

# Owner's Innovativeness as a Moderator in Online Marketplace Adoption Intention: A Conceptual Framework Based on the TOE Framework

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Received: 29 September 2025 | Accepted: 10 November 2025 | Published: 1 December 2025

DOI: <https://doi.org/10.55057/ijaref.2025.7.4.6>

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**Abstract:** *Enhancing the intention of Food Micro and Small Enterprises (MSEs) to adopt online marketplaces, aimed at increasing local product market penetration and improving business efficiency, could significantly contribute to economic development in Indonesia. This paper aims to establish a framework derived from a literature review to elucidate the factors influencing the online marketplace adoption intentions of Food MSEs in Indonesia. A thorough literature review on adoption intention was conducted to propose a conceptual framework demonstrating the linkages between organizational determinants the intention to adopt online marketplaces, which moderated by personal innovativeness. The proposed framework is suitable for application by Food MSEs in Indonesia and may also be utilized in other Food MSE sectors within rural business areas. The implementation of this conceptual model would enable governments to gain a better understanding about the impact of the proposed factors on the intention to adopt online marketplaces among Food MSEs, thereby facilitating the development of suitable policies. Additional empirical research is necessary utilizing a structural equation modelling (SEM) approach to confirm the impact of the proposed framework and hypotheses.*

**Keywords:** Intention to Adopt, Micro and Small Enterprise, Online Marketplace, Personal Innovativeness

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## 1. Introduction

The swift advancement of digital technologies has significantly transformed global commerce, necessitating that Micro and Small Enterprise (MSEs) contemplate the incorporation of online markets into their operational strategies (Appiah & Agblewornu, 2025). This integration is essential for expanding market reach, optimizing efficiency, and maintaining competitiveness in a more digitalized economy (Alford & Page, 2015). The adoption of online marketplace is uneven among MSEs, exhibiting differing levels of success and obstacles throughout implementation (Alamin et al., 2022).

Online marketplace is defined as type of e-commerce site where information about a product or service comes from third party. An online marketplace is a platform where retailers offer their items to consumers, exemplified by Shopee, Tokopedia, Lazada, and similar entities. This platform is designated to link merchants with buyers (Pradana, 2024). The online marketplace

landscape in Indonesia exhibits intense rivalry among key participants such as Shopee and Tokopedia (Statista, 2024). With the ongoing increase in digital adoption, these platforms are essential in influencing consumer behaviour and supporting local micro and small enterprises (MSEs) in their development directions (Cano et al., 2023; Santoso et al., 2022).

The "Making Indonesia 4.0" roadmap promote the adoption of digital technologies in businesses, especially MSEs. Therefore, MSEs are compelled to shift the direction of their new business models through adoption of innovation, including online marketplace due to the demands of digital transformation (Ulas, 2019). The adoption of online marketplaces among MSEs in Indonesia provides several advantages that can increased operational efficiency, market reach, and overall competitiveness (Yusgiantoro et al., 2019). Online marketplaces offered MSEs access to a significantly larger customer base than they could independently access. MSEs are afforded exposure to potential customers through online marketplaces, which receive millions of visitors daily. According to Statista Research Department, the e-commerce market in Indonesia is projected to see a continuous rise in users from 2024 to 2029, with an overall increase of 33.5 million users, reflecting a growth rate of 51.03 percent (Statista, 2024). Following nine consecutive years of growth, the indicator is projected to attain 99.1 million users, marking a new peak in 2029.

Furthermore, online marketplaces allow businesses to expand their overall competitiveness. Businesses can more effectively contend with larger organizations through the use of online marketplaces. It allows MSEs to adjust to evolving consumer preferences and remain competitive in the digital age. Consumer trust has been established by established online marketplaces, which can be advantageous for MSEs that sell on the platform (Cano et al., 2023). Subsequently, the establishment of credibility for MSEs can be facilitated by consumer reviews and evaluations on online marketplaces. In comparison to operating a standalone e-commerce website, online marketplaces offer businesses access to a vast audience, thereby substantially increasing their visibility (Ballerini et al., 2023).

Researchers need to survey the Food MSEs owners that not utilized online marketplace (non-adopter) on their business to investigate their intention to adopt online marketplace (Ghobakhloo et al., 2011; Thong, 1999). Substantial gap between the potential business opportunities and the actual implementation of online marketplace adoption among food MSEs in West Sumatra constitutes a pressing issue that requires resolution. Nevertheless, research examining the adoption intention of online marketplaces by MSEs is markedly scarce, especially in developing country as Indonesia (Religia et al., 2021). A thorough analysis explicitly focused on the nuances of online marketplace adoption intention is currently lacking (Santoso et al., 2022). The majority of prior studies did not specify the category of e-commerce under investigation (Alenezi & Isa, 2022; Hussein et al., 2019; Mahomed et al., 2023). Furthermore, there exists a limited body of research regarding online marketplace adoption intention in specific sectors (Bening et al., 2023), including the culinary industry. Contemporary research primarily concentrates on technology adoption within larger enterprises or broader business contexts, frequently neglecting the specific economic interests and unique challenges encountered by MSEs (Faiz et al., 2024; Roffia & Mola, 2022).

Therefore, the innovativeness of owners will have the role to enhance adoption decision among Food MSEs. Innovativeness significantly influences the adoption of technology among Food MSEs. Loo et al. identify resistance to change as the primary barrier for MSEs in adopting technology (Loo et al., 2023). Some owners of MSEs exhibit a prevalent mindset that opposes the utilization of technology for business operations (Hasan et al., 2021). The willingness to

embrace new technologies and the degree of innovativeness among MSE owners tend to be low (Tambunan, 2020). A considerable percentage of MSEs favor conventional sales techniques. A survey indicates that 78.12% of MSEs prefer selling offline over online methods (BPS Statistics Indonesia, 2023).

Using innovativeness as moderator become the contribution of this research. While existing empirical studies examine the primary effects of innovation attributes on E-commerce adoption, there is a limited number of studies investigating the moderating effects of decision maker's innovativeness on the relationship between innovation attributes and adoption decisions within organizations (Grandón & Ramírez-Correa, 2018). Previous researchers recommend to include innovativeness of MSEs decision maker to moderate the relationship between TOE determinants and adoption decision (Alenezi & Isa, 2022; Vagnani et al., 2019).

## **2. Theoretical Basis**

### **2.1 The TOE Framework**

The Technology-Organization-Environment framework serves as a prominent theoretical lens for analyzing the adoption and implementation of technological innovations. It asserts that three primary contexts, technological, organizational, and environmental, jointly affect an organization's decision to embrace new technologies. This framework offers a comprehensive analytical structure for examining the intricate interactions of internal and external factors influencing technology adoption processes across diverse organizational contexts (Faiz et al., 2024). The TOE framework, developed by Tornatzky and Fleischer, has been widely utilized across various industries and organizational sizes to elucidate the adoption of different information systems and innovations, such as e-commerce, social media, and FinTech (Appiah & Agblewornu, 2025; Baker, 2012; Kurnia et al., 2015). The strength of this approach is its comprehensiveness, taking into account both the internal capabilities and readiness of an organization, alongside the external pressures and opportunities in its operating environment (Stjepić et al., 2021).

Although all three contexts are important, some research indicates that organizational factors may have a more substantial impact on technology adoption decisions in specific situations, especially for smaller enterprises (Awa et al., 2016). The focus on organizational determinants arises from the resource constraints and distinct decision-making structures characteristic of MSEs (Setiyani & Yeny Rostiani, 2021). The capacity of MSEs to exploit technological opportunities is frequently dependent on their internal organizational capabilities, such as human resources, top management support, and digital culture. These factors are often more critical than external technological availability or environmental pressures alone (Alraja et al., 2022). The TOE framework, proposed by Tornatzky and Fleischer, emphasizes that technology adoption is a complex process shaped by the interaction of three contexts, each uniquely influencing an organization's likelihood of adopting new innovations (Ahmed, 2020).

This perspective facilitates a nuanced understanding of how internal capabilities, external market dynamics, and the inherent attributes of the technology collectively influence adoption outcomes (Baker, 2012). Research indicates that technological maturity and the sophistication of information and communication technology law are significant; however, organizational factors, including public readiness and internal support, substantially influence technology adoption at the national level (Larosiliere et al., 2017). The internal factors within an organization, especially its preparedness and the perceived benefits of adopting new technologies, significantly affect the likelihood of successful integration (Almaqtari et al.,

2024). A comprehensive analysis of these internal organizational factors is essential to understand the intricacies of technology adoption in the distinct operational context of MSEs (Awa et al., 2017; Siti-Nabiha et al., 2020).

The TOE framework effectively facilitates the examination of technology adoption in Food MSEs by encompassing both internal organizational factors and external pressures influencing the adoption of online marketplaces. In the context of Food MSEs in Indonesia, internal factors including human resources, top management support, and digital culture are crucial in influencing the intention to adopt online marketplace platforms.

**Human resources** encompass the capabilities, skills, and knowledge possessed by employees in micro and small enterprises (MSEs). The quality of human resources indicates the organization's preparedness and internal capacity to implement new technologies. Insufficient digital literacy or e-commerce skills among employees may impede adoption. Previous research indicates that SMEs exhibiting elevated IT competence within their workforce are more inclined to adopt digital platforms (Awa et al., 2016; Thong, 1999). In food MSEs, employees' proficiency in utilizing digital tools, including e-commerce platforms, social media marketing, and online payment systems, is essential for effective adoption. Organizations with more knowledgeable employees exhibit greater confidence in adopting online platforms, as they are better equipped to manage operational and technical challenges effectively (Ifinedo, 2011; Oliveira & Martins, 2011). Based on these arguments, the following hypothesis is proposed:

H1. Human Resources have a significant relationship towards food MSEs intention to adopt online marketplace.

**Top management support** denotes the commitment, involvement, and encouragement offered by the owners or leaders of micro and small enterprises (MSEs) in relation to technology adoption. In MSEs, the centralization of decision-making in the owner or top manager often makes their support a critical factor for adoption (Premkumar & Roberts, 1999). Top management support facilitates the allocation of financial, human, and temporal resources for the adoption of technology. Employee capability alone is insufficient for adoption; owner commitment is essential. Small and medium-sized enterprises (SMEs) that receive robust managerial support are more inclined to embrace online marketplaces, as leadership can mitigate resistance to change and offer strategic guidance (Ghobakhloo & Tang, 2013; Low et al., 2011). In the food sector, characterized by narrow margins and limited resources, the support of top management is essential to facilitate adoption decisions and maintain usage. It is proposed that the following hypothesis be accepted on the basis of these evidence:

H2. Top Management Support have a significant relationship towards food MSEs intention to adopt online marketplace.

**Digital culture** encompasses the collective values, norms, and practices within an organization that promote the adoption of digital technologies (Westerman et al., 2014). A robust digital culture promotes adaptability to change, encourages experimentation with innovative tools, and facilitates the incorporation of digital platforms into business strategy. The intersection of digital culture with organizational readiness and environmental adaptation indicates that firms exhibiting a robust digital orientation tend to view online marketplaces as opportunities rather than threats. Organizations that cultivate a supportive digital culture demonstrate greater adaptability in the adoption of online platforms, particularly in the face of significant external

pressures such as customer demand or competition (Kane et al., 2015; Susanti et al., 2023). In food MSEs, digital culture promotes the acceptance of marketplace adoption by both owners and employees as an inherent progression of business rather than a compelled change. Following these considerations, the subsequent hypothesis is proposed as a possible explanation:

H3. Digital Culture have a significant relationship towards food MSEs intention to adopt online marketplace.

## **2.2 Owner's Innovativeness as Moderating Variable**

Agarwal and Prasad (1998) suggest that innovativeness functions as a significant moderator for both the antecedents and consequences of perceptions (Prasad & Agarwal, 1998). The expectation of moderation suggests that, for a consistent mix of channels, individuals with higher innovativeness will form more favorable perceptions of the innovation. Rogers (1995) characterizes innovators and early adopters as individuals capable of managing elevated levels of uncertainty. Individuals with higher innovativeness tend to exhibit greater risk-taking behavior, which suggests they are likely to form more favorable intentions regarding the use of an innovation, assuming their perceptions are equivalent to those of less innovative individuals. In a similar context, individuals exhibiting higher propensity to use technology (personal innovativeness) would necessitate fewer positive perceptions of the innovation to maintain equivalent usage intentions compared to those with lower innovation tendencies. Innovativeness in information technology can be leveraged to enhance broader models of technology implementation, incorporating constructs beyond individual beliefs or perceptions as determinants of technology adoption decisions (Prasad & Agarwal, 1998).

Regarding the intention of food MSEs in Indonesia to adopt online marketplaces, given the substantial influence of digital transformation on business models and market accessibility (Putong, 2023). This is particularly crucial given the poor e-commerce adoption rates among MSEs in different locations, underscoring the pressing necessity for measures that promote digital platform utilization (Abed, 2020). Therefore, comprehending the psychological foundations of technology adoption, including owner innovativeness, is essential for formulating successful strategies to mitigate the digital gap (Alamin et al., 2022; Retnawati Siregar & Eko Sudarmanto, 2023).

Innovative entrepreneurs are more predisposed to experiment with new business strategies and technology, such as online marketplaces, despite resource limitations (Lee et al., 2020). This proactive strategy allows for more effective utilization of human resources in digital transformation efforts (Alamin et al., 2022). A deficiency in owner innovativeness may impede the successful deployment of human resources for digital initiatives, regardless of their intrinsic qualities. The inherent motivation of innovative proprietors might enhance the effectiveness of human resource development initiatives designed to cultivate digital literacy and e-commerce expertise within their organizations, rendering them more adaptable and resilient to market fluctuations (Alamin et al., 2022). This viewpoint corresponds with the comprehensive recognition that innovative behavior is a coveted attribute in employees for maintaining competitive advantage in fluctuating contexts, which also applies at the entrepreneurial level (Mahsud et al., 2022).

Supportive and innovative top management is more inclined to allocate resources and adopt digital transformation, thereby fostering an environment conducive to online markets (Li et al., 2023); so, this moderation is anticipated. Despite popular support, an absence of new vision

from senior management might impede online marketplace activities by neglecting to acknowledge their comparative advantage or alignment with established business models (Khanchel et al., 2025). This underscores the significance of innovative leadership in surmounting resistance to change and facilitating technological adoption within organizations. Overcoming psychological barriers, such as managerial attitudes and resistance to new technology, can significantly impact digital initiatives (Roberts et al., 2021). Effective leadership with an innovative mindset fosters strategic alignment and resource allocation for digital initiatives, cultivating an environment where new technologies are embraced rather than resisted. Small and medium-sized enterprises have obstacles include resistance to change, the emergence of a digital culture, and insufficient experience with Industry 4.0 technologies, necessitating robust leadership to promote collaboration and technological integration (Martínez-Peláez et al., 2024).

To successfully manage digital evolution, businesses must exhibit greater adaptability, collaboration, and a results-oriented approach. Effective change management, a supportive organizational culture, and positive employee attitudes enhance digital transformation and sustainable growth (Ahmed et al., 2024). This necessitates a transformative leadership approach that actively cultivates a strategic vision prioritizing digital innovation and adaptability (Al Jabri & Lahrech, 2025). Leadership that synchronizes technological integration with strategic corporate objectives and permeates all organizational tiers is essential (Gagan Deep, 2023). Digital transformation necessitates knowledge and cultural shifts inside an organization, rendering strategy alignment imperative (Schiuma et al., 2021). This cultural shift necessitates leadership capable of adapting to the evolving digital landscape and fostering the integration of new technologies (Gagan Deep, 2023; Türk, 2023). Digital leadership necessitates that leaders possess both conventional and innovative abilities to navigate a rapidly evolving, technology-centric landscape (Brunner et al., 2023).

The following hypothesis is proposed on the basis of the descriptions that have been presented:

H4. Owner innovativeness will moderate the relationship between human resources towards food MSEs intention to adopt online marketplace

H5. Owner innovativeness will moderate the relationship between top management support towards food MSEs intention to adopt online marketplace

H6. Owner innovativeness will moderate the relationship between digital culture towards food MSEs intention to adopt online marketplace

### **3. Discussion**

This paper argues that an owner's innovativeness significantly moderates the intention of food MSEs to adopt online marketplaces, especially when analyzed within the Technology-Organization-Environment framework (Mkansi, 2022). This research seeks to enhance the conventional TOE framework by integrating owner innovativeness as a significant moderating variable, thus offering a more detailed comprehension of technology adoption in the specific context of MSEs (Nazir & Roomi, 2021).

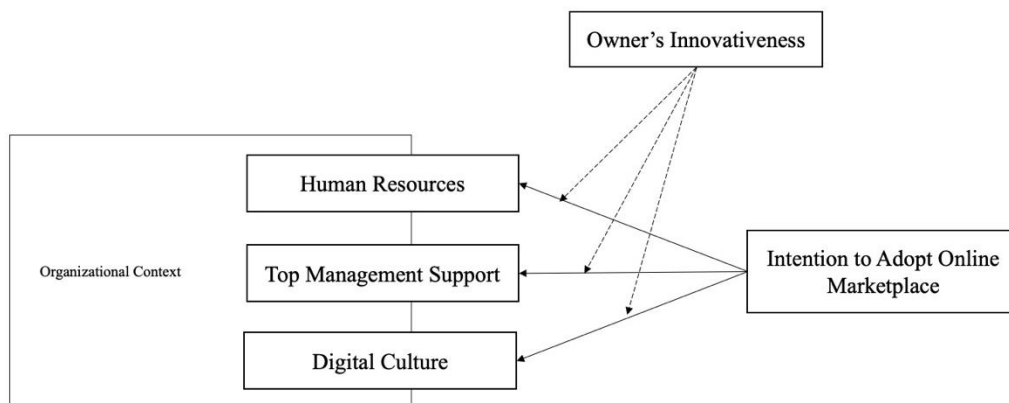
The organizational context within the TOE model, which encompasses leadership support, human capability, and culture, is crucial in influencing adoption behavior (Awa et al., 2015; Oliveira & Martins, 2011). In Food MSEs, where managerial decisions and ownership are typically centralized, the characteristics of the owner, especially innovativeness, significantly influence outcomes (Eze et al., 2020; Hussain et al., 2022). The incorporation of Owner's

Innovativeness as a moderating factor enhances conventional TOE theory by acknowledging that, despite the presence of organizational enablers (such as support and culture), the intention to adopt may still be insufficient unless the owner exhibits innovative characteristics, including receptiveness to new ideas, proactive learning, and risk tolerance.

Innovative owners act as change agents, transforming organizational readiness, which includes skills, support, and culture, into behavioral intention. Conversely, owners with low innovativeness may fail to utilize these internal enablers, leading to unfulfilled digital potential. Innovative owners improve human resources capability by promoting a culture of experimentation and ongoing learning.

Employees with basic digital skills are more likely to receive encouragement for training, the adoption of user-friendly digital platforms, and the integration of new ideas into operations by innovative owners. Innovativeness thus serves to bridge the skill gap, transforming limited human resource capabilities into concrete digital actions. Support from top management may be inadequate if the owner is not receptive to new ideas. An innovative owner converts managerial commitment into risk-taking behavior by implementing new online systems, learning from failures, and serving as a role model for employees. This is consistent with empirical evidence indicating that innovative leadership enhances the relationship between managerial support and technology adoption (Awa et al., 2015; Loo et al., 2023). Digital culture is actionable only when leaders and owners exemplify digital behaviors.

Innovative owners assimilate digital culture via experimentation, employing analytics, online marketing, and social engagement, thereby strengthening employee attitudes toward digital adoption. Conversely, in firms with lower levels of innovation, cultural enthusiasm may be superficial, exemplified by the use of social media without strategic integration.



**Figure 1: Proposed Conceptual Framework**

This conceptual framework (Figure 1) aims to clarify the influence of owner innovativeness on the receptiveness and adaptability of MSEs to technological advancements, including online marketplaces, thereby affecting their adoption trajectory (Salah & Ayyash, 2024). This study is significant due to the reported low levels of e-commerce and social media engagement among MSEs, underscoring a need to comprehend the internal factors influencing technology acceptance (Abed, 2020). Understanding the role of owner innovativeness is essential for creating targeted interventions and policies that facilitate the digital transformation of MSEs, especially in areas with slow technology adoption (Abdullah et al., 2013; Iqbal et al., 2024). This research highlights the importance of technological capabilities in business operations and their role in establishing long-term competitive advantages. It emphasizes the necessity to

investigate the factors that influence these capabilities within micro and small enterprises. This study aims to analyze the factors that facilitate or hinder the adoption of digital technologies by MSEs, focusing specifically on the moderating role of owner innovativeness (Kurnia et al., 2015).

#### 4. Conclusion

This study will conclude by detailing its theoretical contributions, as well as providing recommendations for future research directions and implementation strategies for Food MSEs. This guidance is designed to support Food MSEs in managing the intricacies of digital transformation, with a focus on the adoption of online marketplaces. This will yield actionable insights for policymakers to cultivate an ecosystem that promotes digital integration among MSEs. This encompasses tackling issues like restricted access to financial resources, managerial inefficiencies, and fierce market competition, which frequently obstruct digital transformation initiatives.

The study will highlight the importance of government initiatives and industry collaborations in establishing strong digital infrastructure and offering specialized training programs to address the digital divide encountered by these enterprises. This approach is crucial for enabling food MSEs to utilize online marketplaces to improve their competitiveness and sustainability in the changing digital economy. This involves addressing threats and opportunities linked to digitalization, enabling SMEs to strategically adapt to changing market demands and technological advancements. The findings will inform strategies to enhance entrepreneurial behaviour and internationalization, utilizing digitalization to assist decision-makers in navigating global markets.

The suggested conceptual framework offers significant insights into the owner's innovativeness as a moderating factor in online marketplace adoption intention within the TOE framework; nonetheless, certain limitations must be recognized. First, this paper is theoretical and lacks empirical validation. The links posited in the framework are grounded in theoretical rationale and previous research, they necessitate empirical validation across diverse contexts and industries. Then, the TOE paradigm presupposes generally stable technological, organizational, and environmental environments. Digital adoption is inherently dynamic, shaped by swift technological advancements and evolving customer behaviour. The framework may inadequately encompass these changing processes.

#### Acknowledgement

At no point in time did the writers accept any form of financial assistance for the purpose of conducting research, writing, or publishing this paper.

#### Conflict of Interest Statement

The authors declare that there is no conflict of interest regarding the publication of this study.

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