

The Mediating Marketing Capabilities between Entrepreneurial Orientation, Digital Literacy, and SME Performance

Dewi Lestari^{1*}, Roni Adi², Karlina Karlina³

Institut Teknologi Batam, Batam, Indonesia^{1,2,3}

dewitary20@gmail.com^{1*}, roni@iteba.ac.id²



Article History:

Received 14 November 2025

1st Revision 18 November 2025

2nd Revision 22 November 2025

3rd Revision 01 December 2025

Accepted on 05 December 2025

Abstract

Purpose: SMEs in Batam City still face challenges in maintaining performance due to limited resources, marketing, and digital adoption. This study aims to examine how entrepreneurial orientation and digital literacy affect SME performance, with marketing capability serving as a mediating factor.

Methodology/approach: Using a causal research design, data were collected from 165 SME owners in Batam through questionnaires and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM).

Results: The findings reveal that entrepreneurial orientation and digital literacy significantly enhance marketing capability, which, in turn, positively influences SME performance. Furthermore, marketing capability mediates the relationship between entrepreneurial orientation and performance, as well as between digital literacy and performance. These results highlight that SMEs need to strengthen their entrepreneurial orientation and digital literacy to enhance marketing capability and achieve sustainable performance.

Conclusions: This study concludes that entrepreneurial orientation and digital literacy play a significant role in enhancing marketing capabilities, which, in turn, positively contributes to the performance of SMEs in Batam City.

Limitations: This study used cross-sectional data and focused only on SMEs in Batam City, which may limit the generalizability of the results. Reliance on self-reported questionnaires may also have introduced response bias.

Contributions: This study demonstrates that entrepreneurial orientation and digital literacy enhance SME performance through marketing capability and offers valuable insights for researchers, practitioners, and policymakers.

Keywords: *Digital Literacy, Entrepreneurial Orientation, Marketing Capability, SMes Performance*

How to Cite: Lestari, D., Adi, R., Karlina, K. (2026). The Mediating Marketing Capabilities between Entrepreneurial Orientation, Digital Literacy, and SME Performance. *Jurnal Akuntansi, Keuangan, dan Manajemen*, 7(2) 335-346.

1. Introduction

SMEs play a significant role in the development and economic growth of a country ([Wardi, Susanto, & Abdullah, 2017](#)). This certainly helps drive economic growth in the Riau Islands, including Batam City. Batam City is an industrial city with leading industries, including food and beverages, metal and machinery, leather, rubber, plastics and packaging, electronics and electrical equipment, shipbuilding and supporting industries, oil and gas and supporting industries, transportation services, and construction industrial services. Batam City is also a trade and tourism hub with a strategic location and distinctive seafood cuisine. Therefore, the growth of SMEs across various sectors in Batam City serves as a driving force for the economy of the Riau Islands.

However, SMEs in Batam City still experience development delays owing to human resource capacity, ownership, financing, marketing, and various other issues related to financial management ([Larashati & Hariyati, 2021](#)). According to the Riau Islands Central Statistics Agency in 2024, the income of micro and small enterprises in Batam City experienced a significant decline. In 2019, sales amounted to Rp 1,801,112.02, while in 2020, they declined to Rp 621,832.14. In 2021, revenue was Rp 1,015,425.00, and in 2022, revenue reached Rp 1,304,755.39, which is still low compared to the revenue in 2019. This decline indicates unstable business performance, with performance tending to decrease.

The decline in sales in 2020 occurred because of the Coronavirus (COVID-19) pandemic and government policies that prohibited outdoor activities and imposed large-scale business closures. This caused many SMEs to shut down and go out of business because they were unable to survive during the COVID-19 pandemic due to government policies restricting activities outside and closing business operations. Based on this phenomenon, SME performance is an interesting issue to examine due to the characteristics of profit volume and sales used to assess business performance ([Hooley, Greenley, Cadogan, & Fahy, 2005](#)), as well as entrepreneurial orientation in entering new or established markets with new products ([Nugroho & Soewarno, 2024](#)). Marketing capability is used to develop effective marketing strategies ([Martin, Javalgi, & Ciravegna, 2020](#)).

Small and Medium-Sized Enterprises (SMEs), which contribute significantly to the economy, have become an interesting subject of research across various fields of study ([Costa & Pita, 2020](#); [Lestari & Susanto, 2021](#); [Omar, Kassim, Shah, Alam, & Wel, 2020](#); [Susanto et al., 2023](#); [Wardi et al., 2017](#)). Entrepreneurial orientation is important for SME performance ([Ratten, 2020](#)) and the use of digital technology is a key consideration in improving SME performance ([Papadopoulos, Baltas, & Balta, 2020](#)). Performance improvement can be achieved through the abilities and intelligence of SME owners in innovating and keeping pace with technological developments. Innovation carried out by SMEs may take the form of information and knowledge transformation, such as digital literacy capabilities, which are recognized as important skills that help individuals transform organizations and achieve superior performance ([Garzoni, De Turi, Secundo, & Del Vecchio, 2020](#)).

Digital literacy can improve SME performance and encourage digital transformation through the use of technology ([Zahoor, Zopiatis, Adomako, & Lamprinakos, 2023](#)). Indonesia's digital economy has grown to double digits across all sectors, reaching USD 100 billion by 2025, primarily driven by e-commerce, transportation and food services, online travel, and online media ([Uula & Surbakti, 2023](#)). The Ministry of Cooperatives and Small and Medium Enterprises recorded that 25.4 million MSMEs entered the digital ecosystem in 2023, an increase of 22.35% compared to 2022. This result was driven by digitalization outreach, assistance for MSMEs in creating websites, online stores, and social media accounts, as well as providing digital marketing training for product promotion. This poses a challenge for SMEs to adopt new technologies and maintain competitiveness in a dynamic market.

Digitalization has opened new methods to drive the achievement of strategic performance ([Khattak & Yousaf, 2021](#)). However, digital literacy capabilities among Small and Medium Enterprises (SMEs) remain limited. Based on the gap analysis, it is necessary to conduct an in-depth study of entrepreneurial orientation, marketing capability, and managerial aspects. This is an important issue because digitalization has resulted in the loss of many managerial skills, indicating that digital literacy plays a very important role in the performance and sustainability of SMEs in Batam City. The reason for choosing the Riau Islands is that most of the region's economy is driven by SME actors, as previous studies have examined SME performance in the Riau Islands ([Wardi et al., 2017](#)).

The theoretical urgency of this research lies in the limited number of previous studies that have comprehensively examined the influence of entrepreneurial orientation, marketing capability, and digital literacy on SME performance and sustainability, making this study a key theoretical contribution. Second, previous studies have not thoroughly examined the factors influencing SME performance and sustainability, including entrepreneurial orientation, marketing capability, and digital literacy. Third, this research provides conceptual understanding and empirical evidence for policymaking related to improving the performance and sustainability of SMEs in Batam City.

2. Literature Review and Hypothesis Development

2.1 Entrepreneurial Orientation

According to [Susanto et al. \(2023\)](#), entrepreneurial orientation is analogous to part of the entrepreneurial management concept, reflecting processes, methods, and organizational styles in acting entrepreneurially. [Suder, Kusa, Duda, and Karpacz \(2025\)](#) state that companies seeking to enhance success in corporate entrepreneurship need to adopt entrepreneurial orientation as a primary strategy. A higher level of entrepreneurial orientation enables greater innovation and the creation of new markets; however, this condition also generates uncertainty and involves considerable risk when considering existing business infrastructure, such as supply chains, law enforcement, energy facilities, and transportation, particularly for entrepreneurial firms operating in developing countries ([Nugroho & Soewarno, 2024](#)).

Furthermore, [Castillo-Villar, Cavazos-Arroyo, and Castillo-Villar \(2025\)](#) identified entrepreneurial orientation through three main dimensions: innovativeness, proactiveness, and risk-taking, which play an important role in supporting entrepreneurial development ([Suder et al., 2025](#)). However, according to [Suder et al. \(2025\)](#) there are two additional dimensions that also shape entrepreneurial orientation, namely autonomy in decision-making and aggressiveness in pursuing competitive advantage. Entrepreneurial orientation is also considered an important corporate strategy, as it plays a role in improving performance, particularly in the service sector, as explained by previous researchers such as ([Sok, Snell, Lee, & Sok, 2017](#)).

H₁: Entrepreneurial orientation has a significant positive effect on marketing capabilities.

2.2 Digital Literacy

The Internet has driven progress and growth in banking, transportation, the economy, and education. Therefore, individuals require the ability, competence, and skills to adapt to the technological era. Digital literacy is the ability to use new technologies efficiently and appropriately to produce information with fresh perspectives. It is the first foundation that encompasses skills, knowledge, attitudes, and awareness of digital technology. The next stage is the use of digital technology, which involves applying digital skills to select and utilize appropriate digital tools to search for and process information, as well as to find solutions to problems. The ability to use digital technology depends on the level of digital literacy possessed by individuals ([Reddy, Sharma, & Chaudhary, 2020](#)).

Research by [Lestari, Jufri, and Susanto \(2025\)](#) reveals that digital literacy is a very important topic that has been studied by developed countries such as the United Kingdom, the United States, and Switzerland. The study also reveals that digital literacy is closely linked to information literacy, digitalization, digital transformation, financial literacy, digital skills, and AI literacy. The use of digital technology can drive digital transformation. In digital transformation, digital tools are utilized to create new knowledge, activities, or innovations. Digital transformation can be achieved through the effective use of digital technology.

Therefore, to realize digital transformation, digital literacy skills and capabilities are required ([Reddy et al., 2020](#)). Thus, digital literacy makes an important contribution to business performance growth. [Zahoor et al. \(2023\)](#) reveal that digital literacy has a positive effect on digital usage, and through the use of digital technology, digital literacy positively influences digital transformation. Digital literacy has a broader impact on the use of digital technology ([Van Laar, Van Deursen, Van Dijk, & De Haan, 2017](#)). Digital literacy can help managers conduct business activities more effectively through the use of technology ([Scuotto, Nicotra, Del Giudice, Krueger, & Gregori, 2021](#)). Entrepreneurs need to adopt new strategies to promote digital inclusion and conduct digital literacy training, not only for professionals but also for the entire workforce ([Bejaković & Mrnjavac, 2020](#)).

The use of social media through influencer marketing, both human and non-human, as a marketing strategy can have a significant impact on brands and business performance ([Xie-Carson, Benckendorff, & Hughes, 2023](#)). Meanwhile [Zahoor et al. \(2023\)](#) found that digital literacy positively impacts digital transformation through the use of digital technology, which in turn improves the performance of Small

and Medium-Sized Enterprises (SMEs). Digital literacy plays an important role in expanding economic opportunities by enabling individuals to effectively find and access valuable information online ([Ali, Raza, & Qazi, 2023](#)). In addition, information technology is important in the business world because it supports business development processes ([Y. Yuliana, 2022](#)).

H₂: Digital Literacy has a significant positive effect on Marketing Capabilities (MC)

2.3 Marketing Capabilities

Marketing capabilities play a role in enabling businesses to create and deliver added value to customers and enhance competitiveness. From a resource-based view of the firm, the expected outcome of managerial efforts is the creation and delivery of sustainable competitive advantage, which ultimately contributes to superior business performance. [Susanto et al. \(2023\)](#) findings also confirm that marketing capabilities have a significant positive effect on SME performance. Competitive advantage-based resources can be achieved through the ownership of assets or marketing capabilities ([Martin et al., 2020](#)).

[Sok et al. \(2017\)](#) state that marketing capabilities can leverage emerging market trends in development and introduction to produce unique service offerings that align with customer needs to meet customer needs. According to [Gnizy \(2019\)](#) study, dynamic marketing capabilities emphasize how firms develop managerial abilities to build and integrate market knowledge, including customer orientation, competitor activities, research and development capabilities, and technological knowledge. In this context, this includes market orientation and strategic flexibility. Marketing capability refers to a firm's ability to conduct various marketing functions ([Martin et al., 2020](#)). According to [Rahman \(2025\)](#), marketing capability is the firm's capacity to perform various marketing activities effectively, which contributes to the creation and maintenance of sustainable competitive advantage.

Meanwhile [Gnizy \(2019\)](#), marketing capability is a combination of resources and operational capabilities in marketing activities, encompassing both tangible and intangible aspects, such as brand management, sales strategy, distribution channel management, and service provision to support marketing effectiveness. Possessing digital marketing capabilities, digital strategies, and the ability to identify digital marketing trends enables businesses to compete competitively ([Suryaputra, Demu, & Arthana, 2024](#)).

H₃: Marketing Capability (MC) positively affects SME performance.

[Syarifuddin, Payangan, Muis, and Amar \(2019\)](#) found that entrepreneurial orientation has a significant positive indirect effect on business performance through marketing capability in freshwater fish farming businesses in the Manggala District, Makassar. This study is in line with [Sok et al. \(2017\)](#), who found that marketing capability mediates the relationship between entrepreneurial orientation and performance. This means that if a firm's entrepreneurial orientation is high, it will improve firm performance, and marketing capability will also increase. In line with [Susanto et al. \(2023\)](#), marketing capability is proven to have an indirect effect on entrepreneurial orientation, where the ability of MSMEs to manage marketing activities allows the entrepreneurial potential possessed by business actors to be utilized more optimally. This has an impact on improving the effectiveness of business strategies and ultimately makes MSME performance more competitive amid market competition.

In the study by [Lestari \(2025\)](#) marketing capability is emphasized as strengthening its contribution to improving SME performance, and marketing capability also has an indirect effect on the relationship between entrepreneurial orientation and SME performance. In the study by [Kusumawati and Nugrahini \(2024\)](#) it is explained that digital skills and platform usage strategies are basic requirements for maintaining the sustainability of digital-based businesses.

H₄: Marketing Capabilities (MC) have an indirect effect on the relationship between Entrepreneurial Orientation (EO) and SME Performance

The utilization of digital technologies, such as the Internet, social media, and e-commerce platforms, requires business actors to have an adequate level of digital literacy. This capability is an important requirement for facing the increasingly complex dynamics of the digital environment. In addition,

knowledge and skills in planning, managing, and developing businesses also require adequate entrepreneurial literacy. The acceleration of digital transformation encourages MSME actors to adapt quickly to avoid being left behind in business competition. Digital literacy provides significant benefits for MSMEs in improving business performance, as it facilitates business actors in conducting business activities online through various digital platforms, including e-commerce and social media ([Puspitasari & Hidayat, 2024](#)). Thus, marketing capability acts as a mediating variable that allows digital literacy to have an indirect effect on improving MSME performance because a good marketing capability helps business actors utilize digital understanding more effectively in business strategies ([Susanto et al., 2023](#)).

H₅: Marketing Capabilities (MC) have an indirect effect on the relationship between Digital Literacy and SME Performance

2.4 SME Performance

Firm performance reflects the results of various operational processes and activities that take place within an organization. Performance plays a crucial role in evaluating the extent to which a firm has successfully implemented its vision, mission, and strategic objectives. According to [Wardi et al. \(2017\)](#), firm performance is the result achieved within a certain period by referring to predetermined standards. Performance measurement is designed to evaluate the effectiveness of company activities and assess the achievement of final outcomes. Another definition proposed by [Wardi et al. \(2017\)](#) defines firm performance as the level of success of a firm in achieving predetermined strategic targets through selected strategic initiatives.

Based on several definitions, firm performance can be interpreted as a measure of the effectiveness of strategy implementation designed to achieve objectives and realize the firm's vision and mission. Improvements in firm performance can be achieved by adopting approaches related to entrepreneurial orientation and market orientation, as well as using strategies that encourage company operations simultaneously and develop social and business network ties. Through this approach, firm operations can be enhanced to achieve higher profit performance and sales volume ([Nugroho & Soewarno, 2024](#)).

3. Research Methodology

This study was conducted by distributing questionnaires to SME actors in Batam City in collaboration with the Integrated Business Service Center (PLUT) of Batam City and the Department of Cooperatives and SMEs of Batam City, with SMEs in Batam City as the research objects. The total population of SMEs is unknown because not all business owners are registered and become fostered enterprises of the Department of Cooperatives and SMEs of Batam City. Based on the characteristics of the population, this study used a non-probability sampling technique with a purposive sampling approach. This technique was chosen because the researcher determined the sample based on certain considerations so that the selected respondents were considered the most relevant, useful, and able to represent the research population ([Sugiyono, 2016](#)).

In this study, the research sample comprised business owners with the following criteria: assets of >50 million–500 million, annual turnover of >300 million–2.5 billion, and a number of employees of 4–15 for small enterprises. The criteria for medium-sized enterprises included assets of >500 million–10 billion, annual turnover of >2.5 billion–50 billion, and a number of employees of 20–99. The author uses a sampling technique with the representative formula according to [F. Hair Jr, Sarstedt, Hopkins, and G. Kuppelwieser \(2014\)](#) which depends on the number of questions multiplied by 5 to 10. The number of questions in this study is 33 questions, then multiplied by 5; thus, the number of samples in this study is 165 samples. The data analysis technique was Structural Equation Modeling (SEM), and it was processed using the SmartPLS 3 software. The data analysis technique refers to Structural Equation Modeling (SEM) and was processed using SmartPLS 3 software.

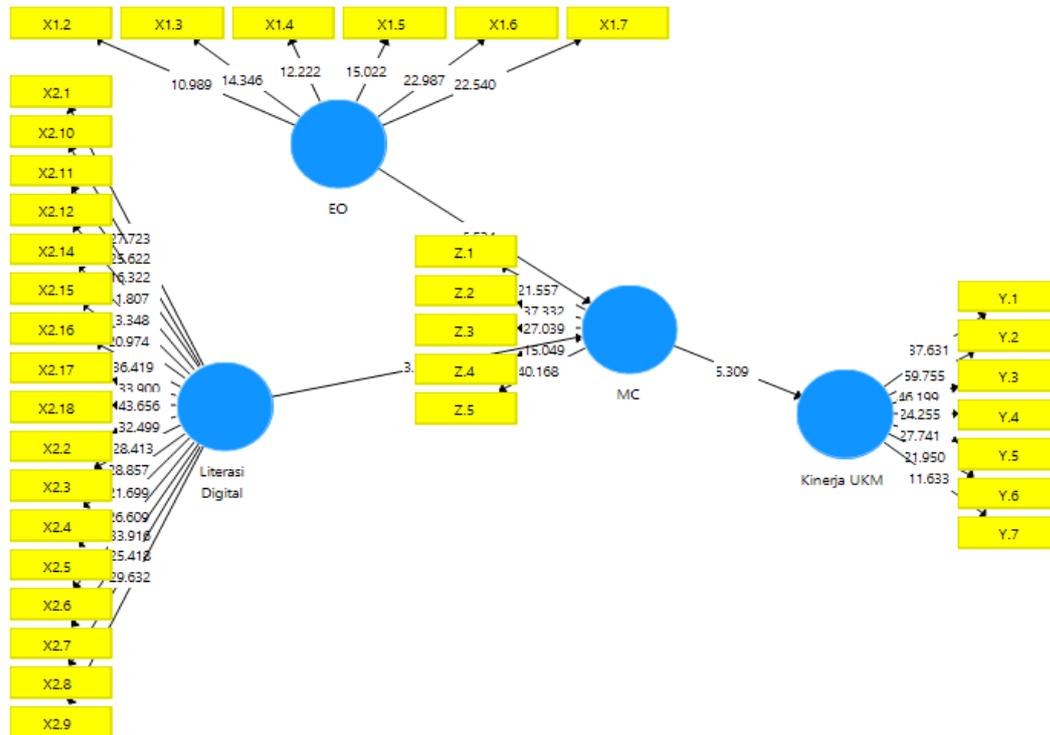
4. Results and Discussion

In this study, questionnaires were distributed to 165 owners of Small and Medium Enterprises (SMEs) in Batam City. Based on respondent characteristics, most were female, totaling 92 (56%), while male

respondents numbered 73 (44%). Regarding age, most respondents were aged 20–39 years, totaling 137 (83%). Based on education level, SME actors with a bachelor’s degree (S1) dominated, with 88 (53%). From the industry perspective, most were engaged in the trade sector, totaling 101 (61%). Based on the number of employees, the dominant category was businesses with 5–19 employees, totaling 84 (51%). Regarding firm age, the majority of respondents had businesses aged 5–<10 years, totaling 53 (32%). For the indicator of annual sales, most respondents were in the <300 million category, totaling 79 (48%), while the >2.5 billion category was the smallest, with only five (3%). Meanwhile, for the asset indicator, the largest category was 50–<500 million, totaling 64 (39%).

4.1 Validity Test

Convergent validity is one of the criteria used in the analysis testing with SmartPLS.



As suggested by [Hair Jr et al. \(2021\)](#), in the initial examination stage, the loading factor value must exceed 0.5 because, in general, this value is already considered significant. Convergent validity can be assessed through loading factor values and Average Variance Extracted (AVE). Therefore, the final results of the SmartPLS output are shown in Figure 1 and Table 1, which present the results of the AVE test. Based on the rule of thumb, which requires a minimum outer loading value of 0.50, all indicators in this study were declared valid because each showed an outer loading value exceeding the minimum threshold of 0.50.

Table 1. Results of Average Variance Extracted (AVE) Test

Variable	AVE	Critical Value	Description
EO	0,636	> 0,5	Valid
SME Performance	0,696	> 0,5	Valid
Digital Literacy	0,636	> 0,5	Valid
MC	0,702	> 0,5	Valid

Convergent validity can be evaluated through cross-loading, the Fornell–Larcker criterion, and the Heterotrait–Monotrait Ratio (HTMT). According to [Hair Jr et al. \(2021\)](#), the cross-loading value of an indicator must be higher for its latent construct than for other constructs. Based on the results of the analysis using SmartPLS 3.0, all indicators met this criterion, with the highest cross-loading values consistently appearing on the measured construct. Thus, the cross-loading test in this study is considered valid.

Table 2. Results of Fornell-Larcker Criterion Test

	X_1	Y	X_2	Z
EO	0,797			
SME Performance	0,503	0,834		
Digital Literacy	0,591	0,659	0,797	
MC	0,846	0,530	0,681	0,838

The next method [Henseler, Ringle, and Sarstedt \(2015\)](#) for testing discriminant validity uses the Heterotrait-Monotrait Ratio of correlations (HTMT). The results of the HTMT test are presented in Table 3.

Table 3. Results of HTMT Test

	X_1	Y	X_2	Z
EO				
SME Performance	0,548			
Digital Literacy	0,612	0,683		
MC	0,936	0,569	0,701	

4.2 Reliability Test

Table 4. Composite Reliability and Cronbach's Alpha

Variables	Composite Reliability	Cronbach's AIX2a
EO	0,886	0,913
SME Performance	0,926	0,941
Digital Literacy	0,964	0,967
MC	0,894	0,922

Composite reliability was used to assess the consistency of indicator reliability within a variable. A construct was considered reliable if the composite reliability value obtained exceeded 0.6 ([Hair Jr et al., 2021](#)). Reliability testing through composite reliability was strengthened by Cronbach's alpha values. A variable was declared reliable if the Cronbach's alpha value exceeded 0.7. The Cronbach's alpha and composite reliability values for each variable in this study are presented in Table 4. Table 4 presents the Cronbach's alpha and composite reliability values for all variables. All values obtained were above 0.70 (≥ 0.70); therefore, it can be concluded that all indicators in this study met the reliability criteria.

4.3 Hypothesis Testing

The values of the direct effect hypothesis testing are presented in Table 5.

Table 5. Results of direct effect hypothesis testing

Code	Hypothesis	Original Sample	T statistics	P values	Conclusion
H_1	EO -> MC	0,681	6,534	0,000	Accepted
H_2	Digital Literacy → MC	0,278	3,284	0,001	Accepted
H_3	MC → SME Performance	0,530	5,309	0,000	Accepted

The values of the indirect effect hypothesis testing are presented in Table 6.

Table 6. Results of indirect effect hypothesis testing

Code	Hypothesis	Original Sample	T statistics	P values	Conclusion
H_4	EO → MC → SME Performance	0,361	7,629	0,000	Accepted
H_5	Digital Literacy → MC → SME Performance	0,148	2,092	0,037	Accepted

To determine whether a hypothesis is accepted or rejected, the significance value (p-value) obtained from the bootstrapping results is used. In this study, a hypothesis is accepted if it has a positive beta coefficient with a significance level of p-value ≤ 0.05 (5%). Hypothesis testing was conducted by referring to the results in the path coefficient table.

4.4 Discussion

H_1 : Entrepreneurial Orientation (EO) has a significant positive effect on Marketing Capabilities (MC) ($\beta = 0.681$; $p < 0.001$).

These results indicate that entrepreneurial orientation is a dominant factor in shaping and strengthening the market competitiveness of SMEs. A high entrepreneurial orientation is usually reflected in proactive attitudes, a willingness to take risks, and the ability to innovate in developing products and services. SMEs with a strong entrepreneurial orientation are more responsive to changes in market trends, able to identify new business opportunities, and willing to carry out product differentiation to attract customers. The relatively large coefficient value ($\beta = 0.681$) shows that consistent improvements in entrepreneurial orientation encourage SME competitiveness, enabling them to maintain their position in a competitive market, even under dynamic economic conditions.

The results of this study are in line with the findings of [Rahman \(2025\)](#) concluded that entrepreneurial orientation has a positive and significant effect on marketing capabilities. [Rahman \(2025\)](#) concludes that entrepreneurial orientation has a positive and significant effect on marketing capabilities. [Hidayat and Murwatingsih \(2018\)](#) found that entrepreneurial orientation has a positive and significant effect on marketing capabilities. Improvements in entrepreneurial capability and digital literacy contribute to increased income and expanded market reach ([Y. D. Lestari et al., 2025](#)). This is consistent with studies by [Wisnuaji, Rachmawati, and Sudari \(2023\)](#) and [I. Yuliana, Ramandha, and Pratiwi \(2025\)](#) which reveal that the development of social media marketing and digital marketing can reach wider markets.

H_2 : Digital literacy has a significant positive effect on marketing capabilities ($\beta = 0.278$; $p = 0.001$).

The influence of digital literacy on market competitiveness indicates that SME actors' ability to access, understand, and utilize digital technology is one of the keys to winning competition. SMEs with high digital literacy will find it easier to utilize social media, e-commerce, data-based marketing, and business management applications to reach broader and more efficient markets. Although its effect on MC is not as large as that of EO, the significant positive coefficient value ($\beta = 0.278$) indicates that the utilization of digital technology can improve operational efficiency, expand customer reach, and strengthen brand image, which ultimately impacts competitiveness. This is in line with [Supriatna, Juhandi, and Rasipan \(2022\)](#) results, who revealed that digital literacy has a significant effect on marketing performance.

H_3 : Marketing Capabilities (MC) have a significant positive effect on SME performance ($\beta = 0.530$; $p < 0.001$).

These findings confirm that SMEs with strong market competitiveness tend to have better business performance. Market competitiveness is not only measured by price or product quality but also by the ability to build customer relationships, speed of response to market demand, and continuous innovation. The coefficient value $\beta = 0.530$ indicates a substantial effect, meaning that increased market competitiveness will directly contribute to revenue growth, increased profits, and business sustainability of SMEs. In this context, MC functions as an indicator of SMEs' ability to survive and grow amid

competitive pressures. The results of this study are in line with [Susanto et al. \(2023\)](#) research, revealing that marketing capabilities have a significant effect on SME performance. Likewise, studies by [Lestari \(2025\)](#) and [Lestari and Susanto \(2021\)](#) found that marketing capabilities improve SME performance.

H₄: Marketing Capabilities (MC) have an indirect effect on the relationship between Entrepreneurial Orientation (EO) and SME performance ($\beta = 0.361$; $p < 0.001$).

These results indicate that entrepreneurial orientation not only has a direct impact on competitiveness but also plays an important indirect role in improving business performance through a mediator in the form of market competitiveness. This means that even if EO is high, SME performance will not be optimal if it is not accompanied by increased competitiveness. In other words, proactive, innovative, and risk-taking attitudes possessed by business actors will result in better performance if they are implemented to strengthen competitive positioning. The β value of 0.361 indicates that this mediating effect is strong; therefore, strategies to develop EO should always be accompanied by efforts to strengthen MC. [Syarifuddin et al. \(2019\)](#) study found that EO has a significant positive indirect effect on business performance through marketing capabilities. This is in line with studies by [Lestari \(2025\)](#) and [Susanto et al. \(2023\)](#) which reveal that marketing capabilities significantly mediate the relationship between entrepreneurial orientation and SME performance.

H₅: Marketing Capabilities (MC) have an indirect effect on the relationship between digital literacy and SME performance ($\beta = 0.148$; $p = 0.037$).

Although the indirect effect of digital literacy on SME performance through market competitiveness is relatively smaller compared to EO, this result remains statistically significant. This means that mastery of digital technology by SME actors will encourage performance improvement when it is used to strengthen competitiveness in the market. For example, business actors who master digital marketing, consumer data analysis, and online sales systems will have a more advantageous position compared to their competitors, which ultimately impacts increased sales and profitability. The mediating effect of marketing capabilities in this relationship emphasizes that digital literacy needs to be directed to support effective competitive strategies so that its contribution to performance is more optimal.

Previous research results show that the use of social media not only functions as a means of communication and promotion but also plays a role in building stronger marketing capabilities. Meanwhile, marketing capabilities mediate the relationship between social media use and business performance ([Rosalina & Abd Majid, 2025](#)). This mediating role also indicates that the impact of social media use is not direct on performance but works through strengthening various internal marketing processes that add strategic value to SMEs. Therefore, marketing capabilities become an important element that bridges digital transformation through social media toward the achievement of better business performance. With the success of business actors in implementing marketing capabilities and the use of digital technology, digital transformation in MSMEs can be encouraged ([Wijaya, 2025](#)).

5. Conclusions

5.1 Conclusion

This study investigates the effects of entrepreneurial orientation and digital literacy on MSME performance in Batam City, with marketing capabilities acting as a mediating variable. The findings reveal that both entrepreneurial orientation and digital literacy positively influence marketing capabilities, which in turn enhance MSME performance. These results emphasize the importance of innovation, risk-taking, and digital technology adoption in improving marketing strategies and business performance. Therefore, fostering these elements within the MSME sector is crucial for strengthening their market competitiveness.

5.2 Research Limitations

While the study offers valuable insights into MSME performance, it has several limitations. The research is confined to MSMEs in Batam City, making the findings not directly applicable to other regions with differing economic conditions. Additionally, the use of self-reported surveys may introduce subjective bias, as responses could be influenced by individual perceptions. The cross-

sectional nature of this study limits the ability to track behavioral changes or MSME performance over time. Lastly, external factors such as market conditions, government policies, and industry competition were not included as control variables, preventing a comprehensive evaluation of their impact on MSME performance.

5.3 Suggestions and Directions for Future Research

Future research could expand the scope of this study by incorporating MSMEs from different regions with diverse economic profiles. Researchers could also consider longitudinal designs to capture changes in MSME performance over time. It would be beneficial to examine the influence of external variables such as market conditions, government policies, and industry competition as control factors. Moreover, exploring other mediating variables, such as organizational culture or innovation capacity, could provide a more nuanced understanding of the factors driving MSME performance. These directions would offer a more comprehensive view of how entrepreneurial orientation and digital literacy shape MSME success in varying contexts.

Author Contributions

DL conceptualized the research, designed the study, and supervised the data collection process. RA contributed to the analysis and interpretation of the data, as well as manuscript drafting. KK provided critical revisions to the manuscript and was responsible for the final approval of the study. All authors have read and approved the final manuscript, ensuring individual accountability for the research process.

References

- Ali, A., Raza, A. A., & Qazi, I. A. (2023). Validated digital literacy measures for populations with low levels of internet experiences. *Development Engineering*, 8, 100107. doi:<https://doi.org/10.1016/j.deveng.2023.100107>
- Bejaković, P., & Mrnjavac, Ž. (2020). The importance of digital literacy on the labour market. *Employee Relations: The International Journal*, 42(4), 921-932. doi:<https://doi.org/10.1108/ER-07-2019-0274>
- Castillo-Villar, F. R., Cavazos-Arroyo, J., & Castillo-Villar, K. K. (2025). Entrepreneurial orientation in social entrepreneurship: a systematic literature review and research agenda. *Sustainability*, 17(3), 816. doi:<https://doi.org/10.3390/su17030816>
- Costa, J., & Pita, M. (2020). Appraising entrepreneurship in Qatar under a gender perspective. *International Journal of Gender and Entrepreneurship*, 12(3), 233-251. doi:<https://doi.org/10.1108/IJGE-10-2019-0146>
- F. Hair Jr, J., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM) an emerging tool in business research. *European business review*, 26(2), 106-121. doi:<https://doi.org/10.1108/EBR-10-2013-0128>
- Garzoni, A., De Turi, I., Secundo, G., & Del Vecchio, P. (2020). Fostering digital transformation of SMEs: a four levels approach. *Management Decision*, 58(8), 1543-1562. doi:<https://doi.org/10.1108/MD-07-2019-0939>
- Gnizy, I. (2019). The role of inter-firm dispersion of international marketing capabilities in marketing strategy and business outcomes. *Journal of Business Research*, 105, 214-226. doi:<https://doi.org/10.1016/j.jbusres.2019.08.015>
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial Least Squares Structural Equation Modeling (PLS-SEM) using R: A workbook*: Springer Nature.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135. doi:<https://doi.org/10.1007/s11747-014-0403-8>
- Hidayat, S., & Murwatingsih, M. (2018). Pengaruh orientasi pasar dan kewirausahaan terhadap kinerja pemasaran melalui kapabilitas pemasaran pada UMKM lanting di Kecamatan Kuwarasan Kabupaten Kebumen. *Management Analysis Journal*, 7(1), 98-109.

- Hooley, G. J., Greenley, G. E., Cadogan, J. W., & Fahy, J. (2005). The performance impact of marketing resources. *Journal of Business Research*, 58(1), 18-27. doi:[https://doi.org/10.1016/S0148-2963\(03\)00109-7](https://doi.org/10.1016/S0148-2963(03)00109-7)
- Khattak, A., & Yousaf, Z. (2021). Digital social responsibility towards corporate social responsibility and strategic performance of hi-tech SMEs: customer engagement as a mediator. *Sustainability*, 14(1), 131. doi:<https://doi.org/10.3390/su14010131>
- Kusumawati, D. A., & Nugrahini, D. E. (2024). Penerapan Digitalpreneurship pada UMKM Kelurahan Krobokan Semarang. *Yumary: Jurnal Pengabdian kepada Masyarakat*, 4(3), 427-435. doi:<https://doi.org/10.35912/yumary.v4i3.2606>
- Larashati, M. D. N., & Hariyati, H. (2021). Pengaruh Strategi Inovasi Terhadap Kinerja Bisnis Dengan Literasi Keuangan Sebagai Variabel Intervening Pada Ukm Tas dan Koper Tanggulangin Sidoarjo. *Jurnal Akuntansi AKUNESA*, 10(1), 68-80. doi:<https://doi.org/10.26740/akunesa.v10n1.p68-80>
- Lestari, D. (2025). Does Marketing Capability Mediate the Relationship Between Entrepreneurial Orientation and Sme Performance. *Jurnal Manajemen Rekayasa dan Inovasi Bisnis*, 3(2), 33-44. doi:<https://doi.org/10.62375/jmrib.v3i2.556>
- Lestari, D., Jufri, M., & Susanto, P. (2025). Literasi Digital: Sebuah Tinjauan Sistematis. *Jurnal Teknik Ibnu Sina (JT-IBSI)*, 10(1), 28-40. doi:<https://doi.org/10.36352/jt-ibsi.v10i1.1147>
- Lestari, D., & Susanto, P. (2021). Orientasi kewirausahaan dan kapabilitas pemasaran pada kinerja usaha kecil dan menengah: Peran faktor lingkungan yang dinamis sebagai pemoderasi. *Jurnal Kajian Manajemen Bisnis*, 10(1), 46. doi:<https://doi.org/10.24036/jkmb.11201300>
- Lestari, Y. D., Wurjaningrum, F., Auliandri, T. A., Sridadi, A. R., Kartika, N., & Barinta, D. D. (2025). Pengayaan Kemampuan Pemasaran dan Kewirausahaan Peternak Domba Desa Sumpawit Kabupaten Magetan. *Yumary: Jurnal Pengabdian kepada Masyarakat*, 5(4), 801-810. doi:<https://doi.org/10.35912/yumary.v5i4.3676>
- Martin, S. L., Javalgi, R. R. G., & Ciravegna, L. (2020). Marketing capabilities and international new venture performance: The mediation role of marketing communication and the moderation effect of technological turbulence. *Journal of Business Research*, 107, 25-37. doi:<https://doi.org/10.1016/j.jbusres.2019.09.044>
- Nugroho, Y., & Soewarno, N. (2024). Entrepreneurship orientation and management ties in the relationship between technological opportunism and innovation performance. *Cogent Business & Management*, 11(1), 2413393. doi:<https://doi.org/10.1080/23311975.2024.2413393>
- Omar, N. A., Kassim, A. S., Shah, N. U., Alam, S. S., & Wel, C. A. C. (2020). The influence of customer value co-creation behavior on SME brand equity: An empirical analysis. *Iranian Journal of Management Studies*, 13(2), 165-196. doi:<https://doi.org/10.22059/IJMS.2019.280005.673611>
- Papadopoulos, T., Baltas, K. N., & Balta, M. E. (2020). The use of digital technologies by small and medium enterprises during COVID-19: Implications for theory and practice. *International journal of information management*, 55, 102192. doi:<https://doi.org/10.1016/j.ijinfomgt.2020.102192>
- Puspitasari, N., & Hidayat, N. (2024). Mendorong kinerja UMKM kuliner Pontianak go digital: Peran literasi digital dan entrepreneur literacy. *Jurnal Manajemen dan Perbankan (JUMPA)*, 11(3), 47-58. doi:<https://doi.org/10.55963/jumpa.v11i3.690>
- Rahman, M. A. (2025). Marketing Capability as a Mediator of Market Orientation and Entrepreneurship on Marketing Performance. *International Journal on Recent Trends in Business and Tourism (IJRTBT)*, 9(4), 46-58. doi:<https://doi.org/10.31674/ijrtbt.2025.v09i04.004>
- Ratten, V. (2020). Coronavirus (covid-19) and entrepreneurship: changing life and work landscape. *Journal of small business & entrepreneurship*, 32(5), 503-516. doi:<https://doi.org/10.1080/08276331.2020.1790167>
- Reddy, P., Sharma, B., & Chaudhary, K. (2020). Digital literacy: A review of literature. *International journal of technoethics (IJT)*, 11(2), 65-94. doi:<https://doi.org/10.4018/ijt.20200701.oa1>
- Rosalina, D., & Abd Majid, M. S. (2025). Manajemen Kinerja UKM di Era Transformasi Digital: Systematic Literature Review Anteseden, Moderator dan Mediator. *Jurnal Akuntansi Manajemen Ekonomi Kewirausahaan (JAMEK)*, 5(2), 461-472. doi:<https://doi.org/10.47065/jamek.v5i2.2036>

- Scuotto, V., Nicotra, M., Del Giudice, M., Krueger, N., & Gregori, G. L. (2021). A microfoundational perspective on SMEs' growth in the digital transformation era. *Journal of Business Research*, 129, 382-392. doi:<https://doi.org/10.1016/j.jbusres.2021.01.045>
- Sok, P., Snell, L., Lee, W. J., & Sok, K. M. (2017). Linking entrepreneurial orientation and small service firm performance through marketing resources and marketing capability: A moderated mediation model. *Journal of Service Theory and Practice*, 27(1), 231-249. doi:<https://doi.org/10.1108/JSTP-01-2016-0001>
- Suder, M., Kusa, R., Duda, J., & Karpacz, J. (2025). Exploring impact of entrepreneurial orientation on firm performance—moderators' variability under changing market conditions. *Review of managerial science*, 19(3), 797-842. doi:<https://doi.org/10.1007/s11846-024-00775-9>
- Sugiyono. (2016). Metode penelitian kuantitatif kualitatif dan R&D. *Alfabeta, Bandung*.
- Supriatna, T., Juhandi, D., & Rasipan, R. (2022). Promosi Media Sosial dan Literasi Digital Terhadap Kinerja Pemasaran yang di Moderasi Akses Fasilitas Digital. *MASTER: Jurnal Manajemen Strategik Kewirausahaan*, 2(2), 167-178. doi:<https://doi.org/10.37366/master.v2i2.481>
- Suryaputra, F. A. G., Demu, Y., & Arthana, I. K. (2024). Pemberdayaan Literasi Digital untuk Pengembangan UMKM Kota Soe Kabupaten TTS. *Yumary: Jurnal Pengabdian kepada Masyarakat*, 5(2), 233-241. doi:<https://doi.org/10.35912/yumary.v5i2.3136>
- Susanto, P., Hoque, M. E., Shah, N. U., Candra, A. H., Hashim, N. M. H. N., & Abdullah, N. L. (2023). Entrepreneurial orientation and performance of SMEs: the roles of marketing capabilities and social media usage. *Journal of Entrepreneurship in Emerging Economies*, 15(2), 379-403. doi:<https://doi.org/10.1108/JEEE-03-2021-0090>
- Syarifuddin, U., Payangan, O. R., Muis, M., & Amar, M. Y. (2019). Peran Mediasi Kapabilitas Pemasaran Pada Pengaruh Antara Orientasi Kewirausahaan Terhadap Kinerja Usaha Budidaya Ikan Air Tawar Di Kecamatan Manggala Makassar. *Jurnal Mirai Management*, 4(1), 98-121. doi:<https://doi.org/10.37531/mirai.v4i1.447>
- Uula, M. M., & Surbakti, H. (2023). Digital Economics in Indonesia: Development and Research Trend. *Digital Economics Review*, 1(1). doi:<https://doi.org/10.58968/der.v1i1.473>
- Van Laar, E., Van Deursen, A. J., Van Dijk, J. A., & De Haan, J. (2017). The relation between 21st-century skills and digital skills: A systematic literature review. *Computers in Human Behavior*, 72, 577-588. doi:<https://doi.org/10.1016/j.chb.2017.03.010>
- Wardi, Y., Susanto, P., & Abdullah, N. L. (2017). Orientasi kewirausahaan pada kinerja usaha kecil dan menengah (UKM) Sumatera Barat: Analisis peran moderasi dari intensitas persaingan, turbulensi pasar dan teknologi. *Journal of Technology Management*, 16(1), 46-61. doi:<https://doi.org/10.12695/jmt.2017.16.1.4>
- Wijaya, M. C. (2025). Pelatihan dan Pendampingan Pemasaran Digital Bagi UMKM di Kelurahan Cibaduyut Wetan Bandung. *Yumary: Jurnal Pengabdian kepada Masyarakat*, 5(4), 731-740. doi:<https://doi.org/10.35912/yumary.v5i4.4079>
- Wisnuaji, P. T., Rachmawati, D., & Sudari, S. A. (2023). Penerapan digital marketing untuk peningkatan pemasaran ukm heppi kitchen depok. *Yumary: Jurnal Pengabdian kepada Masyarakat*, 3(3), 139-146. doi:<https://doi.org/10.35912/yumary.v3i3.1767>
- Xie-Carson, L., Benckendorff, P., & Hughes, K. (2023). Not so different after all? A netnographic exploration of user engagement with non-human influencers on social media. *Journal of Business Research*, 167, 114149. doi:<https://doi.org/10.1016/j.jbusres.2023.114149>
- Yuliana, I., Ramandha, M. E. P., & Pratiwi, B. Y. H. (2025). Pelatihan Digital Marketing dan Formulasi Sabun dari Minyak Kelapa di Sentra Industri Pengolahan Kelapa Lombok Utara. *Yumary: Jurnal Pengabdian kepada Masyarakat*, 6(1), 11-20. doi:<https://doi.org/10.35912/yumary.v6i1.3800>
- Yuliana, Y. (2022). Peningkatan Daya Saing Bisnis melalui Technopreneurship. *Reviu Akuntansi, Manajemen, dan Bisnis*, 1(2), 103-113. doi:<https://doi.org/10.35912/rambis.v1i2.556>
- Zahoor, N., Zopiatis, A., Adomako, S., & Lamprinakos, G. (2023). The micro-foundations of digitally transforming SMEs: How digital literacy and technology interact with managerial attributes. *Journal of Business Research*, 159, 113755. doi:<https://doi.org/10.1016/j.jbusres.2023.113755>