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SOCIAL MEDIA MARKETING AND BUSINESS PERFORMANCE: ANALYZING THE TOE FRAMEWORK AND RELATIONAL CAPABILITY

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ABSTRACT
The rapid growth of social media is presenting micro and small enterprises (MSEs) with new opportunities to expand the market reach, strengthen customer engagement, and enhance competitiveness. In Indonesia where MSEs dominate the business landscape, government initiatives strongly motivate digital adoption while the practical and strategic use of social media marketing (SMM) remains limited. Therefore, this study aimed to investigate the impact of SMM adoption on business performance by extending the Technology–Organization–Environment (TOE) framework with relational capability (RC) as a mediating construct. A quantitative design was adopted using Structural Equation Modeling (SEM) with Smart PLS 4 on survey data from 300 food-based MSEs in Central Java. The results confirmed that organizational and environmental factors significantly influenced behavioral intention and strongly predicted SMM usage. SMM was also found to have a positive impact on both RC and business performance, while RC served as a significant mediator between SMM and performance. This study contributed theoretically by integrating TOE and RC to explain digital adoption outcomes in resource-constrained contexts, and practically by outlining the need for digital upskilling and relationship-building strategies to maximize the performance benefits of SMM adoption.
Keywords: *TOE Model, Behavioral Intention, Use of Social Media Marketing, Relational Capability, Business Performance.*

1. Introduction

Modern marketing plans are expected to include social media marketing, particularly for Indonesia's Micro and Small Enterprises (MSEs). Social media is a technical advancement that presents substantial chances to increase client loyalty, sales, and visibility (Zoppelletto et al., 2020). The significance of social media marketing for MSEs lies in its potential to help these businesses overcome various challenges in their transition to digital operations, such as limited financial resources, insufficient human capital, low technological literacy, and difficulties in identifying the most suitable digital business model compared to larger-scale enterprises (Jiménez-Zarco et al., 2021). Part of the many options for product promotion is social media marketing, since companies need to increase overall performance and stay competitive (Bouwman et al., 2019; Li, 2021). It is impossible to leave MSEs as the businesses require organized training programs, quantifiable capacity building, the ability to form strong relationships, and instruction on the advantages of digital technology. Social media marketing is relatively cost-effective and accessible to learn (Maiorescu et al., 2020), providing a broad reach, precise audience targeting, and increased brand awareness due to the ubiquitous accessibility. By using social media marketing, businesses can interact directly with customers (Abideen Ayokunmi et al., 2022) positioning it as a transformative technological innovation that strengthens the competitiveness of MSEs (Sharabati et al., 2024).

MSEs dominate the number of businesses in developing countries such as Indonesia, prompting governments to prioritize initiatives to improve the growth and sustainability. This reflects the recognition of the potential of MSEs to motivate the community's economic welfare (Quaye & Mensah, 2019). In particular, MSEs contribute significantly to gross domestic product (GDP) and considerably influence national economic growth.

A recent publication from the Ministry of Communication and Informatics (Kominfo) showed that 67% of Indonesian MSEs continued to encounter challenges in maintaining operations. The government has initiated a digital technology adoption program, aiming to integrate 30 million MSEs into the digital ecosystem by 2024. However, the analysis shows a considerable implementation gap, stating that by mid-2024, only around 27 million MSEs have been effectively onboarded (Kominfo, 2024). Within this cohort of digitally registered MSEs, the effective and strategic use of social media marketing (SMM) remains a significant challenge. This is evident from their limited engagement on platforms such as Instagram, where many accounts display minimal business-related activity despite being established for several years. The pattern suggests that the primary obstacle lies not in the initial adoption of digital technology, but in the sustained and effective use of these tools to enhance business performance and address long-term sustainability objectives.

The high social media adoption rate by businesses in other countries underscores the efficacy as a marketing tool, reaffirming the relevance in contemporary business practices (Mahmudan, 2021). Therefore, the Indonesian government has prioritized digital transformation for MSEs to ensure growth, development, and competitive resilience. Collaboration between MSEs and government entities is essential to realize this transformative vision.

Social media consists of a diverse range of platforms powered by Web 2.0 technology, which facilitates user interaction through shared content (Abed, 2020). Business owners use these platforms for marketing purposes, which is widely recognized as social media marketing (Rehman et al., 2022). Through social media marketing, companies can promote products, communicate services, and share information through mobile devices (A. L. Ahmed & Apparatus, 2018; Sani et al., 2023). By adopting a data-driven marketing strategy, businesses can interact with, engage, and inform customers while correlating with the organization's innovation objectives to improve business performance (Arora & Rathi, 2019).

According to a 2024 Indonesian survey (Annur, 2024), WhatsApp is the most effective platform for promoting products and services with 90.9% of those surveyed in favor of it. Instagram came in second place with 85.3% of businesses voting for it, followed by Facebook with 81.6% and TikTok with 73.5%. These results are consistent with earlier studies that examined the influence of the Technology-Organization-Environment (TOE) model on social media adoption and outlined the advantages of social media integration for corporate success (Chatterjee et al., 2021; Hiran & Henten, 2020). Considering that practically everyone is already using social media as well as organizational and contextual factors are more important, the findings imply that technology has little bearing on the adoption of social media.

Although previous publications have enhanced the understanding of social media marketing adoption through frameworks such as the TOE and Technology Acceptance Model (TAM), it is limited in two significant aspects, which are the primary study gaps addressed. For instance, previous studies including Abed (2020), Ahmad et al. (2019), AlBar & Hoque (2019), Khayer et al. (2021), and Tripopsakul (2018) have primarily focused on adoption intention rather than assessing the actual performance results of social media marketing. The fundamental mechanisms by which adoption leads to enhanced outcomes are inadequately examined. Relational aptitude defined as the capacity to establish and maintain enduring relationships with consumers has been largely overlooked as a mediating factor, despite showing strategic significance for MSEs. Therefore, this study addresses existing inadequacies by enhancing the TOE framework through the inclusion of relational competence as a mediator and empirically investigates the impact of social media marketing adoption on business performance in MSEs in Indonesia. To address the gaps, this study aims to achieve the following objectives.

1. To investigate the influence of social media marketing implementation on the commercial performance of MSEs in Indonesia, with particular focus on the Centre of Java.
2. To examine the mediating function of relational competence in the association between social media marketing adoption and business performance.
3. To enhance and substantiate the TOE framework by the incorporation of relational capabilities, using Structural Equation Modeling (SEM) as the analytical methodology.

2. Literature Review

2.1 TOE Model

The TOE framework (Tornatzky & Fleischer, 1990) provided a comprehensive lens for analyzing technology adoption, particularly within MSEs. The framework assessed the business's preparedness for IT adoption, focusing on technologies such as e-business and e-commerce (Lita et al., 2024). Although this technological dimension remained relevant, recent studies outlined the more decisive influence of organizational and environmental dimensions in shaping social media adoption and the impact on business outcomes (Chairunisa et al., 2021; Fu et al., 2024; Nuseir & Refae, 2022; Xiang et al., 2023). This evolution in emphasis underscored the enduring relevance of the TOE framework while simultaneously outlining the need for context-specific investigations of MSEs in the social media era.

2.2 Organizational Factors (OF)

In the TOE framework, the organizational context was crucial for technology adoption in MSEs. Recent studies (2019–2024) consistently emphasized owner support and organizational readiness as critical factors. Owner support reflected the centralized decision-making in MSEs (El-Haddadeh, 2020), while organizational readiness comprised infrastructure and employee competencies (Ngah et al., 2020). Typically, owner support was operationalized through willingness to invest and champion digital adoption (Abed, 2020; Pillai & Sivathanu, 2020), while readiness combined resource availability and technical expertise (Ahmad et al., 2019; Maroufkhani et al., 2020). Conflicting findings suggested that contextual nuances existed, as owner support was less decisive than access to skilled personnel in settings where social media was pervasive (Lutfi, 2022; Qalati et al., 2022). This implied that the influence of OF was contingent on both technological and market contexts. Therefore, examining organizational context in MSEs was essential to clarify whether owner support and readiness remained decisive in settings where resources were scarce and social media was widely available.

H1: The Organizational Factors (OF) had a positive impact on the behavioral intention to use social media marketing.

2.3 Environmental Factors (EF)

The environmental context within the TOE framework comprised external pressures and incentives that influenced technology adoption, competitive pressure, government support, and regulatory policies. A review of recent literature showed inconsistent findings regarding the impact of SMM adoption in MSEs, which appeared to be connected to contextual and operationalization differences. Studies in developing economies often operationalized competitive pressure through perceptions of rivals' SMM use and the fear of losing market share (Chege & Wang, 2020a; Pillai & Sivathanu, 2020), finding a positive correlation with adoption intention. Government support was also typically measured as the perceived availability and accessibility of training, subsidies, or digital infrastructure (Oliveira et al., 2019; Wong et al., 2020). However, the mere presence of support did not guarantee influence. Publications in specific contexts, such as Indonesia, suggested that the effectiveness of the support was a more critical factor than the availability. Khayer et al. (2021) and initial observations in the Indonesian context showed that support programs often failed to translate into adoption because mismatches with MSEs' actual needs or a lack of follow-up, leading to non-significant findings.

Synthesizing the conflicting results, the disparity originated from whether EF were measured as abstract perceptions or as tangible, effectively used resources. This outlined a significant gap where the need to evaluate EF not only on the presence, but on the contextual relevance and practical effectiveness for MSEs in a specific setting such as Indonesia, where government digitalization programs were aggressive and faced implementation challenges (Kominfo, 2024).

H2: Environmental Factors positively influenced the behavioral intention to use social media marketing among Indonesian MSEs.

2.4 Behavioral Intentions

Behavioral Intention (BI) was a well-established construct in technology adoption literature, defined as the degree to which an individual or organization plans to perform a specific behavior (Venkatesh & Davis, 2000). In the context of SMM, BI represented the conscious plan and motivation to actively use social media platforms for marketing purposes. The operationalization of BI across studies was significantly consistent, typically being measured through multi-item scales that captured the perceived possibility to use SMM, the effort planned to invest in it, and the intention to prioritize it over traditional marketing methods (Etemadi et al., 2020; Puriwat & Tripopsakul, 2021). Extensive studies, building on foundational theories such as the TAM and Unified Theory of Acceptance and Use of Technology (UTAUT), confirmed BI as a crucial mediator and a strong proximal predictor of actual usage behavior (Shahbaz et al., 2019; Venkatesh et al., 2016). This relationship holds in the SMM context, where strong intentions have been shown to directly translate into tangible adoption and usage (Puriwat & Tripopsakul, 2021). More recent evidence reinforced this view where Fu et al. (2024) showed that BI not only drove the adoption of digital marketing tools but also exerted a direct positive impact on MSEs performance, extending BI's role beyond usage prediction to business outcomes.

H3: Behavioral Intention positively influenced the use of social media marketing.

2.5 Use of Social Media Marketing and Business Performance

Business performance, commonly operationalized through both objective indicators (e.g., sales growth, profitability) and subjective measures (e.g., customer satisfaction, reputation), was consistently connected to Social Media Marketing (SMM) adoption (Khaki & Khan, 2024; Syaifullah et al., 2021). Evidence showed that performance gains originated less from the frequency of SMM use than from the development of Relational Capability, enabling personalized communication and customer engagement (S. S. Ahmed et al., 2020; Sani et al., 2023). Although studies confirmed the mediating role of RC in fashion, restaurant, and hospitality contexts (Foltean et al., 2019; Lepkowska-White et al., 2019; Yasa et al., 2021), publications on food-based MSEs remained scarce, despite distinct reliance on trust and consumer confidence. This outlined the importance of investigating how SMM and RC jointly shaped business performance in Indonesian food MSEs. Therefore, this study aimed to clarify how SMM adoption and relational capability jointly influenced business performance in MSEs.

H4: Use of social media marketing positively influenced relational capability.

H5: Use of social media marketing positively influenced business performance.

2.6 Relational Capability

Relational Capability (RC) was understood as a business's ability to establish and sustain long-term customer relationships. Behavioral Intention positively influenced the use of social media marketing (Gölgeci et al., 2019; Pigola & da Costa, 2024). In the context of MSEs, RC was typically operationalized through responsiveness to customer interactions on social media and efforts to personalize communication (Yasa et al., 2021). In contrast, studies in the hospitality sector often emphasized indicators such as the effectiveness of complaint handling and the implementation of loyalty programs (Lepkowska-white et al., 2019; Nuseir & Refae, 2022). Despite these variations, the underlying concept remained consistent, where RC reflected the capacity to foster meaningful two-way interactions.

Empirical evidence further reinforced RC's role as a mediator in connecting Social Media Marketing (SMM) with business performance. Marolt et al. (2022) showed that RC functioned as a critical conduit that enabled the benefits of SMM to translate into tangible performance improvements. Similarly, Yasa et al. (2021) validated the mediating role of RC in the context of fashion MSEs. A significant study gap persisted in food-related MSEs where sector-specific characteristics, particularly the centrality of consumer trust in food safety necessitate further exploration. Therefore, this study aimed to investigate the mediating role of RC in the relationship between SMM and business performance within food-based MSEs.

Consequently, testing RC in food-related MSEs addressed this gap and determined whether relational dynamics mediate the connection between SMM performance and this context.

H6: Relational Capability positively influenced Business Performance.

H7: Relational Capability mediated the relationship between Use of Social Media Marketing and Business Performance.

3. Methodology

3.1 Population and Sample

With nearly 4 million micro-businesses and 300,000 small businesses operating across various industries, Central Java was the second-largest province in Indonesia in terms of the number of MSEs, according to data from the Cooperatives and MSMEs Office as of 2024. In contrast, there were about 40,000 small businesses and 400,000 micro-enterprises in Yogyakarta, the closest province in the Central Java region. Because Central Java was one of the regions with the highest concentration of MSEs, this study focused on MSEs in the area.

All MSEs in Central Java, Indonesia, were included in the study population. Purposive sampling with the following criteria was used to conduct the sampling using non-probability sampling methods (Sekaran, Uma; Bougie, 2019). The selected business was a food MSEs that had been in operation for a minimum of three years, used social media marketing for one year, and maintained a social media marketing account on behalf of the business unit. Sample size referenced by Joseph Hair & Alamer (2022) which was a 300-sample study was adopted to achieve more accurate results. This study required the largest 5-fold path-oriented method for latent construction in structural models, leading to 300 micro- and small-scale business samples.

3.2 Data Collection Methods

A total of 425 questionnaires were distributed to MSEs over a period of three months. The questionnaires were distributed through an offline survey conducted through face-to-face meetings with regional entrepreneurs. Distribution was carried out in all food sectors in Central Java, Indonesia, with each respondent given three days to complete the questionnaire. However, only 380 questionnaires were returned upon collection. After verification, only 300 questionnaires were fully completed and suitable for analysis. Therefore, the data available for analysis in this study consisted of 300 respondents.

3.3 Ethical Consideration

This study was conducted in accordance with the ethical principles of study in the social sciences and followed the institutional guidelines for ethics at Universitas Andalas. Formal ethical approval was not required for this type of publication. All respondents were informed about the purpose of the study, the voluntary nature of participation, and the right to withdraw at any stage without consequences. Informed consent was obtained verbally before completing the questionnaire. Furthermore, confidentiality and anonymity were maintained by not collecting any personally identifiable information, ensuring that the data were used solely for academic purposes.

3.4 Questionnaires and Instruments

In this study, a quantitative methodology was adopted. The respondents' perceptions of Organizational and Environmental (TOE) adoption, behavioural intentions, social media marketing use, relationship capabilities, and company performance were the five primary components of the questionnaire. Organization and environment were two factors that were crucial to the TOE adoption process. Eight dimensions were used to define organizational variables namely (1) Social media marketing use, (2) social media marketing initiation, (3) prioritizing social media marketing as a strategic objective, (4) interest in social media marketing issues, (5) lack of information technology infrastructure, (6) lack of financial resources, (7) lack of social media analysis skills, and (8) lack of skilled human resources.

The environment's construction comprised nine dimensions namely (1) the impact of competitor actions, (2) competitive pressure, (3) competitors' use of social media marketing, (4) existing community institutions, (5) the availability of sufficient technical support, (6) vendors, (7) government policies, (8) government incentives for procurement contracts, as well as (9) privacy and security-related business laws. The decision, intention, planning, and implementation of using social media marketing when business needs occurred were the four characteristics that

constituted behavioral intent variables. The variables of using social media marketing included seven dimensions namely (1) running a business, (2) regular communication with stakeholders (suppliers, customers, related departments), (3) daily activities related to business operations, (4) benefits obtained from running a business, (5) product promotion assistance, (6) competitors using social media marketing, and (7) perceived benefits of social media marketing for business growth. The variable of relational ability consists of five dimensions, namely (1) the creation of mutually beneficial relationships, (2) the ability to maintain good relationships, (3) effective interaction, (4) collaborative problem-solving, and (5) achieving objectives through mutually beneficial agreements. Business performance variables comprised five key dimensions, namely (1) sales volume growth, (2) increased operating profit, (3) customer base expansion, (4) positive customer feedback, and (5) enhanced product brand recognition.

A 5-point Likert scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree," was used to measure perceptions of TOE adoption, behavioral intent, social media marketing usage, relational abilities, and corporate performance. According to Chatterjee et al. (2022), da Silva Falcão et al. (2019), Dubey et al. (2019), Gupta et al. (2021), and Sadiq et al. (2020), clustering studies frequently used the Likert scale. The operationalization of the variables adopted in this investigation was shown in Table 1.

Table 1 - Variable Operationalization.

Variable	Indicators	Source
Organizational factors	Top Management Support 1. Top management motivates the use of social media marketing in business activities. 2. Top management provides support for the initiation of the use of social media marketing in business. 3. Top management drives social media marketing as a strategic priority in business. 4. Top management is interested in the issues surrounding the use of social media marketing in business. Organization Readiness 5. The lack of financial resources is an obstacle for my business to exploit the use of social media marketing to the fullest. 6. The lack of information technology infrastructure is an obstacle for my business to exploit the use of social media marketing to the fullest. 7. The lack of social media analytics capabilities is an obstacle for my business to exploit the use of social media marketing to the fullest. 8. The lack of skilled resources is an obstacle for my business to use social media marketing to its fullest.	(Maroufkhani, Tseng, et al., 2020)
Environmental factors	Competitive Pressure 1. My business choice to use social media marketing is mainly influenced by the actions of competitors in the industry. 2. My business is under pressure from competitors to use social media marketing. 3. My business uses social media marketing in response to what competitors have done. External Support 4. Existing community organizations can provide the training needed to use social media marketing. 5. Existing community organizations can provide effective technical support for social media marketing. 6. Vendors are active in social media marketing. Government Regulation 7. Government policies have supported my business using information technology (such as social media marketing). 8. The government incentivizes procurement contracts through bidding, training, and funding for social media marketing.	(Maroufkhani, Tseng, et al., 2020)

Variable	Indicators	Source
	9. There are several business laws (business laws) that address the security and privacy of the use of social media marketing.	
Behavioral intentions	1. I am determined to use social media marketing in my business in the future. 2. I wish I could use social media marketing in my business as soon as possible. 3. I plan to use social media marketing in my business soon. 4. I will use social media marketing when my business needs it.	(Puriwat & Tripopsakul, 2021)
Use social media marketing	1. I often use social media marketing to run my business. 2. I regularly use social media marketing to communicate with stakeholders (suppliers, customers, and related departments). 3. I have used social media marketing in my daily business activities. 4. I have benefited from running my business by using social media marketing. 5. Social media marketing helps promote products 6. Since competitors use social media marketing, I use it too. 7. Using social media marketing is great for my business development.	(Chatterjee & Kumar Kar, 2020) (Puriwat & Tripopsakul, 2021)
Relational Capability	1. My business can create mutually beneficial relationships with new customers. 2. My business can maintain good relationships with existing customers. 3. My business can effectively interact with customers through social media marketing. 4. My business can find solutions to customer problems together. 5. My business can achieve its goals through mutually beneficial transactional customer relationships.	(Yasa et al., 2021)
Business performance	1. The growth of sales volume has increased in the last three years 2. Increase in operating profit in the last three years 3. Growth in the number of subscribers in the last three years 4. Positive customer reviews have increased in the last three years 5. Product brands have become increasingly recognizable to customers in the past three years, as evidenced by the increasing number of followers, likes, shares, and comments	(Yasa et al., 2021)

3.5 Data Analysis Methods

After determining the measurement parameters and the structural model in the first step, the study created a suitable bootstrap estimate. This study aimed to assess the total and direct impact of variable constructions to better understand the relationship between the two. Two tests were used and analyzed using SPSS, namely instrumental testing and data analysis based on the conceptual framework. SEM was further applied using SmartPLS (Partial Least Squares) 4.0 software for analysis.

3.6 Instrument Testing

The evaluation of convergent validity in Table 2 aimed to assess both indicator and construct reliability. Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) were calculated. All reliability values exceeded 0.70, which was the widely recommended threshold. Cronbach’s Alpha was used to analyze the data collected, following the recommendations of Hair et al. (2019), stating that a CR threshold of a minimum of 0.70 was acceptable. As shown in Table 2, the CR criteria have been satisfied. Composite Reliability could

also be considered an alternative to Cronbach's Alpha, as CR values were generally slightly higher, though the differences were not substantial (Joseph Hair & Alamer, 2022).

The AVE values were used to assess convergent validity. As shown in Table 2, all AVE values were above the 0.50 cutoff point suggested by Hair et al. (2019), signifying that the constructs fulfil the requirements for convergent validity. Although several indicators (e.g., EF3–EF6 and RC1) showed outer loadings slightly below 0.70 but above 0.60, remained acceptable. According to Hair et al. (2019), items with loadings between 0.60 and 0.70 were retained when the construct's AVE and CR values met the minimum thresholds of 0.50 and 0.70, respectively (JF Hair et al., 2019). Since all constructs in this study surpassed these benchmarks, no indicators were eliminated. This decision ensured both content validity and the theoretical comprehensiveness of the constructs.

Table 2 - Reliability and Validity of Constructs (Factor Loadings, Cronbach's Alpha, Composite Reliability, AVE)

Building	Indicators	Loading	Cronbach's Alpha	CR	AVE
Organizational Factors (OF)	OF1	0.862	0.933	0.933	0.683
	OF2	0.872			
	OF3	0.860			
	OF4	0.862			
	OF5	0.840			
	OF6	0.790			
	OF7	0.752			
	OF8	0.724			
Environmental Factors (EF)	EF1	0.845	0.905	0.923	0.565
	EF2	0.824			
	EF3	0.633			
	EF4	0.638			
	EF5	0.625			
	EF6	0.631			
	EF7	0.851			
	EF8	0.814			
	EF9	0.840			
Behavioral Intent (BI)	BI1	0.780	0.842	0.845	0.679
	BI2	0.871			
	BI3	0.803			
	BI4	0.838			
Use Social Media Marketing (USMM)	USMM1	0.886	0.951	0.953	0.774
	USMM2	0.901			
	USMM3	0.867			
	USMM4	0.888			
	USMM5	0.890			
	USMM6	0.862			
	USMM7	0.864			
Relational Capability (RC)	RC1	0.692	0.848	0.862	0.624
	RC2	0.834			
	RC3	0.824			
	RC4	0.864			
	RC5	0.717			
Business Performance (BP)	BP1	0.789	0.789	0.797	0.545
	BP2	0.657			
	BP3	0.705			
	BP4	0.819			
	BP5	0.710			

Source: Primary data of Smart PLS

Overall, all measurement instruments successfully met the requirements for validity and reliability. Construct reliability was confirmed as both Cronbach's Alpha and Composite Reliability (CR) values exceeded the recommended threshold of 0.70. Convergent validity was

also supported as the AVE values were above 0.50 (JF Hair et al., 2019). These results showed that the instruments used were reliable and valid for measuring the constructs in this study.

3.7 Respondent Profile

Table 3 - Respondent Profiles.

Characteristic	Group	Freq	%
Condition	Owner	210	70.0
	Manager	90	30.0
Business duration	3 years	66	22.0
	More than 3 years - 5 years	150	50.0
	More than 5 years	84	28.0
Number of employees	1-5 people	180	60.0
	6-19 people	120	40.0
Total assets	< 1 billion	249	83.0
	1.1 billion - 5 billion	51	17.0
Business turnover	Less than IDR 83,000,000	61	20.3
	IDR 84,000,000 - IDR 166,000,000	99	33.0
	IDR 167,000,000 - IDR 416,000,000	123	41.0
	IDR 417,000,000 - IDR 1,250,000,000	17	5.7
Age	17 to 27 years old	39	13.0
	28 to 43 years old	145	48.3
	44 to 59 years old	116	38.7
Gender	Man	143	47.7
	Woman	157	52.3
Education	High school graduate equivalent	40	13.3
	Diploma graduates	40	13.3
	Bachelor degree	220	73.3
Social media accounts	2 Social media	46	15.3
	3 Social media	69	23.0
	> 3 social media	185	61.7
Long duration of social media use	1 year - 2 years	14	4.7
	More than 2 years - 3 years	21	7.0
	More than 3 years	265	88.3
Menu variants	1 variants	12	4.0
	2 variants	44	14.7
	3 variants	109	36.3
	> 3 variants	135	45.0
Update content	Within a few days	267	89.0
	Within a week	33	11.0
Fill out the form	Product promotional videos	188	62.7
	Product promotional photos/images	112	37.3

Source: Processed primary data (2025)

This subsection outlined the demographic and business characteristics of the surveyed MSEs. Table 3 presented the profile of the respondents, as most business owners have been operating for 3–5 years and typically hired 1–5 workers. The majority report total assets of less than IDR 1 billion, with annual turnover ranging from IDR 167,000,000 to IDR 416,000,000. Business owners were predominantly female, aged between 28 and 43 years, and hold a minimum of a bachelor's degree. In terms of digital engagement, most respondents managed more than three social media accounts and have been active users of these platforms for over three years. Regarding product offerings, nearly half of the businesses provided more than three menu variants. In addition, digital marketing practices appeared to be highly intensive with frequent content updates, particularly in the form of promotional videos uploaded daily.

Before discussing the hypothesis testing, the explanatory power and predictive relevance of the structural model were assessed using R-square (R^2), effect size (f^2), and predictive relevance (Q^2) values. R^2 showed the proportion of variance explained by the exogenous constructs in each endogenous construct, while f^2 measured the impact of an exogenous construct on an endogenous construct by evaluating the change in R^2 when the exogenous construct was omitted from the model. Q^2 derived from the blindfolding procedure further assessed the predictive relevance of

the model. According to Hair et al. (2019), R^2 values of 0.25, 0.50, and 0.75 were categorized as weak, moderate, and substantial, respectively, f^2 values of 0.02, 0.15, and 0.35 showed small, medium, and large effect sizes, and Q^2 values above zero confirmed predictive relevance.

Table 4 - R^2, f^2, and Q^2 Results of the Structural Model

Variable	R^2	f^2 (Effect Size)	Q^2 (Predictive Relevance)	Interpretation
Behavioral Intention (BI)	0.618	EF → BI = 0.183 (medium); OF → BI = 0.159 (medium)	0.413	Moderate explanatory power, predictive relevance confirmed
Use of Social Media Marketing (USMM)	0.396	BI → USMM = 0.655 (large)	0.303	Moderate explanatory power, predictive relevance confirmed
Relational Capability (RC)	0.331	USMM → RC = 0.495 (large)	0.201	Moderate explanatory power, predictive relevance confirmed
Business Performance (BP)	0.240	RC → BP = 0.137 (medium); USMM → BP = 0.017 (small)	0.125	Weak to moderate explanatory power, predictive relevance confirmed

Source: Primary data of Smart PLS

The results in Table 4 showed that the model had acceptable explanatory power and predictive relevance. Behavioral Intention (BI) showed an R^2 of 0.618, suggesting a moderate level of variance explained by Organizational Factors (OF) and Environmental Factors (EF). Both OF and EF possessed medium effect sizes (f^2 = 0.159 and 0.183), showing that the constructs have a significant influence on BI.

The use of Social Media Marketing (USMM) yielded an R^2 of 0.396, reflecting moderate explanatory power, with BI exerting a large effect (f^2 = 0.655), confirming the central role as a predictor. Relational Capability (RC) showed an R^2 of 0.331, with USMM contributing a large effect size (f^2 = 0.495), outlining the strong influence of social media marketing usage on building relational capabilities.

Business Performance (BP) achieved an R^2 of 0.240, which was categorized as weak to moderate explanatory power. RC exerted a medium effect (f^2 = 0.137) on BP, while the direct effect of USMM on BP was relatively small (f^2 = 0.017). Despite this, the Q^2 values for all constructs were above zero, confirming the predictive relevance of the model. Overall, the combination of R^2, f^2, and Q^2 values showed that the structural model had satisfactory explanatory strength and predictive capability, with BI and USMM evolving as key drivers within the framework.

3.8 Structural and Mediation Analysis

The results of the structural model assessment were summarized in Table 4. The findings showed that OF positively and significantly influenced Behavioral Intention (BI) (β = 0.431; T = 7.765; $p < 0.01$). Similarly, EF exerted a significant positive effect on BI (β = 0.430; T = 8.192; $p < 0.01$). BI significantly predicted the Use of Social Media Marketing (USMM) (β = 0.629; T = 14.707; $p < 0.01$). USMM had positive effects on both Relational Capability (RC) (β = 0.570; T = 12.009; $p < 0.01$) and Business Performance (BP) (β = 0.395; T = 6.169; $p < 0.01$). Finally, RC made a significant contribution to BP (β = 0.395; T = 6.169; $p < 0.01$).

3.9 Mediation

Both Table 4 and Figure 1 presented the structural correlations. The Sobel test and SmartPLS bootstrapping confirmed that Relational Capability (RC) mediated the relationship between the Use of Social Media Marketing (USMM) and Business Performance (BP), with a significant indirect effect (β = 0.227; T = 5.888; $p < 0.05$).

Table 5 - Structural Relationships.

Hypothesis	Path Coefficient	T Value	P Value	Result
Organizational Factors (OF) → Behavioral Intention (BI)	0.431	7.765	0.000	Support
Environmental Factors (EF) → Behavioral Intention (BI)	0.430	8.192	0.000	Support
Behavioral Intention (BI) → Use Social Media Marketing (USMM)	0.629	14.707	0.000	Support
Use Social Media Marketing (USMM) → Relational Capability (RC)	0.570	12.009	0.000	Support
Relational Capability (RC) → Business Performance (BP)	0.395	6.169	0.000	Support
Use Social Media Marketing (USMM) → Business Performance (BP)	0.140	2.000	0.023	Support
Use Social Media Marketing (USMM) → Relational Capability (RC) → Business Performance (BP)	0.227	5.888	0.000	Support

Source: Primary data of Smart PLS
*Note: *** p < 0.001, ** p < 0.01, * p < 0.05"*

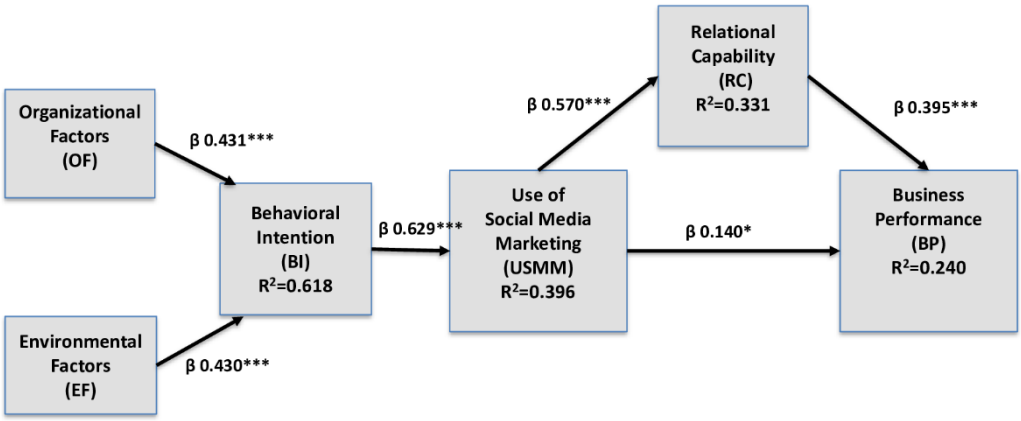

Fig. 1. Study model integrating the TOE framework with relational capability (RC) as a mediator of SMM adoption and business performance.

4. Results and Discussion

This study analyzed the factors influencing the adoption of social media marketing (SMM) among the food MSEs in Indonesia by integrating the TOE frameworks with relational capability (RC). The structural model showed a satisfactory explanatory power for Behavioral Intention (R^2 = 0.618), Use of Social Media (R^2 = 0.396), Relational Capability (R^2 = 0.331), and Business Performance (R^2 = 0.240). These findings outlined that SMM adoption was not only determined by technical and OF but also by the ability to build and sustain customer relationships.

4.1 OF and EF

OF (organizational readiness and top management support) were found to influence the behavioral intention to adopt SMM positively. This correlated with previous findings (Chege & Wang, 2020; Cruz-Jesus et al., 2019), which emphasized the role of owner leadership in decision-making within small businesses. However, the results differed from those of Asiaei and Nor (2019), who reported weak managerial support in Malaysia. The differences were attributed to cultural and economic contexts, in which Indonesian micro-enterprise owners tended to be more adaptable to external pressures.

EF particularly government regulations and external support also proved significant. This finding contrasted with the results of Wong et al. (2020), who found no effect of competition on Malaysian MSEs. In Indonesia, government initiatives combined with digital literacy programs and market pressures and and targeted funding schemes drive SMM adoption. These differences highlight how organizational readiness and managerial support interact with environmental and relational factors, suggesting that the TOE framework should consider such contextual nuances. Overall, the findings not only confirm prior research but also contextualize SMM adoption within Indonesia's socio-economic and regulatory landscape for micro and small enterprises.

4.2 Behavioral Intention and Use of Social Media Marketing

Behavioral intention evolved as the strongest predictor of SMM use ($\beta = 0.629$, $p < 0.01$). Owners who perceived greater benefits were more inclined to consistently use social media, consistent with the TOE model (Etemadi et al., 2020). This suggested that adoption decisions were not merely responses to external pressures but rather deliberate choices based on beliefs about business value. As outlined by Huang (2023), the perceived success of competitors further reinforced adoption intention. The findings of Pigola and da Costa (2024) also suggested that enterprises were facing constantly shifting customer expectations in the digital age. Therefore, food MSEs must reshape the relational capability by leveraging social media for customer relationship management (CRM) to secure a competitive advantage, which drove business performance. Relational s-commerce capability comprised a set of actions that enabled enterprises to outperform competitors by helping customers become better informed and evaluate products or services before making a purchase. Moreover, by meeting customer expectations and establishing a strong brand reputation, these enterprises could sustain long-lasting customer relationships (Marolt et al., 2022; Yasa et al., 2021). For Indonesian food MSEs, relational capability became a crucial resource for transforming digital interactions into customer loyalty.

4.3 Impact on Business Performance

SMM exhibited both a direct effect ($\beta = 0.140$, $p < 0.05$) and an indirect effect through RC ($\beta = 0.227$, $p < 0.05$) on business performance. The more substantial mediating effect outlined that the success of SMM was highly contingent on relational capability. These findings were consistent with Tajvidi and Karami (2021) and Chatterjee et al. (2022). However, this study contributed a novel perspective by positioning RC as a strategic mechanism that amplified the impact of SMM in the context of food MSEs in Indonesia.

5. Implication

5.1 Theoretical Implication

Theoretically, this study extended the TOE framework by positioning relational capability (RC) as a critical mediator connecting SMM adoption to business performance. By integrating TOE with relational capability theory, this study provided a more nuanced understanding of the mechanism through which technology adoption translates into competitive advantage for micro-enterprises. The findings contributed to the digital entrepreneurship literature by showing that technology adoption was insufficient without the corresponding development of relational competencies in resource-constrained contexts.

5.2 Practical and Policy Implications

For micro-enterprise owners, the findings emphasized the need for a structured method to SMM that went beyond promotional activities. Owners should develop interactive and responsive content to build long-term customer relationships, while regularly monitoring engagement metrics to identify best practices suited to the business characteristics. For local governments and business associations, this study outlined the need for integrated mentoring programs. Digital upskilling programs combining technical SMM training with relational capability development were urgently needed. Integrated funding schemes for access to professional digital marketing tools should also be considered, particularly for high-growth potential businesses. Chambers of commerce could contribute by creating platforms for sharing SMM best practices among MSEs, while organizing mobile mentoring clinics that provided timely support for relational capability

development. MSEs development programs should fundamentally integrate digital marketing training with relational capability enhancement to generate more tangible business outcomes.

6. Conclusion

In conclusion, this study provided empirical validation for a comprehensive theoretical framework integrating TOE dimensions with Relational Capability (RC) to explain social media marketing (SMM) adoption patterns in Indonesia's food MSEs. The analysis showed three fundamental conclusions that collectively advance the understanding of digital transformation in informal economies. The results showed that contextual factors significantly influenced technology adoption decisions. Specifically, organizational readiness ($\beta = 0.431$, $p < 0.01$) and environmental support mechanisms ($\beta = 0.430$, $p < 0.01$) functioned as crucial determinants of behavioral intention toward SMM. This evidence reinforced the robustness of the TOE framework in predicting technology adoption behavior even in resource-constrained micro-enterprise settings. Furthermore, the study established behavioral intention as the predominant driver of actual SMM implementation ($\beta = 0.629$, $p < 0.01$), confirming that technology adoption constituted a conscious strategic choice consistent with the TOE framework's emphasis on organizational decision-making processes. These results validated the cognitive mechanisms underlying technology adoption within the unique context of MSEs.

The most profound insight evolved from the mediating role of relational capability, which explained the transformation of technological adoption into tangible business outcomes. The significantly stronger indirect pathway ($\beta = 0.227$, $p < 0.05$) compared to the direct effect ($\beta = 0.140$, $p < 0.05$) showed that SMM's performance implications were predominantly realized through enhanced relationship-building capacities rather than through technological deployment alone. Collectively, these findings presented a more sophisticated understanding of digitalization processes in MSEs, emphasizing the synergistic interplay between technological infrastructure, organizational preparedness, and relational competencies. The TOE-RC framework developed in this study offered a valuable theoretical lens for examining digital transformation across various contexts in developing economies.

6.1 Limitations and Future Study

This study was limited by the reliance on cross-sectional survey data, which introduced perceptual biases. Future studies should adopt longitudinal designs incorporating digital trace data to capture more sustainable adoption patterns. Furthermore, cross-country comparisons were recommended to enrich the understanding of how cultural and economic contexts shaped SMM adoption. Expanding this inquiry through mixed-methods and applying the model to different sectors would also be valuable. Specifically, the study recommended the following (1) testing the TOE-RC framework in other Indonesian provinces with distinct characteristics, (2) using longitudinal designs with actual engagement metrics, and (3) applying the framework to other digital tools such as e-commerce platforms or mobile payment systems.

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