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THE ANTECEDENTS OF ONLINE MARKETPLACE ADOPTION INTENTION AMONG FOOD MSE'S OWNERS IN INDONESIA: A CONCEPTUAL PAPER

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Abstract:

Improving the willingness of Food Micro and Small Enterprises (MSEs) owners to utilise online marketplaces, with the objective of boosting local product market penetration and enhancing business efficiency, may substantially contribute economic development in Indonesia. This study aims to develop a framework based on a literature review to explain the factors affecting the online marketplace adoption intentions of Food MSEs owners in Indonesia. A comprehensive literature review on adoption intention was performed to propose a conceptual framework illustrating the relationships among technology, organisation, and environmental determinants, which subsequently affect the intention to adopt online marketplaces. The proposed framework is applicable to Food MSEs in Indonesia and may also be relevant to other Food MSEs sectors in rural business areas. The implementation of this conceptual model would enable governments to better understand the effects of the proposed factors on the intention to adopt online marketplaces among Food MSEs, thus aiding in the formulation of appropriate policies.

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Intention to Adopt Online Marketplace, TOE Framework, Food MSEs

Introduction

Indonesia presently commands the most significant portion of the online marketplace market in Southeast Asia. The online marketplaces revenue of the country presently accounts for approximately 52 percent of total revenue of online marketplace in Southeast Asia or equivalent to US\$51.9 billion, followed by Thailand (14.4 percent or US\$14.4 billion), the Philippines (11.5 percent or US\$11.5 billion), Vietnam (9 percent or US\$9 billion), Malaysia (8.7 percent or US\$8.7 billion), and Singapore (4 percent or US\$4 billion) (DaxueConsulting, 2024). The data indicates significant opportunities for MSEs in Indonesia through the integration of online marketplaces into their business practices.

An online marketplace connects buyers and sellers in a central market to allow online transactions (Duan et al., 2012). Online markets allow buyers and sellers to transact electronically (Duan et al., 2012). Online marketplaces are either platforms that coordinate and support transactions or communities of buyers and sellers. Online marketplaces allow providers to sell goods and services to buyers using automated technologies ((Klein & Alt, 2015). Because operators and electronic systems are remote and merchants don't connect, online marketplaces are called virtual locations (Choi & Suh, 2005).

Online marketplaces are a complex ecology that impacts company, customer behavior, corporate tactics, and the market. Due to its potential benefits for businesses, particularly Micro and Small Enterprises (MSEs), such as improved customer relationships, streamlined access to targeted markets, increased efficiency, cost reduction, and competitive advantage, it has grown in popularity. User-generated content like reviews and ratings on online marketplaces can strongly influence consumer trust and purchasing decisions (Zandavalle et al., 2022).

While online marketplaces offer numerous advantages for MSEs, level of online marketplace adoption among MSEs in Indonesia still very low (Bening et al., 2023; Hasan et al., 2021; Rahayu & Day, 2015). According to data from the Central Bureau of Statistics Indonesia, there are 2.99 million business actors selling through e-commerce in Indonesia in 2022 (Database of Central Bureau of Statistics Indonesia, 2023). As many as 95.17% of online businesses in Indonesia sell via chat applications including WhatsApp, Line and Telegram. Only 19.75% of business actors sell on online marketplaces including Shopee, Tokopedia, Lazada, Bukalapak, and Blibli (BPS Indonesia, 2023). Based on statistical data by Central Bureau of Statistics Indonesia, West Sumatra is the province with the lowest level of e-commerce adoption. Only 16 percent of the total number of MSEs in West Sumatra use online marketplace on their business (Figure 1).

On the other hand, studies focusing on the adoption of online marketplace by MSEs are notably limited, particularly in developing countries, including Indonesia (Religia et al., 2021). A comprehensive analysis that is specifically tailored to the specifics of online marketplace adoption is lacking. This encompasses comprehending the distinctive advantages and obstacles

that are linked to platforms such as Shopee, Tokopedia, Lazada, Bukalapak, and Blibli (Santoso et al., 2022). Most of previous study did not define the type of e-commerce on the research (Alenezi & Isa, 2022; Hussein et al., 2019; Mahomed et al., 2023). Then, most of research are conducted without specifying the industries of MSEs.

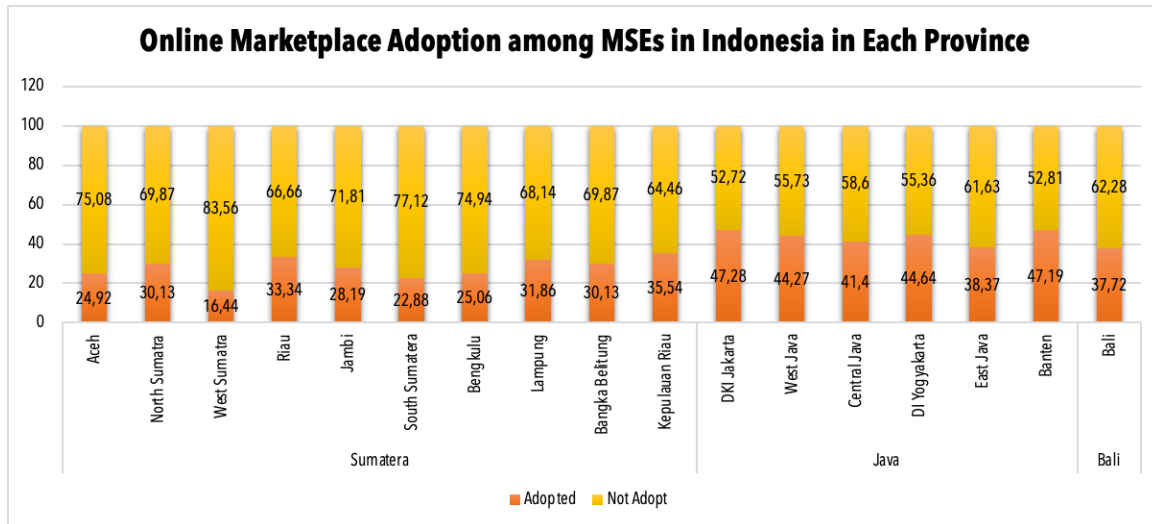


Figure 1: Online Marketplace Adoption in Indonesia

Source: Central Bureau of Statistics Indonesia (2024)

This study focused on Food MSEs because the highest potential business in Indonesia is Food Industry. Indonesia, with a population of 275.7 million, ranks as the fourth largest globally. The country has experienced notable growth in its middle class and a consistent increase in per capita expenditure, contributing to the robust performance of its Food and Beverages (F&B) industry. In 2019, the average monthly expenditure per capita for food and beverages in Indonesia was Rp 572,551, equivalent to approximately US\$41.96 based on the 2019 exchange rate. One year later, despite the effects of COVID-19, the figure increased to Rp 603,236. In 2021, the average expenditure per individual increased to Rp 622,845. This pattern persists until the end of 2022, with the average expenditure per capita for Indonesians recorded at Rp 665,757. The cumulative value of e-commerce transactions involving micro and small enterprises (MSEs) in Indonesia has attained Rp 2.3 billion. Of this total, 63.87 percent, approximately Rp 725 billion, originated from the food and beverage industry sector.

Hence, this study will propose a research conceptual framework to be used by researchers to fill the gaps between the literature and contemporary business practices, especially in the context of Food MSEs in Indonesia, as well as establishing a framework for further research on intention to adopt online marketplace.

Theoretical Basis

The stage of technology dissemination known as adoption is when a company or individual choose which technology to utilise (Kaldi et al., 2008). According to Bouwman et al. (2005), adoption is the process via which a company, division, or department investigates, investigates, deliberates, and decides whether to implement a new system inside the company (Bouwman et al., 2005). Adoption is defined as utilization of Information and Communication Technologies (ICT) and applications to support business, operations, management, and decision making in

the business (Thong, 1999). Two levels of adoption are distinguished since there are many different ways that technology can be adopted: the initial technology adoption and the extent of technology adoption (also known as post-adoption). According to Ghobakhloo et al. (2011), the first measure initial technology adoption, was operationalised as the probability of technology adoption (technology adoption decision behaviour) (Ghobakhloo et al., 2011). Research on the dissemination of innovation frequently employs this metric (Tan et al., 2009; Thong, 1999). Extent of technology adoption, the second measure of technology adoption that has been widely used in previous e-commerce research, describes the degree to which an organisation uses e-commerce application, indicating its sophistication in terms of the number of e-commerce applications utilised (Grandon, 2004; Molla & Licker, 2005).

Adoption intention is characterized as the readiness or tendency of individuals or organizations, especially MSEs, to accept and implement new technologies or innovations (Lin, 2008). This concept is essential for comprehending the decision-making processes of MSEs regarding the adoption of technology or innovations, including online marketplace, which can profoundly influence their operational efficiency and competitive positioning in the market. Preusse et al. highlight that initial measurements of intent to adopt may not reliably forecast long-term adoption behavior, suggesting that although users may indicate a willingness to engage with new technologies, their actual adoption can vary over time (Preusse et al., 2014). This highlights the significance of comprehending the factors that influence the development of adoption intention as an essential component of the overall technology adoption process. In the realm of mobile technologies, Mallat et al. emphasize the significance of comprehending the direct correlations between distinct determinants of adoption and the intention to adopt. They advocate for a holistic approach to effectively encapsulate the intricacies of user behavior (Mallat et al., 2008).

Many theories serve as the foundation for adoption models. For instance, Diffusion of Innovations Theory (DOI) is derived from sociology, Theory of Reasoned Action (TRA) is derived from social psychology, and Theory of Planned Behavior (TPB) and Social Cognitive Theory (SCT) are derived from psychosocial theories (Taherdoost, 2018). However, in contrast to DOI, which focusses on adoption decisions in organisational level, TRA and TPB concentrate on understanding individual behaviour. When forecasting user behaviour, SCT and TPB incorporate the notion of perceived consequences, whereas DOI and TAM solely concentrate on technology use. Taherdoost (2018) states that DOI, TAM, and UTAUT are the most often utilised theories and models related to technology adoption. In the realm of information management, some of these adoption theories appear to be the most widely used in previous research. Besides DOI, there is Technology Organization Environment (TOE) framework which describes technology adoption at the organizational level (T. Oliveira & Martins, 2011). TOE theory has been adapted in technology adoption studies. TOE is a valuable analytical tool for examining the uptake of diverse technological developments. Although the specific elements found in the three settings (technology, organization, and environment) may differ throughout studies, the TOE has a strong theoretical foundation, consistent empirical support, and potential application to the technology adoption (T. Oliveira & Martins, 2011).

The TOE Framework

The TOE framework, developed by Tornatzky et al. (1990), provides a comprehensive explanation of behavioral intentions and the implementation of innovation at the firm level (Nguyen et al., 2022; Tornatzky & Fleischer, 1990). The model's superiority compared to other

behavioral frameworks lies in its ability to reflect the influences of various factors, both internal and external, on adoption decisions, categorized into three contextual groups, such as technology, organization, and environment. The technological context outlines the current technologies employed and the emerging technologies pertinent to each firm. The organizational context encompasses the firm's characteristics regarding scope, size, and resources, whereas the environmental context delineates the business arena, including industry, competitors, and government influences (Tornatzky & Fleischer, 1990).

Although the core structure of the TOE framework has generally stayed constant since 1990, its progress has been marked by extensive application, integration with other models, and refining of contextual aspects to accommodate diverse technology advancements and research contexts. The TOE framework has consistently garnered empirical support from several research investigating diverse forms of technology adoption since its inception (T. Oliveira & Martins, 2011). It has contributed to the establishment of its validity and dependability as a theoretical model. The framework has been utilized to examine the adoption of several technologies, including Electronic Data Interchange (EDI), Enterprise Resource Planning (ERP) systems, cloud computing, e-commerce, and further technologies.

Some researchers assume the TOE framework excessively generic, permitting considerable scope in many parameters and metrics (Zhu & Kraemer, 2005). This adaptability has facilitated its use across various technology advancements and settings. Notwithstanding its extensive application, the TOE framework has had minimal theoretical advancement since its inception (Baker, 2012). This is due to its general character and congruence with other technology adoption theories, minimizing the necessity for substantial alterations.

Another criticism of the TOE framework is that it fails to consider factors related to individual attributes that are relevant to employees and managers (Ghobakhloo & Tang, 2013). Recent research has sought to connect organizational-level TOE characteristics with individual-level perceptions and behaviors, acknowledging the influence of important decision-makers in understanding organizational elements (Budiono et al., 2020; Rahayu & Day, 2015). To enhance comprehension of the technological, organizational, and environmental dimensions of the TOE framework, each dimension is delineated below;

Technological Context

The technological context, according to Tornatzky and Fleischer (1990), encompasses all of the technologies that are pertinent to the company, including those that are now in use at the company and others that are available in the market but not being used. The significance of a company's current technologies lies in their ability to impose restrictions on the extent and velocity of technological transformation that the company can accomplish (Collins et al., 1988). Perceived adoption costs (money, time, effort, commissions, learning) act as a major barrier that reduces MSEs owners' intention to adopt e-marketplaces. MSEs with constrained financial resources perceive even moderate expenses as prohibitive. Research conducted in Indonesia indicates that financial resource limitations and the attitudes of owners influence the extent to which costs present a significant barrier (Faiz et al., 2024).

Adoption Cost

The cost of obtaining new technologies has been identified as a significant obstacle that affects the willingness of businesses to engage in technological innovation (Valmohammadi & Dashti,

2016). This is particularly pertinent for MSEs, who invariably confront resource restrictions (Eller et al., 2020). Although there are researchers who believe that digital technologies have grown more affordable (Chau et al., 2021), there is evidence that suggests that adoption costs are still viewed as a barrier for MSEs from engaging with digital technologies, especially online marketplace (Ghobakhloo et al., 2022). The acquisition of digital technologies, for instance, results in high costs. Related to online marketplace adoption, there are such kind of administration cost, for example service cost, withdrawal fees, promotion cost, and transaction cost (Agustina, 2024). According to researcher, the higher the adoption costs, the lower the intention of adoption (Valmohammadi & Dashti, 2016).

Therefore, MSEs have a tendency to exercise more due diligence before adopting digital technologies in order to avoid making a decision that is not in their best interest. As a result, when they perceive that adopting digital technologies would not be helpful to them, they may decide not to adopt them (Ghobakhloo & Ching, 2019).

Organizational Context

The internal elements of an organisation that affect how new technologies are implemented and decided upon are referred to as the organisational context in technology adoption. This context includes things like organisational size, culture, rules and procedures, top management support, and organisational resources (Balaid et al., 2014; Ghobakhloo & Tang, 2013).

Indonesian research regularly finds top management support a favourable predictor of MSMEs' market adoption. When owners believe their team is digitally proficient, they view marketplace operation as simpler and cheaper, increasing perceived usefulness and adoption. In micro and small food businesses, the proprietor rules. Visible support lessens organizational resistance and shows priority. Food MSEs need basic digital skills and role clarity to create photo catalogs, chat responses, promo setups, order and logistics processing, and more. A culture that normalizes trial-and-error with promos, creating product images, daily analytics checks, and cross-platform marketing boosts adoption intention since the organization anticipates learning advantages to outweigh short-term friction. Research on Indonesian MSMEs shows that innovative cultures and supportive organizational climates boost technology adoption and digital use.

Human Resources

Firms with appropriate information technology expertise are related with acceptable human resources. These companies are able to absorb advanced technologies in a timely manner and subsequently utilise the information technology, in contrast to companies that do not possess such knowledge. Furthermore, researchers assert that the process of technology adoption has shifted from being a more straightforward, one-time adoption process to a dynamic process that requires substantial human involvement (Sunday & Vera, 2018). This shift in the process implies that it is essential for organisations to have human resources that are capable of operating such technologies. Since the operation of digital technologies demands specialised skills, MSEs frequently have a tendency to postpone their intention to adopt technology until their employees' understanding of information technology can be upgraded (Kurnia et al., 2015). The absence of human resources inside the organisation that are able to operate digital technologies is regarded as a significant obstacle to the adoption of new technologies (Faiz et al., 2024).

When it comes to embrace online marketplace adoption, the human element is really essential. There is evidence in the literature that companies that have a solid knowledge of information technology are able to absorb sophisticated technologies more quickly and make efficient use of them than companies that do not have such expertise (Van Huy et al., 2012). In other words, the absence of internal information technology competence is regarded as a significant obstacle to the implementation of new technologies.

Top Management Support

Top management support is defined as the degree to which the higher echelons of a company encourage the adoption of technological breakthroughs for the sake of business. According to Sila (2013), a favorable attitude of decision-makers toward change might boost the acceptance of a certain technology inside an organization. The construction of important information technology infrastructure is frequently directed by top management in order to simplify the adoption of technology. Furthermore, according to Kurnia et al. (2015), senior management has a significant role in encouraging the adoption of online marketplace by reducing the amount of opposition from employees that may result from the adoption of the technology. According to Swani, (2021), the chance of adopting new technology increases in proportion to the degree to which top management endorses and participates in the adopting process. According to previous research (Deng et al., 2020; Faiz et al., 2024), there is a correlation between the support of top management and the decisions made by MSEs to adopt digital technologies into their existing business activities. In the research that has been done, top management support has been hypothesized and highlighted as an essential component in the process of technology adoption in businesses. This component has the potential to either encourage or discourage adoption (E. S. de Oliveira et al., 2022). According to research conducted by Swani (2021), researchers have found that the likelihood of an organization adopting new technologies increases in proportion to the degree to which senior management is supportive of the adoption of these technologies.

Digital Culture

When it comes to the success of projects that need organizational change, the culture of the organization is absolutely essential. In the digital context, it known as digital culture (Faiz et al., 2024). According to Martínez-Caro et al. (2020), digital culture may be defined as a collection of assumptions and knowledge that are commonly held inside an organization on the subject of digital operations. The researchers indicate that digital culture might include flexible work styles, a mindset that prioritizes digital technology, and an approach that is data-driven (Sawy et al., 2016). These factors can have an impact on the rate at which digital procedures are adopted in new projects. There is a strong correlation between digital culture and corporate digitalization (Martínez-Caro et al., 2020).

Several studies have reported that digital transformation has a positive correlation with the behavior of a company in adopting specific technologies (AlBar & Hoque, 2019), digitalization (Martínez-Caro et al., 2020), positively contributes to the level of digitalization (Zangiacomi et al., 2020), and digital processes in a company (Proksch et al., 2024). Additionally, digital transformation has a positive correlation with a company's digital transformation (Guy, 2019). A robust digital transformation helps establish common standards, despite the fact that individuals within an organization may utilize digital transformation in a variety of ways and attach different meanings to it. This association may be related to the fact that digital transformation also helps establish common standards. In contrast, Raj et al.'s research found

that one of the most significant obstacles that businesses face when attempting to connect with modern technology is a lack of digital transformation (Raj et al., 2020). Companies that possess a robust digital culture are able to effortlessly incorporate technology into their overall strategy, adopt agile governance, create digital platforms that are flexible (Proksch et al., 2024), and construct monitoring processes that are efficient. These actions collectively contribute to the advancement of their strategic objectives.

Environmental Context

External elements that are outside the organisation that have an impact on the decision-making process and the adoption of new technologies are referred to as the environmental context in technology adoption. Regulatory requirements, industry standards, societal trends, market circumstances, and competitiveness are a few examples of these elements (Diana et al., 2017; Melo et al., 2021).

Business Partner Pressure

Business partner pressure related to trading partner pressure. According to Baker (2012), business partner on technology adoption refers to the mandate that trading partners offer to their distributors to interact with particular technologies. Trading partners frequently require their distributors to engage with particular technologies in order to gain a competitive advantage. This is due to the fact that the benefits that they can derive from the adoption of technology are only greater if the majority of their trading partners in the distribution chain have already engaged with that technology. For instance, if all of the companies involved in the distribution chain have already utilized the same technology, then communication between those parties can be increased (Abed, 2020). In addition, many people believe that smaller businesses have less of an impact on the ecology of the industry. They are frequently compelled to comply with the requirements that have been established by their trading partners, despite the fact that they ought to be aware of the benefits that are brought about by new technology (Kurnia et al., 2015). There is a correlation between the pressure exerted by trading partners and the adoption of digital technology by businesses, according to the findings of a number of research (Deng et al., 2020; Duan et al., 2012; Guo & Bouwman, 2016).

When viewed through the point of view of MSEs, pressure from business partners is an essential driver of online marketplace adoption. These partners frequently provide MSEs with the baseline knowledge that is essential for making effective use of online marketplace (Maroufkhani et al., 2020). Due to the fact that MSEs are seen to have less coercive power within the industrial ecosystem, they are frequently compelled to comply with the rules that their suppliers have set forth (Abed, 2020). Business partner pressure has been seen as a powerful predictor of online marketplace adoption, particularly among MSEs.

Discussion

A conceptual model is given, derived from the examined literature, that connects TOE framework variables and intention to adopt online marketplace using theoretical data. The researcher utilized the TOE as the underpinning theory for the conceptual framework of this research. Developed by Tornatzky and Fleischer (1990) to explain the elements that influence Food MSEs intention to adopt online marketplace. According to TOE framework, there are three distinct factors that influence technological innovation in organization, such as technological, organizational, and environmental context. The determinants of TOE framework

used are adoption cost (technological context), human resources, top management support, digital culture (organizational context), and business partner pressure (environmental context).

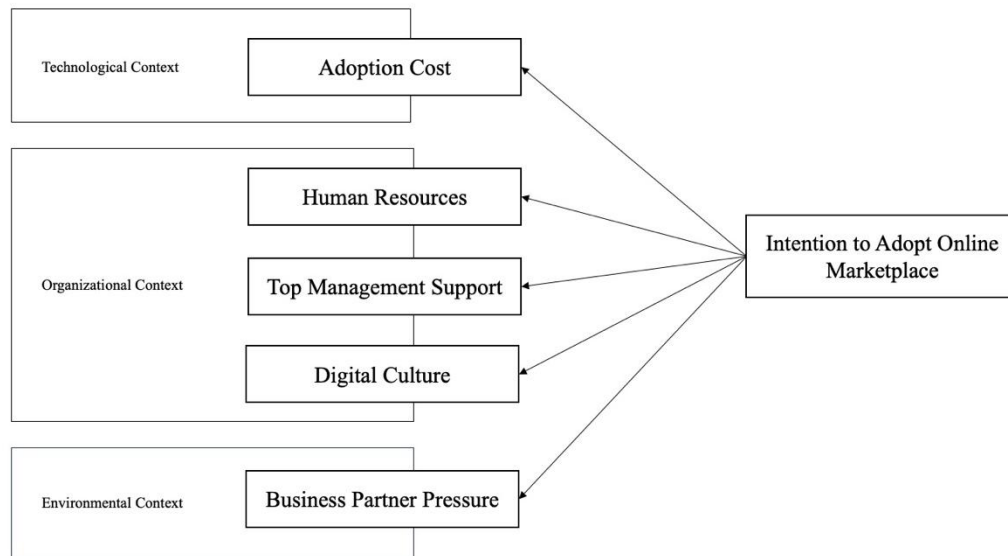


Figure 2: Proposed Conceptual Framework

Source: Tornatzky and Fleischer (1990); Faiz et al. (2024)

Non-adopter MSEs in the Food sector in Indonesia, especially West Sumatera encounter distinct challenges regarding online marketplace adoption, including low digital literacy, restricted access to skilled labor, and a cultural dependence on traditional trade systems. Investigating this framework elucidates the reasons behind the varying intentions of firms to adopt online marketplaces, with some demonstrating willingness while others exhibit reluctance.

In areas characterized by limited operational budgets and narrow profit margins, elevated perceived costs could hinder adoption. Perceived cost negatively influences technology adoption intentions (Alalwan et al., 2017). Unreliable internet connectivity and skepticism towards online transaction methods impede the digital adoption of Food MSEs in Indonesia. Consequently, mitigating risk and enhancing cost-effectiveness in online marketplaces may elevate the intention to adopt.

Accordingly, In Indonesia's food sector, the majority of enterprises are family-operated and depend on manual processes. A lack of understanding regarding digital marketing, online payment systems, and data management fosters internal resistance to change. Prior studies (Eze et al., 2020) highlighted that digital training enhances confidence and receptiveness to digital tools. In non-adopter SMEs in Indonesia, managerial perceptions of technology, encompassing both opportunities and risks, directly affect the company's preparedness to engage with online platforms. Top managers who exhibit confidence, curiosity, and openness to innovation cultivate an internal culture that encourages experimentation. In Indonesia, where leadership frequently coincides with ownership, the owner's personal innovation can enhance this support, positioning top management support as both a structural and psychological factor influencing adoption intentions. Consequently, traditional SMEs in Indonesia face challenges in adopting a digital mindset. Numerous food producers depend on community-based marketing and local

trust networks, rendering the transition to impersonal online transactions culturally unfamiliar. A positive digital culture can facilitate the bridging of this gap by promoting digital communication, social media engagement, and online collaboration. Organizations that institutionalize digital learning often transform top management and human resource support into enhanced behavioral intentions regarding adoption (Susanti et al., 2023).

Hsu et al. (2006) and (Zhu & Kraemer, 2005) demonstrated that environmental pressure enhances the adoption of SMEs. These constraints may validate social interactions within collectivist cultures such as Indonesia, where trust and reputation hold significant importance. Individuals or collaborators utilizing online marketplaces may persuade non-adopters of the necessity of adoption for survival and competitive advantage.

Conclusion

This research considerably enhances the understanding about determinants affecting online marketplace adoption among Food MSEs by offering empirical evidence about the interaction of perceived adoption cost, human resources, top management support, digital culture, and business partner pressure. This analysis responds to a significant gap in the literature by concentrating on the distinct challenges and facilitators in the Food MSE sector, which is frequently neglected in wider e-commerce adoption research (Kurnia et al., 2015). This study specifically highlights that technological and financial factors are substantial barriers for MSEs in adopting online marketplace. It also identifies the essential role of internal organizational factors, such as top management support and the existence of a supportive digital culture, in alleviating these challenges (Dahbi & Benmoussa, 2019). It also shows how important outside constraints, including those from business partners, are in getting people to use online marketplace platforms (Abed et al., 2015; Lee et al., 2021). This study underscores that, while the growing prevalence of e-commerce applications, the adoption rate among Indonesian SMEs remains comparatively low, reflecting substantial resistance that necessitates a comprehensive strategy (Santoso et al., 2022).

The development of a conceptual framework would significantly benefit practitioners in this field, including government officials, policymakers, and micro and small enterprises (MSEs). It could aid in influencing decision-makers to establish public policies that promote behavioural changes in MSEs regarding digital marketing practices. The expected implications are derived from the reviewed literature, necessitating further validation by scholars and practitioners to confirm its effective application to Food MSEs in Indonesia.

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