

# Innovation Opportunity, Social Media Utilization, and Customer Orientation: Empirical Study from Western Java, Indonesia

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Received: 2026, 04, 07 Accepted: 2026, 06,29  
Available online: 2026, 06,30

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KEYWORDS	ABSTRACT
<p><b>Keywords:</b> innovation opportunity, social media utilization, customer orientation, MSMEs, Western Java, Indonesia.</p> <p><b>Conflict of Interest Statement:</b> The author(s) declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.</p> <p><b>Copyright</b> © 2026 AMAR. All rights reserved.</p>	<p><b>Purpose:</b> This study investigates the impact of social media utilization on innovation opportunities, mediated by customer orientation, in Micro, Small, and Medium Enterprises (MSMEs) in Indonesia, focusing on information technology-based sectors in Banten, DKI Jakarta, and West Java.</p> <p><b>Research Design and Methodology:</b> Using a purposive sampling technique and Partial Least Squares Structural Equation Modeling (PLS-SEM) for parameter estimation</p> <p><b>Findings and Discussion:</b> The study finds that effective social media usage positively influences both innovation opportunities and customer orientation, which in turn impacts innovation opportunities. Moreover, customer orientation mediates the relationship between social media utilization and innovation opportunity. Data from 228 MSMEs confirm the validity and reliability of the tested variables.</p> <p><b>Implications:</b> The study underscores that technology-based MSMEs should prioritize social media to enhance innovation and gather real-time customer data for market insights. With a strong customer orientation and effective social media capabilities, MSMEs can convert information into valuable insights to drive high-value-added product and service development, bolstering competitiveness. While highlighting managerial implications, the study acknowledges limitations in its regional scope and variables and recommends further research to explore the impact of social media capabilities on innovation.</p>

## Introduction

Innovation opportunities within technology-based Micro, Small, and Medium Enterprises (MSMEs) have become increasingly pertinent in today's digital era, where technology and social media play a pivotal role in business strategies (Tayibnapis et al., 2021) The utilization of social media by MSMEs facilitates broader marketing of products or services, real-time customer data collection, market trend analysis, and the acquisition of direct feedback. This enables swift and efficient innovation. However, the capacity to capitalize on these opportunities is significantly influenced by MSMEs' customer orientation (Zheng et al., 2022). MSMEs with a strong customer orientation are more adept at interpreting social media data and using it to develop products or services that better meet market needs (KIMATHI, 2020). Therefore, the synergy between social media utilization and high customer

orientation is crucial in creating sustainable and competitive innovation opportunities within technology-based MSMEs (Cheng & Shiu, 2019)

The use of social media in technology-based MSMEs is a crucial aspect that is increasingly gaining attention in marketing literature (Yu et al., 2022). Social media not only serves as a communication and marketing tool but also as a platform for building communities, interacting with customers, and collecting valuable data on consumer preferences and behavior (Appel et al., 2020). By analyzing social media data, technology-based MSMEs can identify market trends, evaluate product or service performance, and respond swiftly to changes in customer needs. This opens up opportunities for MSMEs to develop more targeted and adaptive innovation strategies (Eze et al., 2021). Additionally, the use of social media enhances brand visibility and enables wider market penetration, thereby supporting business growth (Chitty, 2018). However, the effectiveness of social media use depends heavily on how well MSMEs integrate customer orientation into their decision-making, thereby creating sustainable added value for both customers and the business as a whole (Gao et al., 2023).

Customer orientation in technology-based MSMEs is a critical element of business strategy focused on understanding and effectively meeting customer needs and desires. In this context, customer orientation entails a proactive approach to collecting and analyzing customer data, identifying market trends, and developing relevant, valuable products or services for customers (Purnomo et al., 2022). Technology-based MSMEs, with their ability to leverage digital tools and platforms, can access various sources of customer information through social media, web analytics, and other technologies (Depaoli et al., 2020). This enables these MSMEs to gain deep insights into consumer behavior and market preferences, which are then translated into more targeted product or service innovations (Matarazzo et al., 2021). Consequently, customer orientation not only enhances customer satisfaction and loyalty but also drives competitive advantage through continuous innovation (Zhou et al., 2009). The effective implementation of customer orientation in technology-based MSMEs also includes the ability to swiftly adapt to market changes and customer needs, thereby creating sustainable value for the business (Neirotti & Raguseo, 2017).

The influence of social media utilization on innovation opportunities in technology-based MSMEs is an increasingly prominent topic in marketing research (Qalati et al., 2021). Social media use provides technology-based MSMEs with direct, real-time access to customer feedback, market trends, and competitive analysis, which are critical sources of information for the innovation process (Cenamor et al., 2019). Through social media, MSMEs can interact with customers, gain deeper insights into their needs and preferences, and respond swiftly to market changes (Malesev & Cherry, 2021). This not only enhances the MSMEs' ability to develop products or services that better align with market demands but also accelerates the innovation cycle and reduces the risk of product failure (Iheanachor et al., 2021). With more accurate and relevant information, technology-based MSMEs can develop more targeted, high-value innovations (Oduro, 2019). Additionally, social media facilitates broader collaboration and the exchange of ideas, both within and outside the organization, fostering the emergence of innovative and creative solutions (Bhimani et al., 2019). Overall, social media utilization strengthens the innovative capacity of technology-based MSMEs by providing a platform that supports data-driven decision-making and strong customer orientation (Bhimani et al., 2019).

The impact of social media use on customer orientation in the context of technology-based MSMEs is substantial, as it enables direct, real-time interaction between businesses and customers (Li et al., 2021). In the current digital age, social media is used not only as a marketing tool but also as a means of gaining a deeper understanding of customer needs and desires. Effective social media use enables MSMEs to gather customer feedback, monitor market trends, and adjust their products or services in line with customer preferences (Castagna et al., 2020). Consequently, social media catalyzes strengthening customer orientation, ultimately fostering closer, more sustainable customer relationships (Abeza et al., 2020). Additionally, social media helps MSMEs identify opportunities for innovation through customer data analysis and social interactions, thereby directly improving business performance and adaptability in an ever-changing market. Customer orientation positively influences innovation opportunities in technology-based MSMEs, as a strong focus on customer needs and desires drives companies to continually seek new ways to meet and exceed customer expectations (Isichei et al., 2020). When MSMEs are customer-oriented, they actively listen to feedback, observe market

trends, and understand shifts in consumer preferences (Diehr & Wilhelm, 2017). This information forms the basis for identifying innovative opportunities, such as new product development, service enhancements, or more efficient use of technology. Thus, customer orientation triggers ongoing creative and innovative processes, helping MSMEs remain relevant and competitive in the market (Wiesböck & Hess, 2020).

Moreover, customer orientation strengthens the relationship between companies and customers, fostering greater loyalty and trust. Customers who feel heard and valued are more likely to provide constructive, detailed feedback, which can inspire further innovation (Azevedo et al., 2021). In technology-based MSMEs, where rapid change and adaptation are critical, customer orientation enables companies to respond more swiftly to dynamic market needs, creating opportunities for genuinely new and differentiated products or services (Varadarajan, 2020). Therefore, customer orientation positively affects innovation opportunities by providing valuable insights and building strong market relationships, which are fundamental to innovation success in technology-based MSMEs.

Previous research has not comprehensively examined the causal relationships between Social Media Utilization, Customer Orientation, and Innovation Opportunity, nor the mediating role of Customer Orientation in the impact of Social Media Utilization on Innovation Opportunity. Past studies have predominantly used qualitative approaches, suggesting that examining social media utilization as a tool for generating multifaceted data can accelerate client-centric innovation and commercialization. Furthermore, previous studies have focused on macro-scale enterprises and single social media platforms.

Thus, this study investigates the impact of Social Media Utilization on Innovation Opportunity, mediated by Customer Orientation, with a focus on Micro, Small, and Medium Enterprises (MSMEs) in Western Java, Indonesia (Banten, DKI Jakarta, and West Java provinces). This research topic is relevant, as many MSMEs in Indonesia leverage social media to expand their market reach and enhance their competitiveness (Baharuddin et al., 2022). Social media provides direct access to customer feedback and market trends, which are crucial for innovation (Muninger et al., 2022). With strong customer orientation, MSMEs can integrate customer needs into their innovations, resulting in more relevant products. This study will offer critical insights into the utilization of social media and customer orientation to drive innovation and sustainable business growth.

This research contributes to the literature in several ways. First, it demonstrates the impact of Social Media Utilization on Customer Orientation, the impact of Customer Orientation on Innovation Opportunity, and the direct effect of Social Media Utilization on Innovation Opportunity. Second, it establishes the mediating effect of Customer Orientation in the relationship between Social Media Utilization and Innovation Opportunity. Third, it examines MSMEs in Western Java, Indonesia (Banten, DKI Jakarta, and West Java provinces), as the research subject.

## Literature Review

### Dynamic Capabilities Theory (DCT)

Dynamic Capabilities Theory (DCT), introduced by Teece et al. (1997), is a theoretical framework explaining how organizations can integrate, build, and reconfigure internal and external competencies to respond to rapidly changing environments. This theory highlights the importance of adaptability and flexibility in developing new capabilities and transforming the use of existing resources to achieve sustainable competitive advantage. In marketing, DCT elucidates how companies can leverage new technologies, such as social media, to interact with customers, gather market insights, and drive product and service innovation, thereby remaining relevant and competitive in an evolving market (Peterson et al., 2021).

Dynamic Capabilities Theory (DCT) plays a crucial role in explaining the impact of Social Media Utilization on Innovation Opportunity mediated by Customer Orientation. MSMEs using social media must continuously adapt to technological changes and market dynamics to remain competitive. DCT emphasizes the importance of dynamic capabilities, i.e., a company's ability to integrate, build, and reconfigure internal and external competencies to respond to environmental changes rapidly (Ferreira et al., 2020). By leveraging social media, MSMEs can gain deeper insights into customer needs and preferences, identify market trends, and collect real-time feedback. When effectively processed

through a customer-oriented approach, these insights can be translated into sustainable innovation opportunities aligned with market needs (Sudirjo et al., 2023).

In constructing this research model, DCT provides a solid theoretical framework to understand the relationships among the variables studied. Social Media Utilization serves as a tool enabling MSMEs to collect information and interact directly with customers, which is vital for developing a strong customer orientation. Customer orientation then plays a mediating role, where information obtained from social media is used to develop products and services aligned with market needs (Cheng & Shiu, 2019). This process reflects a company's dynamic capabilities in adapting and leveraging existing resources to create opportunities for innovation. Thus, this research model illustrates how social media utilization can enhance customer orientation and, in turn, drive innovation, aligning with DCT's principles emphasizing adaptability and responsiveness in facing business environmental changes (Wang et al., 2019)

### Hypothesis Development

Social Media Utilization can positively impact innovation opportunities in technology-based MSMEs by providing an interactive channel that enables direct communication with customers, gathering feedback, and understanding customer needs and preferences in real-time. Using this data, MSMEs can identify previously unseen market opportunities, develop innovative ideas, and test new product concepts with a broader, more diverse audience (Redjeki & Affandi, 2021). Additionally, social media enables MSMEs to monitor competitor activities and strategies, offering insights to create a competitive edge through innovation. Within the framework of DCT, MSMEs' ability to quickly access, analyze, and integrate information from social media reflects their dynamic capabilities, which are essential for effectively adapting to and responding to market changes. Strategic use of social media can enhance MSMEs' flexibility and adaptability, enabling continuous innovation and meeting dynamic market demands, thereby fostering sustainable innovation opportunities. Previous research by Bhimani et al. (2019), Cenamor et al. (2019), and Oduro (2019) reports a positive impact of Social Media Utilization on Innovation Opportunity. Thus, based on rational and previous research, the first hypothesis is developed:

**H1:** Social Media Utilization positively influences Innovation Opportunity.

Social Media Utilization can positively impact Customer Orientation in technology-based MSMEs by providing a rich platform for direct, continuous interaction between companies and customers. Through social media, MSMEs can collect real-time data on customer preferences, needs, and feedback, which is crucial for developing effective customer orientation strategies. This interaction enables MSMEs to understand customer expectations and desires better and to quickly identify trends and shifts in consumer behavior. By leveraging these insights, MSMEs can proactively adjust their products, services, and customer experiences to meet customer needs better, enhancing satisfaction and loyalty (Purwanti et al., 2022). Within DCT, MSMEs' ability to efficiently access and integrate information from social media reflects their dynamic capabilities in rapidly responding to changing customer needs. This not only strengthens customer relationships but also enhances customer orientation focused on dynamic market needs, promoting competitive advantage and business sustainability for MSMEs. Previous research by Wang, Z., & Kim, H. G. (2017), Uzir, M. U. H., Jerin, I., Al Halbusi, H., Hamid, A. B. A., & Latiff, A. S. A. (2020). demonstrates a positive impact of Social Media Utilization on Customer Orientation. Therefore, based on logical reasoning and previous research, the second hypothesis is developed:

**H2:** Social Media Utilization positively influences Customer Orientation.

Customer Orientation significantly impacts Innovation Opportunity in technology-based MSMEs using social media. When MSMEs focus on deeply understanding customer needs, preferences, and behaviors, they gain valuable insights to identify unmet market opportunities (Ibarra et al., 2020). Using social media as a communication and analysis tool enables MSMEs to collect real-time customer data, identify emerging trends, and receive direct feedback on products and services. This information serves as inspiration for innovation, enabling MSMEs to develop new products or improve existing ones

to meet market demands better. Additionally, active engagement with customers through social media fosters collaboration and co-creation, in which customers act as partners in the innovation process (Moghadamzadeh et al., 2020). Thus, customer orientation not only enhances customer satisfaction and loyalty but also encourages MSMEs to be more creative and innovative in addressing fast-changing market dynamics, thereby increasing the number of implementable innovation opportunities. Previous research by Matarazzo et al. (2021), Zhou et al. (2009), and Neirotti & Raguseo (2017) shows a positive impact of Customer Orientation on Innovation Opportunity. Based on logical reasoning and previous research, the third hypothesis is developed:

**H3:** Customer Orientation positively influences Innovation Opportunity

Customer Orientation strengthens the positive impact of Social Media Utilization on Innovation Opportunity in technology-based MSMEs. Effective use of social media not only enhances the ability to interact with customers but also deepens the understanding of customer needs and preferences (Udayana et al., 2021). A strong customer orientation allows MSMEs to use this information to create value through relevant and timely innovation (Khouroh et al., 2020). Social media provides a platform for real-time data collection and direct feedback, which, when viewed through the lens of customer orientation, translates into opportunities for innovation aligned with market demands. This process also encourages customer involvement in co-creation, integrating customer ideas and suggestions into the development of new products or the improvement of existing services (Khouroh et al., 2020). Thus, customer orientation enhances MSMEs' ability to use social media strategically, turning customer insights into innovative actions and creating more significant and relevant opportunities for innovation in dynamic markets.

**H4:** Customer Orientation mediates the positive impact of Social Media Utilization on Innovation Opportunity.

## Research Design and Methodology

This study employs a quantitative approach to examine the impact of independent variables on dependent variables, mediated by a mediating variable. The research data, originally qualitative, were converted into quantitative form to assess respondents' perceptions using a Likert scale, with the variables categorized as latent. The variables in this study include Social Media Utilization as the exogenous variable, Innovation Opportunity as the endogenous variable, and Customer Orientation as the mediating variable. The population for this study consists of MSMEs in the regions of Jakarta, West Java, and Banten. A purposive sampling technique was employed to select relevant samples for this research (Sekaran & Bougie, 2016). The sample criteria were MSMEs that use social media as part of their business operations, have a turnover ranging from 1 billion to 50 billion IDR, and have been in operation for at least 1 year. A total of 226 respondents were gathered. Data were collected via Google Forms completed by MSME operators during the specified period (Hair, C. et al., 2014; Sekaran & Bougie, 2016).

The indicators for the variables tested were adapted from (Borah et al., 2022), (Zhang & Zhu, 2021), (Xie et al., 2023), (Thoumrungroje & Racela, 2022) to determine the measurement instruments. The questionnaire was systematically organized, beginning with an introduction, followed by respondents' demographic information, informed consent to complete the questionnaire, data security statements, and questions related to the indicators for each variable. These indicators are presented in Table 1. Instrument testing, including validity and reliability tests using SPSS Version 22, was conducted prior to further analysis. The validity test results indicated that all indicators for each variable had factor loadings >0.5, supporting their validity. Furthermore, the reliability test results showed a Cronbach's Alpha >0.6 for all indicators, confirming the reliability of the indicators for each variable (Hair, C. et al., 2014; Sekaran & Bougie, 2016).

Hypothesis testing was subsequently conducted through statistical analysis of causal relationships among the variables in the proposed model. This testing was conducted using Structural Equation Modeling - Partial Least Squares (SEM-PLS) with SMARTPLS Version 3. Convergent validity of the structural model was assessed using the Loading Factor and Average Variance Extracted (AVE), with an AVE above 0.5 indicating adequate convergent validity, while reliability testing was performed

using Composite Reliability and Cronbach’s Alpha. Discriminant validity was evaluated using the Fornell-Larcker criterion, whereby the square root of each construct’s AVE exceeds its correlations with the other constructs. Collinearity among indicators was examined through the Variance Inflation Factor (VIF), applying the conservative threshold of VIF below 5 recommended for PLS-SEM; all reported VIF values fall below this threshold, indicating no collinearity concerns. Furthermore, hypothesis testing was conducted on the estimated parameter coefficients derived from SEM-PLS, supplemented by the coefficient of determination.

**Table 1.** Validity and Reliability Tests

Variable	Indicator	Loading Factor	Cronbach’s Alpha
<i>Social Media Utilization</i>	Our business uses social media for sharing and seeking information	0.738	0.912
	Our business uses social media for brand recognition	0.766	
	Our business uses social media for market research (e.g., understanding current product conditions)	0.722	
	Our business uses social media to get customer feedback	0.827	
	Our business uses social media to build relationships with customers	0.838	
	Our business uses social media to maintain customer loyalty and engagement	0.808	
	Our business communicates with customers via social media	0.815	
	We also provide customer service through social media	0.792	
	<i>Customer Orientation</i>	We analyze customer data to identify trends	
We regularly check customer satisfaction with our products		0.819	
We always give attention to customers to make them feel valued		0.810	
We always offer advice to customers to solve their problems		0.738	
<i>Innovation Opportunity</i>	Social media use helps us identify innovation opportunities	0.803	0.923
	We often use social media feedback to design innovative products or services	0.788	
	Social media provides valuable insights into market trends and needs that translate into innovation opportunities	0.839	
	Social media enables us to collaborate with customers and partners in the innovation process	0.851	
	We feel that social media facilitates the exploration of innovative ideas not accessible through traditional channels	0.737	
	Certain features of social media, such as discussion forums or surveys, enhance our ability to discover innovation opportunities	0.835	
	Using social media allows us to test and refine innovative ideas before market launch	0.849	
	We feel social media plays a crucial role in accelerating the innovation process in our business.	0.753	

Sources: (Borah et al., 2022), (Zhang & Zhu, 2021), (Xie et al., 2023), (Thoumrungroje & Racela, 2022), data processed, 2024.

## Findings and Discussion

### Findings

#### Normality Test

**Table 2.** Descriptive Statistics of MSMEs Demographics

Demography Profile	Frequency	%
<b>Domicile</b>		
Banten	23	10.18%
DKI Jakarta	106	46.90%
West Java	97	42.92%
Total	226	100%
<b>MSMEs Age</b>		
1-3 Years	84	37.17%
3-5 Years	76	33.63%
5-8 Years	39	17.25%
8-10 Years	16	7.08%
Over 10 Years	11	4.87%
Total	226	100%
<b>Social Media Usage by MSMEs</b>		
Facebook	155	
Instagram	129	
Tiktok	109	
Youtube	58	
X/Twitter	34	
Whatsapp	5	
Telegram	2	
<b>Total of Social Media Usage</b>		
1 Social Media	46	20,35%
2 Social Media	48	21,25%
3 Social Media	66	29,20%
4 Social Media	33	14,60%
5 Social Media	33	14,60%
Total	226	100%

**Table 3.** Variance Inflation Factor (VIF), Outer Loading, Average Variance Extracted (AVE), Cronbach's Alpha, Composite Reliability

Variable & Indicator	VIF	Outer Loading	AVE	Composite Reliability	Cronbach's Alpha
<b>Social Media Utilization</b>					
SMU1	1.889	0.736	0.623	0.917	0.913
SMU2	2.075	0.761			
SMU3	1.932	0.713			
SMU4	2.683	0.833			
SMU5	2.607	0.837			
SMU6	2.265	0.803			
SMU7	2.643	0.821			
SMU8	2.473	0.798			
<b>Customer Orientation</b>					
CO1	1.551	0.789	0.618	0.866	0.793
CO2	1.822	0.828			
CO3	1.773	0.805			
CO4	1.443	0.718			
<b>Innovation Opportunity</b>					
IO1	2.317	0.803	0.653	0.937	0.923
IO2	2.236	0.790			
IO3	2.782	0.839			
IO4	2.846	0.849			
IO5	1.882	0.737			
IO6	2.657	0.835			
IO7	2.869	0.847			
IO8	1.873	0.756			

Table 2 contains the demographic data of MSMEs. The analysis revealed that MSMEs in the DKI Jakarta Province accounted for 46.90% of the 226 MSMEs observed. Additionally, MSMEs aged between 1-3 years made up 37.17%, while those over 10 years old accounted for only 4.87%. Social media usage was predominantly led by Facebook, followed by Instagram, TikTok, YouTube, and X/Twitter. Notably, MSMEs did not restrict themselves to a single social media platform: 29.20% used three platforms, 21.25% two, 20.35% one, and the remaining 14.60% used four or five.

Several structural model instrument tests are presented in Table 3. Firstly, the collinearity test using the Variance Inflation Factor (VIF) for each variable showed results <10, indicating no collinearity among indicators within each variable. Secondly, the outer loading test in the structural model showed that all indicators exceeded 0.5, confirming their validity. Additionally, the AVE values for all variables exceeded 0.5, further validating their inclusion in the structural model. Thirdly, the composite reliability and Cronbach's Alpha tests for the structural model showed that all variables had values >0.7, indicating that all indicators within each variable were reliable.

The research model, estimated using Structural Equation Modeling-Partial Least Squares (SEM-PLS), is depicted in Figure 1.

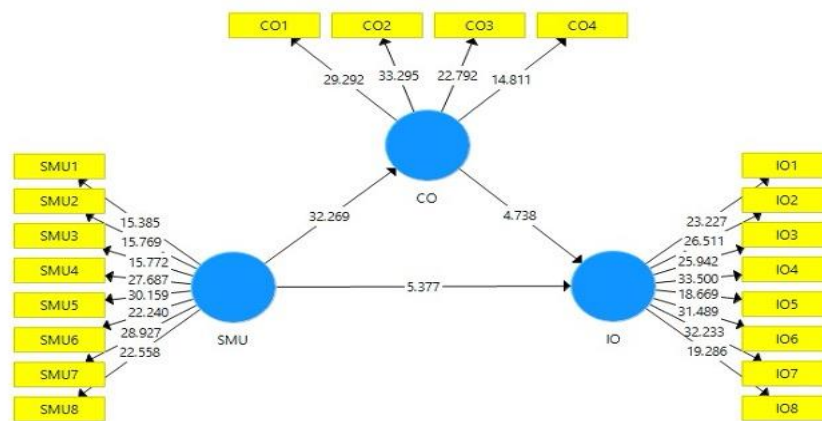


Figure 1. Estimated Structural Model (PLS-SEM)

The coefficient of determination test revealed that 70.6% of the variability in Customer Orientation, an endogenous variable, is explained. Meanwhile, the variability of Innovation Opportunity, the other endogenous variable, is 79.7%. Additionally, partial testing for each research hypothesis was conducted using a one-tailed statistical approach. The estimation results indicate positive influences of Social Media Utilization on Innovation Opportunity and Customer Orientation, and of Customer Orientation on Innovation Opportunity. In mediation testing, Customer Orientation was found to positively mediate the effect of Social Media Utilization on Innovation Opportunity. Because the direct effect of Social Media Utilization on Innovation Opportunity (H1) remains significant alongside the significant indirect effect (H4), this represents partial (complementary) mediation rather than full mediation; the mediation conclusion is based on the significance of the bootstrapped indirect effect. Consequently, hypotheses 1, 2, 3, and 4 are accepted.

Table 4. Parameter Significance Test for Direct and Indirect Effects

Relationship	Coefficient	St. Dev.	T Statistics	P-Values (One-Tailed)	Decision
H1: Social Media Utilization → Innovation Opportunity	0.501	0.093	5.377	0.000	Accept
H2: Social Media Utilization → Customer Orientation	0.840	0.026	32.269	0.000	Accept
H3: Customer Orientation → Innovation Opportunity	0.431	0.091	4.738	0.000	Accept
H4: Social Media Utilization → Customer Orientation → Innovation Opportunity	0.362	0.078	4.672	0.000	Accept

## **Discussion**

The empirical findings of this study are summarized in four main points. First, Social Media Utilization positively influences Innovation Opportunity. This finding aligns with previous studies. (Bhimani et al., 2019; Cenamor et al., 2019; Oduro, 2019). Supporting arguments include the claim that social media provides a platform that enables MSMEs to interact directly and in real time with customers, collect rich data on consumer preferences and behaviors, and identify emerging market trends (Alsharji et al., 2019). Furthermore, social media facilitates extensive collaboration and idea exchange within the organization and with external communities, thereby fostering innovation (Thomas & Paul, 2019). The ability to obtain instant feedback and make rapid adjustments based on social media data enhances MSMEs' responsiveness and adaptability to market changes, thereby accelerating the innovation cycle and increasing the success rate of new products (Kurniasih et al., 2023). Therefore, using social media not only broadens market reach but also catalyzes the creation of relevant and competitive innovations.

Second, Social Media Utilization positively influences Customer Orientation. This finding is consistent with studies by (Li et al., 2021), (Castagna et al., 2020), (Abeza et al., 2020). The underlying argument is that social media provides an interactive platform that allows MSMEs to engage directly with customers, collect rich data on consumer preferences and behaviors, and receive real-time feedback (Cheng & Shiu, 2019). Interactions through social media strengthen the relationship between MSMEs and customers, building deeper trust and loyalty. With direct access to customer perspectives, MSMEs can develop a deeper understanding of market needs and desires, which translates into the development of more relevant and value-added products and services (Curatman et al., 2022). Additionally, social media facilitates quick responses to changes in customer preferences and market trends, enhancing MSMEs' ability to adapt and innovate effectively (Yu et al., 2022). Therefore, social media utilization strengthens customer orientation by providing tools and insights that support more accurate and customer-centered decision-making, ultimately enhancing innovation opportunities and the competitive advantage of technology-based MSMEs.

Third, Customer Orientation positively influences Innovation Opportunity. This finding is in line with studies by (Matarazzo et al., 2021), (Zhou et al., 2009), (Neirotti & Raguseo, 2017). The main argument is that social media provides MSMEs with direct, real-time access to customer feedback, market trends, and competitive information, which are crucial for driving innovation. Interactions on social media allow MSMEs to understand customer needs and preferences more deeply and respond quickly to market changes (Cheng & Shiu, 2019). Social media also facilitates collaboration and idea exchange within the organization and with external parties, enriching the innovation process and reducing product development time (Muninger et al., 2019). With more accurate and relevant social media data, MSMEs can identify new market opportunities, reduce the risk of product failure, and create more targeted, value-added innovations. Therefore, social media use is a significant catalyst for enhancing the innovative capacity of technology-based MSMEs, enabling them to remain competitive and adaptable in a dynamic business environment.

Fourth, Customer Orientation positively mediates the effect of Social Media Utilization on Innovation Opportunity. This finding is corroborated by research showing the positive impact of Social Media Utilization on Customer Orientation (Li et al., 2021), (Castagna et al., 2020), (Abeza et al., 2020). The positive effect of Customer Orientation on Innovation Opportunity; (Matarazzo et al., 2021), (Zhou et al., 2009), (Neirotti & Raguseo, 2017) and the positive influence of Social Media Utilization on Innovation Opportunity (Bhimani et al., 2019; Cenamor et al., 2019; Oduro, 2019). The primary argument underlying these findings is that customer orientation drives MSMEs to proactively gather, analyze, and leverage data from social media to gain a deeper understanding of customer needs and preferences (Moghadamzadeh et al., 2020). With a robust customer orientation, insights from social media can be transformed into more meaningful, targeted actions, thereby accelerating the innovation process. Customer orientation enables MSMEs to better align their products and services with market expectations and demands, thereby enhancing the relevance and added value of the innovations produced (Na et al., 2019). Additionally, a strong customer orientation increases MSMEs' responsiveness and adaptability to market changes, fostering more effective collaboration in

generating new ideas and enhancing customer engagement in the innovation process (Statsenko & Corral de Zubielqui, 2020). Consequently, customer orientation mediates the impact of social media utilization by optimizing the use of customer data to drive faster, more relevant, and competitive innovations, thereby strengthening the position of technology-based MSMEs in a dynamic and competitive business environment.

## Conclusion

The findings of this study demonstrate that Social Media Utilization positively influences Innovation Opportunity and Customer Orientation, and that Customer Orientation, in turn, positively influences Innovation Opportunity. Additionally, this study shows that Customer Orientation positively mediates the influence of Social Media Utilization on Innovation Opportunity. The managerial implications for technology-based MSMEs in Banten, DKI Jakarta, and West Java are that leveraging social media should be a strategic priority to enhance innovation opportunities. Effective social media management enables MSMEs to gather rich, real-time customer data to better understand market needs and preferences. This underscores the importance of developing a strong customer orientation, in which MSMEs proactively interpret and use social media data to inform innovation decisions. With an integrated customer orientation, information from social media can be transformed into valuable insights that drive the development of more relevant, value-added products and services. Therefore, SME managers should focus on strengthening social media capabilities and customer orientation simultaneously, ensuring that the innovation process is data-driven and customer-centric. This strategy will not only improve the effectiveness of innovation but also enhance the competitiveness of MSMEs in dynamic markets.

This study has some limitations. First, the geographical scope of the MSMEs studied is limited to the provinces of Banten, DKI Jakarta, and West Java. Future research should consider a broader scale, including more provinces in Indonesia. Second, this study only examines the variables of Social Media Utilization, Customer Orientation, and Innovation Opportunity. Future research should include Social Media Capability to test its mediating effect on the relationship between Social Media Utilization and Innovation Opportunity. Testing the mediating effect of social media capability is important, as this capability reflects MSMEs' effectiveness in using social media (Tarsakoo & Charoensukmongkol, 2020). Social media capability can mediate the relationship between social media use and innovation opportunities. This analysis provides deeper insights into the impact of social media utilization on innovation, helping MSMEs enhance their social media strategies to drive more effective and sustainable innovation (Borah et al., 2022).

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