time that we simply do not have right now." (Informant, 2025)

Interactivity through Social Media Engagement

In terms of interactivity, the intention to adopt social media is exceptionally high, driven by strong performance expectancy. The findings show that 90% of the seaweed product SMEs have active business accounts on platforms such as Facebook, Instagram, and TikTok. Nevertheless, a minority (10%) feel that social media does not benefit their sales and prefer alternative channels. Despite the high adoption rate, the implementation gap is evident in the quality of engagement. While they possess accounts, observation data indicates that many struggle to consistently create interactive content that invites user participation, such as quizzes or polls. An owner of a seaweed chips business highlighted this operational constraint:

"We post pictures of our products every day, but getting customers to comment or share is difficult. Sometimes we don't know what kind of interactive content they actually want." (Informant, 2025)

Credibility and Influencer Partnerships

Building credibility in the digital space is approached predominantly through third-party endorsements. The findings indicate that 60% of the SMEs utilize influencer services to introduce their products to a wider audience. However, the effectiveness of this strategy varies significantly across cases, highlighting issues with facilitating conditions. While some experience positive impacts, 10% reported disappointment with how influencers communicated their brand, and 5% experienced no sales increase post-promotion. Consequently, 25% of the SMEs expressed no intention of using such services. This variance points to a lack of strategic knowledge in selecting the right digital partners. A respondent noted:

"We tried paying a local influencer once. It brought 'likes,' but no real buyers. Finding someone who actually understands the healthy food market for seaweed is challenging and risky for our limited budget." (Informant, 2025)

Informativeness and Competence Building

The ability to provide informative, educational content about seaweed products is closely tied to the SMEs' ongoing digital competence building. The study found that 75% of the SMEs proactively practice and self-learn digital marketing management from various online sources, whereas 25% have not engaged in such practices. Furthermore, a remarkable 90% have joined digital marketing communities to share knowledge and improve their skills, although formal certification training remains low, with only 40% having participated. This high community engagement reflects strong social influence within the local SME ecosystem. By sharing product tutorials and educational content about seaweed benefits, SMEs attempt to enhance their informativeness collaboratively.

"Learning from fellow business owners in our digital community has been our main source of knowledge. They teach us how to write clear product descriptions that educate our buyers." (Informant, 2025)

Table 2. Digital Marketing Strategy Implementation

Indicators	Findings	Interpretation
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Marketplace utilization	1	Most of the seaweed product SMEs in South Sulawesi Province have used and understood how to use the Marketplace platform to sell online.	1.	Download Shopee Seller Center and Tokopedia Seller Centre on iOS/android
	2	A small proportion of SMEs of Seaweed Products in South Sulawesi Province still experience difficulties in understanding how to use the Marketplace platform.	2.	Routinely sell and market online through the Shopee and Tokopedia apps
	3	Not regularly using Marketplace platforms to sell online		
Social media utilization	1	As many as 90% of seaweed product SMEs in South Sulawesi Province already have business accounts on social media.	1	Open a business account on Facebook, Instagram, and TikTok Shop applications found on Android/iOS
	2	A total of 10% of seaweed SMEs in South Sulawesi Province feel that using social media as a sales channel does not benefit their business. And prefer to use other digital channels.		
Marketing website utilization	1	20% of seaweed SMEs in South Sulawesi Province have a personal website to market their products.	1	Use a business website for marketing and selling products.
	2	As many as 5% of seaweed product SMEs in South Sulawesi Province utilize the use of free websites available on digital services.	2	Routinely updating business information and product types on the website.
	3	A total of 75% of SMEs have no intention of using a website for product marketing and selling online.	3	Routinely track website performance on Google search engine
Using influencer Marketing	1	As many as 60% of seaweed product SMEs in South Sulawesi Province use the services of influencers in introducing their products.	1	Use the services of individuals (influencers) with a large number of followers on social media to introduce and promote products.
	2	As many as 10% of SMEs feel disappointed with influencer marketing in communicating their products, so they no longer use influencer services.		
	3	A total of 5% of SMEs did not experience an increase in sales by using influencer services after promoting the product.		
	4	A total of 25% of seaweed product SMEs in South Sulawesi Province have no intention of using influencer services.		

Note: Percentages represent descriptive frequencies across the 20 observed cases

The percentages reported in Table 2 and Table 3 are descriptive frequencies representing the proportion of occurrences across the 20 qualitative cases observed in this multi-case study. These frequencies are used to highlight thematic patterns, implementation levels, and dominant strategies within this sample, and they are not intended as statistical generalizations for the broader SME population. This shows an awareness of the importance of utilizing technology in developing business. Knowledge of digital marketing strategies and the intention of SMEs to use digital marketing channels: the research findings indicate that the knowledge of digital marketing strategies among SMEs in South Sulawesi significantly influences their intention to use digital marketing channels. Specifically, the study reveals that SMEs with a higher level of understanding and proficiency in digital marketing are more likely to adopt and consistently use digital marketing tools and platforms.

Table 3. Marketing Indicator Strategy

Indicators	Findings		Interpretation
Understanding and knowing how to market across multiple digital channels	1.	A total of 75% of seaweed product SMEs in South Sulawesi Province practice and learn by themselves from various online sources to find out digital marketing management. While 25% of SMEs have not implemented it.	A fundamental understanding of digital marketing that combines creativity, data analysis, and an understanding of the use of technology to market and sell business products.
	2.	A total of 40% of seaweed product SMEs in South Sulawesi Province participated in digital marketing certification training to improve their skills and knowledge in digital marketing management. Meanwhile, 60% of seaweed product SMEs in South Sulawesi Province have never attended any training.	
	3.	90% of seaweed SMEs in South Sulawesi Province joined the digital marketing community to share knowledge and experience to improve their skills in mastering various digital marketing tools. The remaining 10% did not join the community.	

Note: Percentages represent descriptive frequencies across the 20 observed cases

As synthesized in Table 2 and Table 3, the overarching pattern across the twenty cases illustrates a pronounced intention-implementation gap. While the foundational knowledge of digital marketing concepts and the initial intention to utilize basic platforms (such as social media and marketplaces) are notably high, the operational translation of these intentions into advanced digital competence, particularly concerning website management and strategic influencer partnerships, remains heavily constrained by both internal technical capacities and external ecosystem support. The challenges and successes observed can be interpreted through established technology adoption frameworks.

The high adoption of social media (90%) suggests strong performance expectancy, while limited supporting infrastructure points to a critical gap in facilitating conditions. These are key constructs from the UTAUT model (Venkatesh et al., 2003) and provide the basis for the following discussion. Digital marketing management competence is something that is often ignored by business actors. However, implementing marketing strategies

through various digital channels is not only about using those channels, but also about managing them effectively (Mas'ud & Tenriyola, 2023). Companies with a blend of technical skills, creativity, and strong data analysis capabilities can better leverage digital marketing tools and platforms. Lee and Meng's (2021) research identifies three key dimensions of digital marketing usage competency: (1) self-learning, (2) attending certification training, and (3) collaborating and joining relevant communities. Competence in managing digital marketing is valuable for both individuals and organizations, and continuous learning and skill development are essential for success in this field.

DISCUSSION

The Mechanism of the Intention-Implementation Gap

The central contribution of this study is the explication of the intention-implementation gap within the digitalization efforts of seaweed SMEs. Rather than a simple lack of awareness, the mechanism driving this gap operates as a structural bottleneck. The findings demonstrate that the intention to adopt digital technology is consistently high, driven largely by external market pressures and the recognized need to survive. This aligns with previous research emphasizing the importance of accessibility (Ghahremani-Nahr & Nozari, 2021; YachouAityassine et al., 2022), but it also extends this research by identifying specific implementation barriers in the context of seaweed SMEs. However, the translation of this intention into implementation fractures when SMEs move from basic, intuitive digital consumption (creating a social media profile) to advanced, strategic digital production (SEO management, interactive content design, and website maintenance).

The challenges related to limited resources, technical skills, and internet access are consistent with findings from studies on SMEs in developing economies (Organisation for Economic Co-operation and Development [OECD], 2021). However, this study goes further by suggesting that generic training programs may not be sufficient. Targeted, hands-on training focusing on practical skills like SEO, content management, and accessible design is needed (Lazić et al., 2023). Although 75% of seaweed SMEs understand how to create educational marketing content and grasp the overall importance of informativeness in building trust and driving conversions, a notable proportion (25-30%) struggle with creating both educational content and product usage guides (Baskaran et al., 2021; Chandra et al., 2023). Interpreted through the UTAUT framework, the mechanism of this gap is fundamentally a friction between high Performance Expectancy, the belief that digital marketing will increase sales, and overwhelmingly high Effort Expectancy combined with weak Facilitating Conditions.

Accessibility: The Barrier of Effort Expectancy

The main finding regarding accessibility reveals a stark contrast, while a vast majority of SMEs (85%) efficiently utilize pre-built marketplaces, a significant 75% have no intention of developing their own websites, and only 20% manage a personal website. Mapped to the UTAUT constructs, this highlights a scenario where high Performance Expectancy for ready-made platforms is overshadowed by the high Effort Expectancy of independent website creation and search engine optimization. SMEs believe that accessible content leads to better business outcomes, yet the perceived difficulty of technical execution prevents deeper digital integration. This aligns with previous research emphasizing the importance of digital accessibility (Ghahremani-Nahr & Nozari, 2021; YachouAityassine et al., 2022).

This study adds contextual depth by demonstrating that, in developing economies, the cognitive effort required to master accessibility tools acts as a primary barrier. These

challenges are consistent with findings from the Organisation for Economic Co-operation and Development (OECD, 2021). However, this study goes further by suggesting that generic training programs are insufficient unless they reduce Effort Expectancy; targeted, hands-on training focused on practical skills such as SEO and accessible design is urgently needed (Lazić et al., 2023). Therefore, these findings extend the application of UTAUT into a qualitative, interpretive context, providing a rich, textured understanding of technology adoption challenges among SMEs in developing economies.

Interactivity: Driven by Social Influence and Performance Expectancy

In terms of interactivity, the study found a near-universal intention to adopt social media, with 90% of seaweed SMEs actively maintaining business accounts. From a UTAUT perspective, this widespread adoption is heavily propelled by Social Influence and Performance Expectancy. SMEs observe their competitors succeeding on these platforms and feel intense social pressure to participate, expecting similar performance gains. This corroborates previous research highlighting interactivity's role in enhancing brand awareness and purchase intentions (Alsoud et al., 2022; Fan et al., 2024; Navia et al., 2023).

However, the observation that many still struggle with generating genuine interactivity points to a persistent Effort Expectancy hurdle, to mitigate these structural barriers, practical training is essential to advance the understanding of visual interactivity and design implementation (Saima & Khan, 2021). The findings suggest that while the threshold for entry is low, the effort required for effective visual communication remains a significant barrier, contrasting with the assumption that social media adoption inherently equates to interactive competence.

Credibility and Informativeness: The Absence of Facilitating Conditions

The findings reveal critical vulnerabilities in credibility and informativeness strategies due to a severe lack of Facilitating Conditions. While 60% of SMEs attempt to leverage influencer marketing, a notable portion either abandons or has no intention of using such services (25%), often due to difficulties in identifying and establishing partnerships with suitable brands (Moreno et al., 2021). Furthermore, although many SMEs understand the overall importance of informativeness in building trust and driving conversions (Goodrich et al., 2015), many still struggle to translate that understanding into practical educational content and product usage guides (Baskaran et al., 2021; Chandra et al., 2023).

The reliance on basic marketplaces over owned professional websites highlights this resource gap. Building websites, contracting appropriate influencers, and producing high-quality educational content require financial capital, strategic partnerships, and advanced digital skills, resources that are currently lacking in the South Sulawesi seaweed SME ecosystem. This aligns with findings from Ngo et al. (2024) and Teniyola et al. (2023) regarding the general popularity of low-cost e-WOM, but provides a critical caveat to studies that position websites as the ultimate trust-building tool (Corbitt et al., 2003). This analysis demonstrates that without robust Facilitating Conditions (subsidized digital infrastructure, ecosystem support, and targeted training), the theoretical knowledge of informativeness and credibility cannot be operationalized by resource-constrained SMEs.

CONCLUSION

This study aimed to investigate the implementation of digital marketing strategies by seaweed SMEs in South Sulawesi, Indonesia, focusing on accessibility, interactivity,

credibility, and informativeness. The findings reveal that while these SMEs generally understand the importance of digital marketing and demonstrate a high intention to use it, significant gaps exist between their understanding and their ability to effectively implement these strategies. Specifically, challenges related to limited resources, technical skills, and access to infrastructure hinder their ability to create accessible, interactive, credible, and informative online content.

These findings highlight the need for targeted interventions to support seaweed SMEs in South Sulawesi; these should focus on providing practical, hands-on training in digital marketing skills, improving access to affordable technology and reliable internet, and fostering a supportive ecosystem that encourages knowledge sharing and collaboration. Future research should explore the long-term impact of improved digital marketing implementation on SME performance in this context. Comparative studies across different sectors and regions could also provide valuable insights.

LIMITATION

This study has several limitations. First, the qualitative, multi-case design draws on twenty seaweed-product SMEs from a single province; the patterns reported are therefore context-specific. Second, UTAUT was applied as an interpretive lens rather than tested empirically: its constructs were mapped onto qualitative themes. Finally, the cross-sectional design captures implementation at a single point in time and cannot trace how competencies and the intention–implementation gap evolve. These limitations delimit the scope of the findings and point to clear avenues for future research, including longitudinal and mixed-methods designs that operationalize UTAUT constructs and incorporate the consumer perspective.

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DECLARATION OF CONFLICTING INTERESTS

No potential conflict of interest was reported by the authors.

REFERENCES

- Abdullah, S., & Ampauleng, A. (2024). The micro-influencers effect on the business sustainability of small medium enterprise: The marketing strategy approach. *Quality-Access to Success*, 25(199), 319–329. <https://doi.org/10.47750/QAS/25.199.35>
- Adha, W. M., Mas'ud, A. A., & Erwin, E. (2024). Digital marketing development strategy of Cocoa products. *Revista de Gestão Social e Ambiental [Journal of Social and Environmental Management]*, 18(6), 1–31. <https://doi.org/10.24857/rgsa.v18n6-022>
- Adu, J., Owusu, M. F., Martin-Yeboah, E., Gavidia, L. A. P., & Gyamfi, S. (2022). A discussion of some controversies in mixed methods research for emerging researchers. *Methodological Innovations*, 15(3), 321–330. <https://doi.org/10.1177/20597991221123398>

- Aladin, A., Dewata, E., Sari, Y., & Aryani, Y. A. (2021). The role of small and medium enterprises (SMEs) and economic growth in Indonesia: The VECM analysis. In *4th Forum in Research, Science, and Technology (FIRST-T3-20)* (pp. 95–99). Atlantis Press. <https://doi.org/10.2991/ahsseh.k.210122.017>
- Alsoud, M., Al-Muani, L., & Alkhazali, Z. (2022). Digital platform interactivity and Jordanian social commerce purchase intention. *International Journal of Data and Network Science*, 6(2), 285–294. <https://doi.org/10.5267/j.ijdns.2022.1.009>
- Bappelitbangda Sulsel. (2023). *Bappeda Sulsel 2020 [Bappeda South Sulawesi 2020]*. Bappelitbangda (Badan Perencanaan Pembangunan, Penelitian dan Pengembangan Daerah) Provinsi Sulawesi Selatan. <https://bappelitbangda.sulselprov.go.id/>
- Baskaran, S., Gan, L.C., Nallaluthan, K., Indiran, L., Ishak, M. K., & Yaacob, T. Z. (2021). Determinants of consumer perceived trustworthiness in digital advertising of food and beverage. *International Journal of Academic Research in Business and Social Sciences*, 11(8), 60–77. <https://doi.org/10.6007/IJARBS/v11-i8/10536>
- Bieli, J. T., & Aier, S. (2024). User acceptance of business information systems and their influence on organizational performance: An agent-based model. In *Navigating Digital Transformation: Organizational Change, Digital Work, and Individual Behavior* (pp. 75–93). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-76970-2_6
- Blikra, M. J., Altintzoglou, T., Løvdal, T., Rognsø, G., Skipnes, D., Skåra, T., ..., & Fernández, E. N. (2021). Seaweed products for the future: Using current tools to develop a sustainable food industry. *Trends in Food Science & Technology*, 118, 765–776. <https://doi.org/10.1016/j.tifs.2021.11.002>
- Chaffey, D., & Ellis-Chadwick, F. (2019). *Digital Marketing*. Pearson.
- Chandra, Y. E. N., Firdaus, R. Z., Syamsurizal, S., Ginting, R., Sakinah, R., & Rakhmawati, D. (2023). The utilization of digital marketing and entrepreneurial skills in enhancing business success for MSMEs in Bogor City. *Jurnal Manajemen dan Kewirausahaan [Journal of Management and Entrepreneurship]*, 11(2), 128–136. <https://doi.org/10.26905/jmdk.v11i2.11588>
- Corbitt, B. J., Thanasankit, T., & Yi, H. (2003). Trust and e-commerce: A study of consumer perceptions. *Electronic Commerce Research and Applications*, 2(3), 203–215. [https://doi.org/10.1016/S1567-4223\(03\)00024-3](https://doi.org/10.1016/S1567-4223(03)00024-3)
- Creswell, J. W. (2013). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. Sage Publications.
- Daud, I., Nurjannah, D., Mohyi, A., Ambarwati, T., Cahyono, Y., Haryoko, A. E., ..., & Jihadi, M. (2022). The effect of digital marketing, digital finance and digital payment on finance performance of Indonesian SMEs. *International Journal of Data and Network Science*, 6(1), 37–44. <https://doi.org/10.5267/J.IJDNS.2021.10.006>
- Davis, F. D., & Granić, A. (2024). *The Technology Acceptance Model: 30 Years of TAM*. Springer Cham. <https://doi.org/10.1007/978-3-030-45274-2>
- Fan, L., Wang, Y., & Mou, J. (2024). Enjoy to read and enjoy to shop: An investigation on the impact of product information presentation on purchase intention in digital content marketing. *Journal of Retailing and Consumer Services*, 76, 103594. <https://doi.org/10.1016/j.jretconser.2023.103594>
- Ghahremani-Nahr, J., & Nozari, H. (2021). A survey for investigating key performance indicators in digital marketing. *International Journal of Innovation in Marketing Elements*, 1(1), 1–6. <https://doi.org/10.59615/ijime.1.1.1>
- Goodrich, K., Schiller, S. Z., & Galletta, D. (2015). Consumer reactions to intrusiveness of online-video advertisements: Do length, informativeness, and humor help (or hinder) marketing outcomes?. *Journal of Advertising Research*, 55(1), 37–50. <https://doi.org/10.2501/JAR-55-1-037-050>

- Jain, V., Malviya, B., & Arya, S. (2021). An overview of electronic commerce (e-Commerce). *Journal of Contemporary Issues in Business and Government*, 27(3), 665–670. <https://doi.org/10.47750/cibg.2021.27.03.090>
- Kingsnorth, S. (2022). *Digital Marketing Strategy: An Integrated Approach to Online Marketing* (3rd ed.). Kogan Page.
- Lazić, M., Vukmirović, V., & Domazet, I. (2023). Digital marketing as a tool for inclusive employment. *Marketing*, 54(4), 271–277. <https://doi.org/10.5937/mkng2304271L>
- Lee, J. J., & Meng, J. (2021). Digital competencies in communication management: A conceptual framework of readiness for Industry 4.0 for communication professionals in the workplace. *Journal of Communication Management*, 25(4), 417–436. <https://doi.org/10.1108/JCOM-10-2020-0116>
- Mas'ud, A. A., & Tenriyola, A. P. (2023). HR competency analysis on increasing MSMEs performance in supporting industrial era 4. 0. *Jambura Science of Management*, 5(2), 86–96. <https://doi.org/10.37479/jsm.v5i2.19778>
- Mas'ud, A. A., Adha, W. M., & Erwin, E. (2024). The determinants of cocoa competitiveness in West Sulawesi Province. *Journal of International Conference Proceedings*, 7(2), 403–416. <https://doi.org/10.32535/jicp.v7i2.3450>
- Moreno, L., Demo, G., Rocha, T. V., & Scussel, F. (2021). Take a ride on credibility: The role of brand personality in users' loyalty to virtual brands in the sharing economy. *Revista Eletrônica de Negócios Internacionais: Internext*, 16(2), 221–237. <https://doi.org/10.18568/internext.v16i2.670>
- Mushi, H. M. (2024). Digital marketing strategies and SMEs performance in Tanzania: Insights, impact, and implications. *Cogent Business & Management*, 11(1), 2415533. <https://doi.org/10.1080/23311975.2024.2415533>
- Navia, J. M. A., Parra, C., & Cedeno, J. D. (2023). Digital market orientation and organizational economic performance of service SMEs. *Problems and Perspectives in Management*, 21(2), 400–414. [https://doi.org/10.21511/ppm.21\(2\).2023.38](https://doi.org/10.21511/ppm.21(2).2023.38)
- Ngo, T. T. A., Vuong, B. L., Le, M. D., Nguyen, T. T., Tran, M. M., & Nguyen, Q. K. (2024). The impact of eWOM information in social media on the online purchase intention of Generation Z. *Cogent Business & Management*, 11(1), 2316933. <https://doi.org/10.1080/23311975.2024.2316933>
- Novitasari, A. T. (2022). Kontribusi UMKM terhadap pertumbuhan ekonomi era digitalisasi melalui peran pemerintah [Contribution of MSMEs to economic growth in the digital era through the role of government]. *Journal of Applied Business and Economics*, 9(2), 184–204. <https://doi.org/10.30998/jabe.v9i2.13703>
- Organisation for Economic Co-operation and Development (OECD). (2021). *OECD SME and Entrepreneurship Outlook 2021*. OECD Publishing. <https://doi.org/10.1787/97a5bbfe-en>
- Peter, M. K., & Vecchia, M. D. (2021). The digital marketing toolkit: A literature review for the identification of digital marketing channels and platforms. In *New Trends in Business Information Systems and Technology* (pp. 251–265). https://doi.org/10.1007/978-3-030-48332-6_17
- Puriwat, W., & Tripopsakul, S. (2021). Explaining social media adoption for a business purpose: An application of the UTAUT model. *Sustainability*, 13(4), 2082. <https://doi.org/10.3390/su13042082>
- Reboleira, J., Silva, S., Chatzifragkou, A., Niranjan, K., & Lemos, M. F. L. (2021). Seaweed fermentation within the fields of food and natural products. *Trends in Food Science & Technology*, 116, 1056–1073. <https://doi.org/10.1016/j.tifs.2021.08.018>
- Riantini, R. E., Tjhin, V. U., & Atmojo, R. N. P. (2021). How is the adoption of digital marketing services for smart city application users? *International Journal on Informatics Visualization*, 5(1), 57–62. <https://joiv.org/index.php/joiv/article/view/438>

- Rifani, S. K., Arif, N. F., Wijaya, R. S., & Rahman, F. H. (2025). The impact of digital marketing, market orientation, entrepreneurial competencies, and entrepreneurship characteristics on the fashion MSMEs performance in Yogyakarta. *International Journal of Applied Business and International Management*, 10(1), 84–102. doi:<https://doi.org/10.32535/ijabim.v10i1.3879>
- Sachdeva, P., & Mitra, A. (2023). 17 SME and environmental sustenance: Digital marketing in SMEs via data-driven strategies. In K. Mehta & R. Sharma (Eds.), *Sustainability, Green Management, and Performance of SMEs* (pp. 315–332). De Gruyter. <https://doi.org/10.1515/9783111170022-017>
- Saima, S., & Khan, M. A. (2021). Effect of social media influencer marketing on consumers' purchase intention and the mediating role of credibility. *Journal of Promotion Management*, 27(4), 503–523. <https://doi.org/10.1080/10496491.2020.1851847>
- Tenriyola, A. P., Nurwafiyah, A., & Mas'ud, A. A. (2023). Faktor penggunaan e-commerce dalam meningkatkan kinerja usaha travel di Kabupaten Pangkep [Factors of e-commerce usage in improving travel business performance in Pangkep Regency]. *Management Development and Applied Research Journal*, 6(1), 41–48. <https://doi.org/10.31605/mandar.v6i1.336>
- Veleva, S. S., & Tsvetanova, A. I. (2020). Characteristics of the digital marketing advantages and disadvantages. In *IOP Conference Series: Materials Science and Engineering* (Vol. 940, No. 1, p. 012065). IOP Publishing. <https://doi.org/10.1088/1757-899X/940/1/012065>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. B. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478. <https://doi.org/10.2307/30036540>
- Wisker, Z. L., & Kwiatek, P. (2018). The effects of environmental orientation on firm performance and a mediating role of employee-based brand equity: A comparative study. *International Journal of Applied Business and International Management*, 3(2), 19–36. <https://doi.org/10.32535/ijabim.v3i2.157>
- YachouAityassine, F. L., Al-Ajlouni, M. M., & Mohammad, A. A. S. (2022). The effect of digital marketing strategy on customer and organizational outcomes. *Marketing and Management of Innovations*, 13(4), 45–54. <https://doi.org/10.21272/mmi.2022.4-05>

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