



The determinants of micro, small, and medium entrepreneurial behavior to use social media: Technology-organization-environment framework

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ABSTRACT

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Micro, small, and medium-sized businesses (MSMEs) in Indonesia have adopted digital technology at a much faster pace as a result of the COVID-19 epidemic, especially when it comes to using social media for marketing and communication. This study aims to investigate these factors using the Technology-Organization-Environment (TOE) framework, focusing on the post-COVID-19 period. A total of 255 business owners from 38 provinces in Indonesia were selected through snowball sampling to participate in the study. Data was collected via a structured questionnaire survey, and the proposed hypotheses were analyzed using SmartPLS 4.0, a variance-based structural equation modeling (SEM) software. The findings indicate that technological, organizational, and environmental factors significantly influence the intention to use social media (IUSM). These factors highlight the importance of understanding the role of technology, organizational readiness, and external pressures in shaping the decision of SMEs to adopt digital tools. Additionally, the study confirms that IUSM has a positive and significant effect on the actual social media utilization (SMU) among Indonesian SMEs. Based on these findings, it is recommended that SMEs conduct training programs to help strengthen their internal capabilities, making them better equipped to manage their online presence and customer interactions effectively.

Contribution/Originality: This study combines the Technology-Organization-Environment framework with the intention and realization of social media in one model, where meaningful effects exist based on the hypothesis verification.

1. INTRODUCTION

The COVID-19 pandemic has changed health, social, and economic circumstances worldwide (McKibbin & Fernando, 2023). Considering health problems, infected people will have acute respiratory disorders and may die as the worst impact (Brosnahan, Jonkman, Kugler, Munger, & Kaufman, 2020). Furthermore, to reduce fatality levels due to the spread of COVID-19, society movements need to be restricted by the government through the implementation of lockdowns (Coccia, 2021) and social distancing restrictions (Sparrow, Dartanto, & Hartwig, 2020). These measures have led to a shift towards working from home for employees (Chen, 2021) and learning from home for students (Sparrow et al., 2020; Wallengren-Lynch, Dominelli, & Cuadra, 2023). During this pandemic, the government only allowed several vital businesses, such as pharmaceutical companies (Tirivangani, Alpo, Kibuule,

Gaeseb, & Adenuga, 2021) banks, grocery shops, and manufacturing factories that produce medical equipment and supplies (Di Porto, Naticchioni, & Scrutinio, 2022).

Besides, micro, small, and medium enterprises are being damaged by the COVID-19 pandemic. Therefore, the government needs to support them with financial aid to sustain their businesses in Southeast Asian countries, such as Brunei Darussalam (Basir, 2022; Intarakumnerd & Korwatanasakul, 2020) Cambodia, Laos, Myanmar, the Philippines, Singapore (Intarakumnerd & Korwatanasakul, 2020) Malaysia (Intarakumnerd & Korwatanasakul, 2020; Mustapa & Mohamad, 2021; Nordin, Hussain, Hasin, Rahim, & Alias, 2022) Thailand (Ali Abbasi, Abdul Rahim, Wu, Iranmanesh, & Keong, 2022; Intarakumnerd & Korwatanasakul, 2020) and Vietnam (Intarakumnerd & Korwatanasakul, 2020; Nguyen, Vu, Nguyen, & Nguyen, 2024). Similarly, it happens in Indonesia (Aulianda, Sudarmiatin, & Hermawan, 2022; Gunadi, Lesmana, Fachrizah, Revindo, & Daniswara, 2021; Intarakumnerd & Korwatanasakul, 2020).

When it comes to promoting their operations, small, and medium-sized enterprises (SMEs) may benefit greatly from social media. This is because brand equity can be developed in the marketplace at a reasonable cost via social media. Without making a significant financial commitment, small companies can reach a large audience, establish a solid online reputation, and interact with new clients (Guha, Harrigan, & Soutar, 2017). This strategy gained momentum during the COVID-19 pandemic (Faisal & Ekawanto, 2021; Mu'tamar, Ulya, Burhan, & Kurniawan, 2023) and has remained vital since (Hafizni, Lita, Yeni, & Syafrizal, 2024; Mason, Narcum, & Mason, 2021). During the pandemic, social media enabled consumers to search for product information (Wei, Huat, & Thurasamy, 2023), compare prices, and make purchasing decisions (Chawla & Chodak, 2021). By harnessing social media, businesses can enhance brand recognition, connect with their target audience, and promote growth without relying on costly traditional marketing methods. Due to its Lim, Yeo, Tan, and Wen (2022) consumers continue using social media to fulfill their needs even post-pandemic (Ferine, Gadzali, Ausat, Marleni, & Sari, 2023).

The study was conducted in Indonesia, a nation recognized for its rapid growth in the small, and medium-sized enterprise (SME) sector. Indonesia is one of the Southeast Asian countries with the fastest-growing economies. SMEs are a vital part of its economy (Fauzi, Prakasa, & Fauzan, 2021) but a significant challenge for these businesses is their limited adaptation to the Technology-Organization-Environment (TOE) framework, particularly concerning technology.

Indonesian SMEs should consider several critical factors that might influence the effectiveness and success of their online presence before deciding whether to use social media. The Technology, Organization, and Environment (TOE) framework serves as a comprehensive model for understanding the various factors within the corporate environment that impact the adoption of new technologies, including social media (Ali Abbasi et al., 2022; Vu, Nguyen, Ngo, & Vu, 2023). Nonetheless, several previous studies have solely categorized behavioral intentions based on organizational, technological, and environmental factors, neglecting to investigate the outcomes or consequences arising from those intentions (Abed, 2020; Ali Abbasi et al., 2022; Baydeniz, 2023; Vu et al., 2023; Wiradinata, Herdinata, Christian, & Setiobudi, 2022). Our research aims to fill this gap by introducing the crucial outcome of actual social media utilization, drawing upon the intention-behavior link central to technology adoption models by Davis, Bagozzi, and Warshaw (1989) and Ajzen (1991).

Although some studies show clear positive impacts, others suggest minimal or no effect, especially in the case of organizational and environmental factors (Ali Abbasi et al., 2022). This disparity suggests that although the TOE paradigm offers valuable insights, its applicability and utility may be impacted by industry-specific dynamics, the characteristics of the entrepreneurial ecosystem, and the specific social media platforms being examined. Future research should explore these differences in more detail and enhance our understanding of how each TOE trait influences the decision to accept and use social media for work-related purposes. This research anticipates that by using real use, a better model will emerge and theoretically advance behavioral marketing theory. In contrast to the researchers who use information security management solutions (Kim & Kim, 2021) social commerce (Abed, 2020)

and robotic technology (Baydeniz, 2023) our study follows Vu et al. (2023) in focusing on social media as a tool for business promotion. Academically, this study will support scholars interested in similar relationships, particularly those retesting the TOE framework in social media adoption studies. This nationwide research spans all 38 provinces of Indonesia, capturing a diverse and representative sample of SMEs across various regions, industries, and cultural contexts, providing valuable insights into how local businesses are adopting and using the TOE framework as an adaptation model.

2. LITERATURE REVIEW

2.1. Technology-Organization-Environment Framework

Tornatzky and Fleischer (1990) introduce the technology-organization-environment framework, employed by Abed (2020); Ali Abbasi et al. (2022) and Wiradinata et al. (2022) when investigating entrepreneurs' intentions to use social commerce, social media, and e-wallet payment services individually. Also, Baydeniz (2023) and Vu et al. (2023) use this framework when learning about the intention of the hotel to adopt robotic technology and social media, respectively. Unlike them, Kim and Kim (2021) use it when investigating information technology workers.

2.2. Related Studies

2.2.1. Technological Characteristics and Intention

The technological characteristics focus on perceived usefulness and security concerns (Abed, 2020). Perceived usefulness (PU) refers to the degree of optimistic personal prediction that using an application will improve business performance. In the Technology Acceptance Model, PU is associated with behavioral intention, and this intention is related to actual usage to adopt technological applications (Davis et al., 1989). Security concerns address online transactions and data exchange insecurity because of viruses, hackers, and data interception (Salum & Rozan, 2016).

In her study, Abed (2020) highlights two key aspects of the technological dimension: perceived usefulness (PU) and security concerns (SC). Perceived usefulness refers to how much entrepreneurs believe social media can improve the effectiveness and efficiency of their business operations. This belief often motivates the adoption of new technologies, as it promises tangible benefits such as business growth and better customer engagement. Security concerns, on the other hand, involve the worries business owners may have about the safety of their online activities, data protection, and the risks posed by digital platforms. The fear of security breaches can significantly hinder the adoption of social media if not properly addressed. Abed (2020) research shows that PU has a positive impact on the intention to adopt social media, while SC has a negative effect. Additionally, Baydeniz (2023) finds a positive relationship between technological contexts and the intention to adopt robotic applications.

Ali Abbasi et al. (2022) utilize three technological dimensions, namely perceived relative advantage (PRA), complexity (PCOM), and costs (PCOST), to examine their association with this intention. They demonstrate that the intention to use social media is positively influenced by PRA but negatively affected by PCOST. Meanwhile, PC does not impact this intention. With a single construct of technological content associated with the intention, Vu et al. (2023) confirm a positive propensity in the hotel industry. Based on this evidence, this research formulates the first hypothesis:

H₁: The technological features positively affect the intention to use social media marketing.

2.2.2. Organizational Characteristics and the Intention

Organizational factors focus on top management support (TMS) and company readiness (CR). Top management support refers to the backing provided by business leaders after evaluating the risks and benefits of adopting a technological platform. Company readiness, on the other hand, pertains to the resources allocated for the adoption of new technology, such as financial investment, skilled personnel, equipment (like computers or laptops), and internet access (Abed, 2020). In her study, Abed (2020) explores how the organizational dimension includes both top

management support (TMS) and organizational readiness (OR). TMS involves the commitment of business leadership to foster a culture of technological adoption and ensure sufficient resources are allocated to integrate the technology. This active support is vital for the successful implementation of digital tools, including social media. OR concerns the internal preparedness of the organization, which includes infrastructure, employee skills, and overall organizational capacity to adopt and effectively use social media platforms. In their research on e-wallet payment services, Wiradinata et al. (2022) examine three aspects of organizational factors: (1) knowledge and innovativeness (KI), (2) support, and (3) productivity. They found that only support and productivity had a significant impact on the intention to adopt such technologies. Furthermore, Kim and Kim (2021) and Baydeniz (2023) also confirm the positive influence of organizational factors on the intention to adopt information security management systems and robotic technologies, respectively.

Regarding social media utilization intention, Ali Abbasi et al. (2022) utilize three organizational dimensions, i.e., TMS, financial support (FS), and perceived employee capability (PEC), to be associated with this intention and demonstrate that this intention is influenced positively by TMS but is not affected by FS and PEC. With a single construct of organizational content associated with the intention, Vu et al. (2023) confirm a positive propensity in the hotel industry. According to these pieces of evidence, this research formulates the second hypothesis:

H₂: The organizational features positively affect the intention to use social media marketing.

2.2.3. Environmental Characteristics and the Intention

Environmental factors focus on the support from customers and trading partners for adopting a technological platform. Customer support arises when consumers trust and care about the business, while trading partner support, such as from suppliers, is driven by their own experience with technology (Abed, 2020). In her study, Abed (2020) identifies two key elements within the environmental dimension: consumer pressure (CP) and trading partner pressure (TPP). Consumer pressure refers to the external demand from customers for businesses to be active on social media platforms, where they expect businesses to provide information, respond to inquiries, and engage in online interactions. As more consumers turn to social media to interact with brands, businesses may feel the pressure to adopt these platforms to remain competitive. Trading partner pressure involves the influence that business partners, such as suppliers or distributors, can have on the adoption of social media, often due to their own experiences with technology. In contrast, Wiradinata et al. (2022) explore four related factors within the environmental context: competition, business pressure (BP), and support from government and vendors (GS and VS). Their research shows that these factors positively influence the intention to adopt e-wallet payment services. Similarly, Kim and Kim (2021) highlight a positive relationship between environmental characteristics and the intention to adopt information security management, although they do not separate the individual aspects. Regarding social media utilization intention, Ali Abbasi et al. (2022) utilize three organizational dimensions, i.e., perceived competitor and customer pressure (PCOMP and PCUSTP) and perceived vendor support (PVS), to be associated with this intention and demonstrate that this intention is influenced positively by PCOMP and PVS but is not affected by PCUSTP. With a single construct of environmental content to be associated with the intention, Vu et al. (2023) confirm a positive propensity in the hotel industry. According to this evidence, this research formulates the third hypothesis:

H₃: The environmental feature positively affects the intention to use social media marketing.

2.2.4. The Intention and Decision to use

According to planned behavioral theory, intention is the stimulating factor of behavior. It indicates how much effort people are willing to exert to perform a behavior. The stronger the intention to engage in a behavior, the more likely it is to be performed (Ajzen, 1991). Using the Thai entrepreneurs, Puriwat and Tripopsakul (2021) demonstrate a positive propensity of their intention toward the decision to utilize social media marketing. From Indonesia, Hafizni et al. (2024) affirm this proof. Employing different samples, i.e., customers, Leong, Hew, Ooi, Metri, and Dwivedi

(2023) declare a positive relationship between intention and utilizing behavior of social commerce. According to these pieces of evidence, this research formulates the fourth hypothesis:

H₄: The stronger the intention of business owners, the higher their actual utilization of social media marketing.

3. RESEARCH METHODS

This research employs a quantitative method with a causal-explanatory approach. The quantitative method is chosen because the study seeks to quantify the relationships between various factors (Sugiyono, 2022) specifically technological, organizational, and environmental characteristics and the intention and actual utilization of social media by micro, small, and medium enterprises (MSMEs). By collecting numerical data from a sample of business owners, this approach enables statistical analysis to identify patterns and test hypotheses regarding the impact of these factors on social media adoption (Sugiyono, 2022).

3.1. The Variables Tested

The variables investigated in this study are classified into three types, each corresponding to specific dimensions and indicators. These types are technological, organizational, and environmental features, which are considered exogenous variables within the framework of the research. Firstly, technological, organizational, and environmental features (TF, OF, and EF), with their dimensions and indicators, act as exogenous variables, where their context refers to Abed (2020). According to Abed (2020) the technological dimension consists of perceived usefulness (PU) and security concerns (SC). The organizational dimension includes top management support (TMS) and readiness (OR). Meanwhile, the environmental dimension comprises consumer pressure (CP) and trading partner pressure (TPP). Moreover, behavioral intention (BI) serves as the mediator, with three items denoting (Abed, 2020). Finally, actual usage (AU) functions as the final endogenous variable, where three indicators denote (Albanna, Alalwan, & Al-Emran, 2022).

3.2. Population, Sampling Technique, and Data Collection Method

The study focuses on entrepreneurs in Indonesia, distributed across various provinces. To gather the sample, the researchers employed the snowball sampling technique (Hartono, 2014). Leveraging established networks, the researchers first asked a well-known individual to distribute the survey invitation. Following this, the invited individuals were encouraged to share the invitation with others in their network (Pandjaitan, Mahrinasari, & Hadianito, 2021). A total of 255 business owners from 38 provinces in Indonesia were selected using this method. Snowball sampling is particularly useful for accessing hard-to-reach populations, such as SMEs, which often lack centralized databases (Sugiyono, 2022). This approach enabled the researchers to collect data from a broad geographic area, ensuring a diverse representation of business owners and providing a comprehensive understanding of social media use across different regions. For the survey, a five-point Likert scale was used to measure responses, ranging from strong disagreement (1) to strong agreement (5) in the questionnaire (Sugiyono, 2022).

The valid answers in the questionnaire are mandatory. Therefore, the confirmatory factor analysis is usable based on the loading factor and average variance extracted (AVE). The precise response exists if the loading factor is higher than 0.7 and AVE is more significant than 0.5. Besides, this answer must meet the reliability examination. A reliable response exists if Cronbach's Alpha and composite reliability are greater than 0.7 (Hair Jr, Black, Babin, & Anderson, 2019).

3.3. Method for Analyzing the Response

Following Hafizni et al. (2024) this study utilizes a Partial Least Squares-based Structural Equation Model (PLS-SEM) for data analysis, specifically using SmartPLS software.

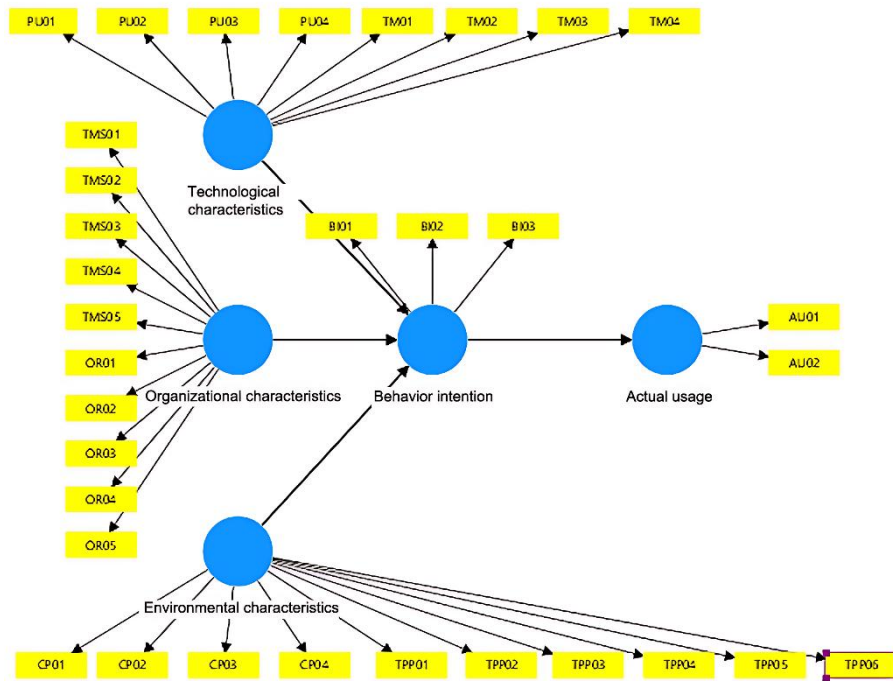


Figure 1. Research model.

- Figure 1 describes the model used. The outer model assesses the relationships between the latent variables (such as technological, organizational, and environmental factors) and their respective indicators (the observed variables). Testing the outer model involves evaluating the reliability and validity of the measurement instruments (Ghozali, 2021). Convergent validity is confirmed when the loading factors of the indicators on their respective latent variables are sufficiently high. The loading factor represents the strength of the relationship between each indicator and its corresponding latent variable. It is used to assess convergent validity, which examines whether the indicators of a latent construct are strongly correlated and truly reflect that construct (Ghozali, 2021). AVE is a measure used to assess discriminant validity, which tests whether a latent variable is truly distinct from other latent variables in the model. AVE indicates the amount of variance captured by a construct from its indicators relative to the amount of variance due to measurement error. In reliability, Cronbach's alpha and composite reliability are measures of the internal consistency reliability of the indicators that are intended to measure a latent construct. They assess how well the items within a construct correlate with each other. Higher values of Cronbach's alpha indicate better reliability of the measurement model (Ghozali, 2021).
- The inner model tests the relationships between the latent constructs themselves, examining the causal paths and the strength of the relationships between variables (Ghozali, 2021). For this study, the inner model tests the hypotheses regarding how technological, organizational, and environmental factors affect social media adoption intention and how intention subsequently influences actual social media usage.

According to Sholihin and Ratmono (2020) this model can improve the accuracy and consistency of estimated parameters when the number of samples exceeds 250. Furthermore, this model is visible in Equations 1 and 2.

$$BI = f(TF, OF, EF) \quad (1)$$

$$AU = f(BI) \quad (2)$$

This model must be assessed on R-squared, Q-squared (Ghozali, 2021) and standardized root mean square residual (SRMSR) (Dash & Paul, 2021).

- R-squared measures the overall contribution of the determinants based on the three cut-off values: 0.19, 0.33, and 0.67, to declare the minor, intermediate, and enormous contributions (Ghozali, 2021).

- b. Q-square quantifies the predictive relevancy. The model has this relevancy if the Q-square is higher than 0 (Ghozali, 2021).
- c. SRMSR aims to assess the goodness of fit. The model fits the data if SRMSR is lower than 0.08 (Dash & Paul, 2021).

4. RESULTS

4.1. Respondent Profiles

Table 1: This research focuses on gaining a deeper insight into the adoption and use of social media among micro, small, and medium enterprises (SMEs) in Indonesia. Recognizing the vital role of SMEs in the country's economy, especially in the post-COVID-19 era, the study aims to explore the factors that influence their intention to use social media and how this intention impacts their actual usage of these platforms. The research was conducted across 38 provinces in Indonesia, involving a sample of 255 SME owners between September 9 and December 9, 2024. The sample was organized based on gender, age, and duration of business operation. Most business owners are female (54.90%), aged between 21 and 35 (64.71%), and have been operating their businesses for two to five years. The predominant business sectors include food and beverage (38.43%), with the majority located in Bandung (11.37%). Conversely, the fewest entrepreneurs are male (45.10%), aged below 21 (1.96%), and have been in business for one to two years (2.35%). The least represented sectors are furniture (6.27%), with Pekanbaru City accounting for only 0.39% of the sample.

Table 1. Respondent profiles.

Profile	Description	Number	Portion
Gender	Female	140	54.90%
	Male	115	45.10%
Age	Below 21	5	1.96%
	From 21 to 35	165	64.71%
	From 35 to 55	57	22.35%
	Above 55	28	10.98%
Duration to organize the business	Between one and two years	6	2.35%
	Between two and five years	213	83.53%
	Between five and ten years	20	7.84%
	Above 10 years	16	6.27%
Business area	Furniture	16	6.27%
	Garment and textile	17	6.67%
	Handicraft	14	5.49%
	Food and beverage	98	38.43%
	Fashion	54	21.18%
	Snack	35	13.73%
	Other	21	8.24%
The location of the business	Denpasar City, Bali Province	10	3.92%
	Pangkal Pinang, Bangka Belitung Province	6	2.35%
	Serang City, Banten Province	12	4.71%
	Bengkulu City, Bengkulu Province	3	1.18%
	Yogyakarta, Special Region of Yogyakarta Province	8	3.14%
	Jakarta, Special Capital Region of Jakarta Province	24	9.41%
	Gorontalo City, Gorontalo Province	6	2.35%
	Jambi City, Jambi Province	4	1.57%
	Bandung City, West Java Province	29	11.37%
	Semarang City, Central Java Province	14	5.49%
	Surabaya City, East Java Province	15	5.88%
	Pontianak City, West Kalimantan Province	5	1.96%
	Banjarbaru, South Kalimantan Province	5	1.96%

Profile	Description	Number	Portion
	Palangkaraya City, Central Kalimantan Province	4	1.57%
	Samarinda City, East Kalimantan Province	6	2.35%
	Tanjung Selor City, North Kalimantan Province	3	1.18%
	Tanjung Pinang City, Riau Islands Province	5	1.96%
	Bandar Lampung City, Lampung Province	7	2.75%
	Ambon City, Maluku Province	6	2.35%
	Sofifi City, North Maluku Province	5	1.96%
	Banda Aceh City, Nanggroe Aceh Darussalam Province	4	1.57%
	Mataram City, West Nusa Tenggara Province	4	1.57%
	Kupang City, East Nusa Tenggara Province	4	1.57%
	Jayapura City, Papua Province	5	1.96%
	Manokwari City, West Papua Province	4	1.57%
	Sorong City, Southwest Papua Province	2	0.78%
	Jayawijaya City, Highland Papua Province	4	1.57%
	Merauke City, South Papua Province	4	1.57%
	Nabire City, Central Papua Province	4	1.57%
	Pekanbaru City, Riau Province	1	0.39%
	Mamuju City, West Sulawesi Province	5	1.96%
	Makassar City, South Sulawesi Province	6	2.35%
	Palu City, Central Sulawesi Province	6	2.35%
	Kendari City, Southeast Sulawesi Province	5	1.96%
	Manado City, North Sulawesi Province	7	2.75%
	Padang City, West Sumatra Province	4	1.57%
	Palembang City, South Sumatra Province	4	1.57%
	Medan City, North Sumatra Province	5	1.96%

4.2. Validity and Reliability Examining Result

In Table 2, the loading factor (LF) of PU1, PU2, PU3, PU4, SC1, SC2, SC3, and SC4 is above 0.7: 0.830, 0.844, 0.847, 0.835, 0.862, 0.829, 0.844, and 0.851; thus, the responses are considered accurate, as indicated by AVE values above 0.5 for PU (0.704) and SC (0.717). The responses are also reliable because Cronbach's Alpha and composite reliability exceed 0.7: 0.860 and 0.905 for PU, and 0.868 and 0.910 for SC. The validity of the technological dimensions is confirmed, as demonstrated by the loading factors for PU and SC being higher than 0.7: 0.971 and 0.972, supported by AVE values above 0.5: 0.670. These dimensions are consistent, with Cronbach's Alpha and composite reliability exceeding 0.7: 0.930 and 0.942.

Table 2. Loading factor, AVE, Cronbach's alpha, and composite reliability related to technological features.

Dimension	Indicator	LF	AVE	Cronbach's alpha	Composite reliability
Perceived utility	PU1	0.830	0.704	0.860	0.905
	PU2	0.844			
	PU3	0.847			
	PU4	0.835			
Security concern	SC1	0.862	0.717	0.868	0.910
	SC2	0.829			
	SC3	0.844			
	SC4	0.851			
Construct	Dimension	LF	AVE	Cronbach's alpha	Composite reliability
Technological feature	PU	0.971	0.670	0.930	0.942
	SC	0.972			

In Table 3, the loading factors (LF) of TMS1, TMS2, TMS3, TMS4, TMS5, OR1, OR2, OR3, OR4, and OR5 are all above 0.7: 0.847, 0.838, 0.825, 0.822, 0.813, 0.844, 0.849, 0.834, 0.839, and 0.869; thus, the responses are considered accurate, as evidenced by AVE values above 0.5 for TMS (0.687) and OR (0.718). The reliability of these responses is further supported by Cronbach's Alpha and composite reliability scores exceeding 0.7: 0.886 and 0.917

for TMS, and 0.902 and 0.927 for OR. The validity of the organizational dimensions is confirmed, demonstrated by the high loading factors for TMS and OR being above 0.7: 0.972 and 0.974, respectively, supported by AVE values above 0.5: 0.665. These dimensions are consistent, as indicated by Cronbach's Alpha and composite reliability scores exceeding 0.7: 0.944 and 0.952.

Table 3. Loading factor, AVE, Cronbach's alpha, and composite reliability related to organizational features.

Dimension	Indicator	LF	AVE	Cronbach's alpha	Composite reliability
Top management support	TMS1	0.847	0.687	0.886	0.917
	TMS2	0.838			
	TMS3	0.825			
	TMS4	0.822			
	TMS5	0.813			
Organizational readiness	OR1	0.844	0.718	0.902	0.927
	OR2	0.849			
	OR3	0.834			
	OR4	0.839			
	OR5	0.869			
Construct	Dimension	LF	AVE	Cronbach's alpha	Composite reliability
Organizational feature	TMS	0.972	0.665	0.944	0.952
	OR	0.974			

In Table 4, the loading factor (LF) of CP1, CP2, CP3, CP4, TPP1, TPP2, TPP3, TPP4, TPP5, and TPP6 exceeds 0.7: 0.846, 0.843, 0.840, 0.840, 0.818, 0.823, 0.821, 0.833, 0.847, and 0.793; thus, the accurate response exists, affirmed by AVE above 0.5 for CP: 0.710 and TPP: 0.677. The response is reliable because Cronbach's Alpha and composite reliability exceed 0.7: 0.864 and 0.907 for CP, and 0.905 and 0.926 for TPP. For environmental dimensions, their validity is attainable. The loading factor for CP and TPP is higher than 0.7: 0.964 and 0.959, supported by AVE above 0.5: 0.664. These dimensions are consistent because Cronbach's Alpha and composite reliability exceed 0.7: 0.928 and 0.941.

Table 4. Loading factor, AVE, Cronbach's alpha, and composite reliability related to environmental features.

Dimension	Indicator	LF	AVE	Cronbach's alpha	Composite reliability
CP	CP1	0.846	0.710	0.864	0.907
	CP2	0.843			
	CP3	0.840			
	CP4	0.840			
TPP	TPP1	0.818	0.677	0.905	0.926
	TPP2	0.823			
	TPP3	0.821			
	TPP4	0.833			
	TPP5	0.847			
	TPP6	0.793			
Construct	Dimension	LF	AVE	Cronbach's alpha	Composite reliability
Environmental feature	CP	0.964	0.664	0.928	0.941
	TPP	0.959			

In Table 5, the loading factor (LF) of IB1, IB2, IB3, AU1, AU2, and AU3 is above 0.7: 0.825, 0.864, 0.842, 0.866, 0.838, 0.863; thus, the responses are considered accurate, as indicated by AVE values above 0.5 for IB: 0.712 and AU: 0.732. The responses are also reliable because the Cronbach's Alpha and composite reliability exceed 0.7. The respective values are 0.797 and 0.881 for IB, and 0.817 and 0.891 for AU.

Table 5. Loading factor, AVE, Cronbach's alpha, and composite reliability related to intentional behavior and actual usage of social media.

Construct	Indicator	LF	AVE	Cronbach's alpha	Composite reliability
IB	IB1	0.825	0.712	0.797	0.881
	IB2	0.864			
	IB3	0.842			
AU	AU1	0.866	0.732	0.817	0.891
	AU2	0.838			
	AU3	0.863			

Table 6. The variance-based structural equation model estimation results.

Causal association	Coefficient	Standard deviation	t-statistics	Probability	R-square	Q-square
TF → BI	0.323	0.100	3.226	0.001	0.792	0.558
OF → BI	0.286	0.134	2.124	0.034		
EF → BI	0.301	0.099	3.039	0.003		
BI → AU	0.805	0.027	29.662	0.000	0.648	0.470
Standardized root mean square residual				0.066		

4.3. The Model Assessment Result

Table 6 presents the results of hypothesis testing. For the first hypothesis tested, TF to BI (Technological Features to Behavioral Intention), the probability is 0.001, which is less than the critical value of 0.05; thus, the hypothesis is accepted. The t-statistic of 3.226 is greater than 1.96, further confirming that this path is statistically significant. The path coefficient of 0.323 indicates a significant positive relationship between technological features and behavioral intention to use social media.

The second hypothesis tested, OF to BI (Organizational Features to Behavioral Intention), also shows a probability of 0.034, which is less than 0.05, leading to the acceptance of the hypothesis. The t-statistic of 2.124 is greater than 1.96, confirming the significance of this relationship. The path coefficient of 0.286 indicates a significant positive relationship between organizational features and the intention to use social media. This result highlights the importance of organizational factors, such as management support and readiness, in influencing SMEs' behavioral intention to adopt digital tools like social media.

The third hypothesis tested, EF to BI (Environmental Features to Behavioral Intention), has a probability of 0.003, which is also below 0.05, leading to the acceptance of the hypothesis. The t-statistic of 3.039 is above the critical threshold of 1.96, confirming the statistical significance of this path. The path coefficient of 0.301 shows a significant positive relationship between environmental factors and behavioral intention. This finding emphasizes the role of external factors in shaping SMEs' decisions to utilize social media for marketing and communication. Collectively, the technological, organizational, and environmental features explain a substantial portion of the variance in behavioral intention ($R^2=0.792$).

Finally, the fourth hypothesis tested from BI to AU (Behavioral Intention to Actual Usage) shows an extremely significant relationship with a probability of 0.000, well below the 0.05 threshold, in favor of the hypothesis. The t-statistic of 29.662 is far above 1.96, confirming the strong significance of this relationship. The strong path coefficient of 0.805 indicates that behavioral intention is a powerful predictor of actual social media usage among SMEs. Furthermore, intention explains 64.8% of the variance in actual usage ($R^2=0.648$). This robust finding suggests that once SMEs form an intention to adopt social media, it is highly likely they will proceed to actual usage, illustrating the strong predictive power of intention in driving behavior.

5. DISCUSSION

The first hypothesis, which examines how technological factors (TF) affect behavioral intention (BI), shows a strong positive link. This suggests that technological aspects, like perceived usefulness and security concerns, play a

significant role in SMEs' decision to use social media. In this study, perceived usefulness (PU) and security concerns (SC) are treated as dimensions of TF, following [Abed \(2020\)](#). Business owners need to believe that social media will help improve revenue and ensure secure payments for their business. This aligns with [Baydeniz \(2023\)](#) and [Vu et al. \(2023\)](#) who found similar results in their studies on social media adoption in Turkey and Vietnam. However, it contradicts [Kim and Kim \(2021\)](#) who found no link between technological factors and the use of information security management in South Korea.

The second hypothesis explores how organizational factors (OF) influence behavioral intention (BI). The study finds that strong leadership and readiness within a company increase the likelihood of adopting social media. Top management support (TMS) and organizational readiness (OR) are key factors here, as shown by [Abed \(2020\)](#). This study treats TMS and OR as aspects of organizational features (OF). Business owners should be willing to take risks and recognize that social media can enhance competitiveness. They also need to ensure employees are ready to use the technology. These findings are consistent with [Abed \(2020\)](#), [Kim and Kim \(2021\)](#) and [Baydeniz \(2023\)](#) but differ from [Wiradinata et al. \(2022\)](#) who found no significant effect of knowledge and innovativeness on social media adoption.

The third hypothesis examines how environmental factors (EF), such as consumer and trading partner pressure, influence behavioral intention (BI). The results indicate that external influences, including customer demands and support from business partners, encourage SMEs to adopt social media. Consumer pressure (CP) and trading partner pressure (TPP) are measured using indicators from [Abed \(2020\)](#). In contrast to [Abed \(2020\)](#) this study treats CP and TPP as dimensions of EF. Business owners must consider the advice from customers and suppliers about the importance of social media, as it can boost trust and attract competitive suppliers. This is in line with [Abed \(2020\)](#), [Kim and Kim \(2021\)](#) and [Ali Abbasi et al. \(2022\)](#) but contradicts [Baydeniz \(2023\)](#) who found no link between environmental factors and robotic technology adoption.

The fourth hypothesis examines the connection between behavioral intention (BI) and actual social media usage (AU). The findings show a strong link between intention and actual usage, meaning that once SMEs decide to use social media, they are highly likely to follow through. This highlights that behavioral intention is a good predictor of actual behavior. This study's findings support research by [Puriwat and Tripopsakul \(2021\)](#); [Hafizni et al. \(2024\)](#) and [Leong et al. \(2023\)](#) who found similar results regarding the relationship between intention and usage in other contexts. However, this conflicts with [Kim and Kim \(2021\)](#) who found no association between intention and the adoption of information security management systems.

6. CONCLUSION

For SME owners, social media serves as a tool to promote their business and reach customers more effectively. Hence, the intention to use this media becomes their focus by considering some factors, such as technological, organizational, and environmental features. By using these three features, this research examines them as the determinants of this intention and realization. After collecting responses from 255 business owners across 38 provinces in Indonesia, this research reveals that technology, organization, and environment are positively associated with the intention of social media utilization. Furthermore, this intention positively affects media usage.

Through these research results, business owners should invest in training for their employees. This training should cover digital literacy, the effective use of social media platforms, and relevant legal knowledge to protect their online operations and effectively serve customers. Besides, they should provide funding to realize the related training with unique themes by inviting lecturers from the campus to be the keynote speakers as one of their community services. Academically, this study is still incomplete because of the number of intention determinants. Hence, the subsequent scholars should add subjective norms, perceived ease, attitude, and perceived behavioral control. Additionally, this study utilized a snowball sampling technique, which, while effective for reaching SME owners, may limit the generalizability of the findings to the entire population of Indonesian SMEs. Through the complex

model, the research can contribute more suggestions for business owners to use social media. If possible, the combination of Indonesian and foreign entrepreneurs, such as from Malaysia, Brunei Darussalam, Laos, Cambodia, Vietnam, Timor-Leste, and other Southeast Asian countries, should be included in the following research agenda.

6.1. Research Implication

First, the study highlights the importance of understanding the factors that influence behavioral intention (BI) to adopt social media. By recognizing that technological, organizational, and environmental factors all play crucial roles in shaping the intention to use social media, SME owners can focus on enhancing these areas to drive adoption.

For SMEs, the research suggests that improving technological readiness, such as investing in secure and user-friendly digital tools, is key to making social media adoption more attractive. Additionally, strengthening organizational support, such as securing commitment from top management and ensuring the business is ready for digital transformation, will increase the likelihood of successful adoption and integration of social media into business operations. On the environmental front, SMEs should pay attention to the growing pressure from consumers and business partners, as these external influences are strong motivators for adopting social media.

Moreover, the study underscores that once SMEs form an intention to use social media, they are more likely to follow through with actual usage. Therefore, SMEs that foster a positive attitude and clear intention to adopt social media can see significant improvements in brand visibility, customer engagement, and overall business growth.

In practical terms, SME owners should invest in training programs for their employees to ensure familiarity with digital platforms and social media tools, improve technological competencies, and address potential legal concerns. By doing so, SMEs can not only protect their online presence but also provide better customer service and remain competitive in an increasingly digital marketplace.

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