



Thriving in Uncertainty: How Entrepreneurial Orientation, Online Marketing, and Product Innovation Drive Rural MSME Performance in VUCA Times

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Abstract:

In an era increasingly characterized by volatility, uncertainty, complexity, and ambiguity (VUCA)—driven by factors such as geopolitical conflicts, economic instability, and global disruptions—Micro, Small, and Medium Enterprises (MSMEs) must adopt adaptive strategies to ensure survival and growth. This study investigates the role of Entrepreneurial Orientation (EO) in enhancing MSME performance under VUCA conditions, with a focus on the mediating roles of Marketing Capabilities, Social Media Marketing, and Product Innovation. Drawing from empirical data, the study confirms that EO significantly influences MSME performance both directly and indirectly. The survey was conducted on MSMEs in East Priangan, West Java, using the purposive sampling method, and the data was analyzed using structural equation modeling. EO is shown to enhance product innovation and marketing capabilities, which in turn positively affect the adoption of social media marketing and overall business performance. Additionally, both product innovation and social media marketing are found to contribute independently to performance outcomes. These findings contribute to entrepreneurship and strategic management literature by presenting an integrated model that explains how MSMEs can leverage entrepreneurial behavior and digital strategies to navigate uncertainty. Practically, the study highlights the importance of developing marketing and innovation capabilities as a pathway to MSME resilience and competitiveness in today's complex environment.

Keywords Entrepreneurship Orientation, Marketing Capability, MSME Performanc, Product Innovation, Social Media Marketing.

1. Introduction

The emergence of the Fourth Industrial Revolution, rapid digitalization, globalization, and rising global tensions have ushered in an era where businesses must continuously adapt to complex and unpredictable changes. One of the most defining moments of this VUCA (Volatile, Uncertain, Complex, and Ambiguous) world was the COVID-19 pandemic, which disrupted markets, altered consumer behavior, and forced both individuals and organizations into a steep learning curve. As lockdowns and policy shifts became the norm, people and businesses were required to rethink operations in a highly uncertain environment—solidifying the concept of the "VUCA World" (Troise et al., 2022)

This volatile environment continues to evolve. In post-pandemic years, the global business landscape is further shaped by geopolitical conflicts (e.g., the Russia–Ukraine war, Middle East war), inflationary pressures, rising interest rates, supply chain breakdowns, and even climate-related disasters. These ongoing disruptions represent a new chapter of VUCA—one that is more prolonged and multifaceted than before. The implications for businesses, particularly Micro, Small, and Medium Enterprises (MSMEs), are profound (Millar et al., 2018a). One of the most influential factors in MSME success is Entrepreneurial Orientation (EO). EO embodies a firm's innovativeness, proactiveness, and risk-taking behavior—all of which are essential qualities for navigating environments characterized by unpredictability (Fathurrahman et al., 2019; Karnowati et al., 2023). In Indonesia, MSMEs are diverse and often embedded in distinct regional cultures, such as those found in East Priangan, making a context-specific understanding of EO highly relevant. With continued technological advancement, empirical studies have expanded the EO framework by emphasizing the role of complementary entrepreneurial capabilities, particularly the ability to innovate and adapt in line with shifting demands (Mulyana & Hendar, 2020). As highlighted by (Iqbal et al., 2021a), various intervening or moderating factors may significantly shape the strength of the EO–performance relationship. Therefore, it is critical to explore what enables or strengthens this connection—especially in dynamic environments.

In this study, we introduce three key strategic capabilities that may enhance the impact of EO on MSME performance:

1. **Social Media Marketing:** Digital platforms have revolutionized the way businesses engage with customers. For MSMEs, especially in rural areas, platforms like Instagram, TikTok, and WhatsApp Business offer cost-effective, high-impact ways to reach and serve customers in real time (Hanaysha, 2022; Sedalo et al., 2022).

2. **Marketing Capabilities:** Defined as the firm's ability to identify, understand, and satisfy customer needs better than competitors, marketing capabilities are a major determinant of a firm's adaptability and customer loyalty in uncertain times (Susanto et al., 2023).

3. **Product Innovation:** The ability to develop or modify products that meet evolving market expectations is essential for staying competitive. During the pandemic, for example, MSMEs such as coffee shops innovated by offering ready-to-serve 1-liter drinks for home consumption—an innovation that was both timely and profitable (Bettiol et al., 2022; Ferreras-Méndez et al., 2021). In today's VUCA landscape, product innovation has also extended into symbolic and socio-political domains. For instance, some fashion and merchandise MSMEs have responded to rising geopolitical awareness and solidarity movements—such as the support for Palestine—by creating products featuring Palestinian flag patterns, "Free Palestine" messages, or color schemes associated with the Palestinian cause. These products resonate with a segment of consumers who seek to express their identity, values, and political stance through their purchases. This shows that innovation is not only about function or design, but also about emotional relevance and cultural resonance in times of uncertainty. By quickly adapting to social narratives, MSMEs can deepen engagement with their communities and open up niche markets aligned with current global events.

The MSMEs in East Priangan, with their strong community orientation and cultural uniqueness, have also started integrating these strategies to maintain relevance in today's VUCA environment. Prior research confirms that product innovation, marketing strength, and digital readiness not only mediate the effect of EO on business performance, but are themselves direct drivers of MSME success (Fathurrahman et al., 2019; Santosa & Taufik, 2023a, 2023b). In sum, this research is conducted to investigate how Entrepreneurial Orientation, supported by Marketing Capabilities, Social Media Marketing, and Product Innovation, impacts the performance of rural MSMEs in the current VUCA context. As MSMEs play a vital role in sustaining Indonesia's economy, understanding these dynamics is crucial for supporting their long-term viability, adaptability, and resilience (Karnowati et al., 2023). Moreover, this study contributes to the limited body of literature focusing on the intersection of EO, marketing capabilities, and rural MSME sustainability under VUCA conditions.

Previous research shows that marketing capabilities can improve a company's competitive position and maintain customer relationships and commitment by providing customer value, according to (Dai et al., 2021).

Conceptually, marketing capability refers to a company's capacity to understand and anticipate customer needs more effectively than its competitors and engage efficiently with them. Thus, it is proposed that micro, small, and medium enterprises (MSMEs) have marketing capabilities to create a strong relationship between EO and their performance (Elbanna et al., 2019a). In this research, marketing capabilities are expected to have a dual function: as an intermediary between EO and MSME performance and an influence on MSME performance.

Based on this background, this research needs to be carried out because MSMEs have an essential role in supporting the economy (Nur Feriyanto, 2021). Hence, the sustainability of MSME businesses needs to be maintained through exemplary performance and adaptation to VUCA situations by knowing the factors that influence MSME performance so that other MSMEs can adapt them (Troise et al., 2022). Examination of moderation effects in EO research is essential because the effectiveness of EO may depend on certain factors that may increase or decrease its relevance in achieving satisfactory performance for the firm. Research related to EO and MC in MSMEs is also minimal, so this research can add a broader contribution to the literature.

2. Literature Review

2.1 The VUCA Environment

VUCA-Volatility, Uncertainty, Complexity, and Ambiguity-describes business environments characterized by rapid and unpredictable changes. Firms in rural areas, especially during crises like the COVID-19 pandemic, face significant challenges in market demand, supply chains, and digital adoption. Agile and marketing agility frameworks show that organizations capable of quick sensemaking, rapid iteration, and customer-centric responses perform better in such contexts (Millar et al., 2018; Troise et al., 2022)

2.2 Entrepreneurial Orientation (EO)

(Miller, 1983) first defined Entrepreneurial Orientation (EO) as “an entrepreneurial firm is one that engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with ‘proactive’ innovations, beating competitors to the punch.” EO represents a firm's behavior that is innovative, risk-taking, and proactive in facing industry competition. EO has been shown to play a significant role in enhancing firm performance, as evidenced by various studies (Ferrerias-Méndez et al., 2021a; Mulyana & Hendar, 2020; Susanto et al., 2023; Tajeddini et al., 2020). Some research suggests that EO contributes to market growth, firm performance, and internationalization (Ahmed et al., 2014; Asemokha et al., 2019; Iqbal et al., 2021b; Karnowati et al., 2023; Tajeddini et al., 2020). Moreover, empirical findings indicate that entrepreneur-led firms tend to outperform those that do not seek innovative solutions to their challenges (Susanto et al., 2023) However, other studies have found only a weak or even no significant relationship between EO and firm performance (Dimitratos et al., 2004) Despite these mixed results, most research in developing countries shows a positive relationship between EO and performance (Njoroge et al., 2020; Susanto et al., 2019, 2023) During crises in VUCA times, entrepreneurial behavior and risk-taking attitudes have been found to help firms survive and identify new opportunities (Ratten, 2020).

H1: EO enhances MSME performance in VUCA situations.

H2: EO increases the use of social media marketing during VUCA.

H3: EO fosters product innovation

2.3 Marketing Capabilities (MC)

According to Tolstoy et al., (2022) a firm's capabilities are demonstrated in its routines and refer to the skills used to perform specific tasks and achieve goals. Marketing Capability (MC) refers to the proficiency and expertise that help a firm understand transformations in its market and allow it to operate more effectively. By leveraging MC, firms can improve their ability to introduce and deliver new products quickly and successfully, adjust pricing strategies in response to customer changes, provide excellent after-sales service, and collaborate efficiently with distributors and retailers (Ahmed et al., 2014; Sari et al., 2023; Susanto et al., 2023)

(Weerawardena & O'Cass, 2004) incorporate specific skills such as customer service quality, promotion effectiveness, salesforce quality, distribution network strength, and speed of new product introduction as indicators of MC. Previous research (Mariadoss et al., 2011; Martin & Javalgi, 2016; Tolstoy et al., 2022; Wibowo et al., 2024) has investigated the positive correlation between MC and firm performance, including knowledge of competition and customers, skills in market segmentation and targeting, advertising, and pricing. MSMEs can utilize available

resources to develop capabilities that add value and increase their competitiveness. For instance, in engaging with e-commerce, MSMEs can build online Marketing Capabilities to enhance digital interfaces, customer experience, and services—particularly through social media marketing.

H4: MC enhances MSME performance in VUCA situations.

H5: MC improves Social Media Marketing usage

2.4 Social Media Marketing (SMM)

According to Elbanna et al., (2019b), social media functions as a tool for communication, information sharing, self-expression, and collaboration in the online world. Indonesia has the largest social media users. This indicates a vast market potential, with social media becoming a convenient online communication channel between businesses and consumers, as well as among consumers globally, anytime and anywhere. MSMEs find these platforms suitable due to their limited resources such as financial capital and technical expertise (Chawla & Chodak, 2021) Research by (Malarvizhi et al., 2022a; Santosa et al., 2019, 2022) suggests that social media marketing can enhance brand trust and loyalty, as well as increase consumer access to product information. Hanaysha, (2022) also highlighted the positive correlation between social media marketing, trust, intimacy, and customer loyalty. A study by Chawla & Chodak, (2021) showed that businesses' use of social media can facilitate brand building and boost business activities. Furthermore, social media marketing can help MSMEs improve their overall performance (Hassan et al., 2018)

These findings lead to the formulation of the following hypotheses:

H6: Higher usage of SMM strengthens MSME performance in VUCA situations

2.5 Product Innovation

Product innovation refers to significant improvements or new developments of existing products (Atalay et al., 2013; Lestari et al., 2020) It involves creating new products that fulfill consumer needs and desires, thus generating interest and leading to purchase decisions (Almodóvar & Nguyen, 2022; Bettiol et al., 2022). Faced with increasingly fierce competition and VUCA conditions, companies are required to develop strategies to sustain their business—particularly through product development and innovation. These strategies must be driven by consumer needs, trends, and current realities.

According to (Kotler, 2011) there are three main indicators of product innovation: product quality, product variety, and style/design. In response to VUCA conditions, MSMEs have launched innovative offerings—such as packaged or symbolic products aligned with social movements (e.g., merchandise featuring the Palestinian flag or messages of solidarity)—to resonate emotionally and culturally with their customers.

H7: Product Innovation improves MSME performance in VUCA situations

Figure 1. Research Framework

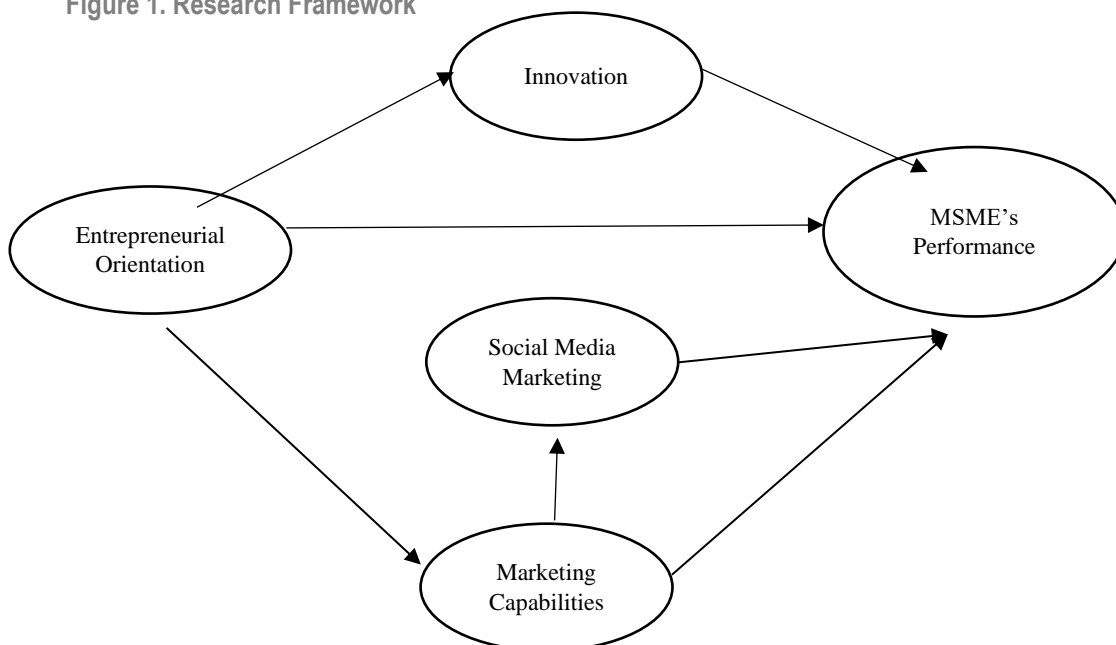


Table 1. Operational Definition

| Variable | Operational Definition | Measurement Item | Source |
|--|---|---|--|
| 1 <i>Entrepreneurship Orientation</i> | 2 EO is a firm-level strategic orientation that captures an organization's strategy-making practices, managerial philosophy, and entrepreneurial firm behavior | 3 EO1: Our company is known as an innovator among companies in our area EO2: Our company promotes innovative new products in our industry EO3: Our company continually seeks new opportunities to address changing market conditions | 4 (Njoroge et al., 2020; Susanto et al., 2023; Vaitoonkiat & Charoensukmongkol, 2020) |
| <i>Marketing Capabilities</i> | Marketing Capabilities is a set of resources and skills in the marketing field | MC1: We identified a new market opportunity MC2: We respond to market changes MC3: We maintain close relationships with customers | (Martin et al., 2017; Tolstoy et al., 2022) |
| Social Media Marketing | Marketing with social media is the process of gaining internet user visits to certain sites or the attention of the general public through social media sites. | SMM1: Our company uses social media to promote our brand/products SMM2: Our company uses social media to communicate with customers SMM3: Our company uses social media to evaluate marketing performance by getting feedback through: likes, comments, shares and follow-up accounts on Instagram, Facebook and Twitter, Tiktok, Whatsapp, etc. SMM4: Our company uses a different language in marketing via social media SMM5: Our company improves the quality of our products through the study of customer feedback on social media SMM6: Our company tries to reach new customers through social media | (Chawla & Chodak, 2021; Hanaysha, 2022; Marolt et al., 2022) |
| Product Innovation | Product innovation is the creation and subsequent introduction of new goods or services, or improved versions of previous goods or services. | PI1: Our company can utilize its resources creatively PI2: Our company always tries to innovate in improving product quality PI3: Our company relies on our customers' knowledge and feedback to innovate. | (Bettioli et al., 2022; Ferreras-Méndez et al., 2021; Njoroge et al., 2020) |
| MSME's Performance | MSME performance is a | MP1- Rate of return on investment (ROI) is satisfactory | (Clauss et al., 2021; Ferreras-Méndez et al., |

| Variable | Operational Definition | Measurement Item | Source |
|----------|---|--|------------------------------------|
| 1 | 2 multidimensional concept whose indicators can be departmental, such as production, finance or marketing, or consequential such as growth and profit. | 3 MP2- Sales growth is satisfactory MP3- Our company is satisfied with the return on sales | 4 2021; Tajeddini et al., 2020) |

3. Method

The objects of this research are MSMEs in West Java Province, especially in the East Priangan area, namely: Ciamis Regency, Pangandaran Regency, Tasikmalaya Regency, Garut Regency, Sumedang Regency, Tasikmalaya City and Banjar City . This research was designed as a type of survey research and used a semantic differential scale, an attitude measurement scale with a 10-point scale. This scale's continuum is negative on the left and positive on the right. The research variables consist of 5 variables, namely Entrepreneurship Orientation, which consists of 3 measurement items; Marketing Capabilities, which consists of 3 measurement items; Social Media Marketing, consisting of 6 measurement items; Product Innovation, consisting of 3 measurement items; and MSME's Performance, consisting of 3 measurement items. The object of this research is MSMEs in the East Priangan area of Indonesia that have used social media. The analytical tool used in this research is Structural Equation Modeling (SEM). The questionnaire used to obtain data in this research was distributed to 142 respondents online and offline using purposive sampling. This number meets the minimum number of respondents, five times the estimated parameter, namely $5 \times 27 = 135$ respondents (Hair & et al., 2010). Before distributing the questionnaire, this research conducted a trial on 30 respondents to verify the validity and reliability of the statements in the questionnaire. The trial results were in the form of a fit questionnaire distributed as a questionnaire for this research.

4. Findings and discussion

Respondent Profile

The data obtained in this research were 102 respondents with the number of respondents dominated by owners/managers of Food and Beverage MSMEs (44%) and Fashion MSMEs (31%). Respondents' ages were dominated by those aged 26-33 years (42%) and 34-41 years (41%).

Table 2. Respondent Profile

| MSME's Sectors | N (owner/manager) | Percentage |
|-----------------|-------------------|------------|
| Food & Beverage | 44 | 0.4313 |
| Fashion | 31 | 0.3039 |
| Services | 16 | 0.1568 |
| Furniture | 7 | 0.0686 |
| Others | 4 | 0.0392 |
| Age | | |
| 18-25 y.o | 12 | 0.1176 |
| 26-33 y.o | 42 | 0.4117 |
| 34-41 y.o | 41 | 0.4019 |
| 42-49 y.o | 7 | 0.0686 |
| >50 yo | 0 | 0 |

| | | |
|--------|----|--------|
| Gender | | |
| Female | 53 | 0.5196 |
| Male | 49 | 0.4803 |

Research Results

Measurement Model Analysis

Reliability and validity tests need to be carried out to determine the feasibility of the research model used in this research. Reliability testing aims to test the extent to which the measurement consistency of a test is repeated on the same subject and under the same conditions (Kreshpaj, et al., 2022a) The composite reliability obtained for each construct variable in this study meets the recommended minimum value of above 0.70, so the measurements in this study are reliable (Hair & et al., 2010). Average Variance Extract (AVE) is a test that complements the composite reliability test and reflects the total number of variance indicators that can represent each latent variable. The AVE value of each variable must exceed 0.50. This shows that the indicators in this research have well represented the latent variables developed because the AVE value exceeds 0.50 (Hair & et al., 2010).

Convergent validity tests and discriminant tests were carried out to determine the measurement of the validity of this research model. Composite reliability calculations of each construct and AVE are used to test the convergent validity of the measurement model. The coefficient value of the composite reliability variable must be above 0.70, while the AVE value of all variables must exceed the limit value of 0.50. The measurement model in this study has CR and AVE values above the recommended values, as seen in Table 1, so the measurement model has passed the convergent validity test. Discriminant validity is assessed by comparing the root value of AVE with the squared correlation between constructs (Hair & et al., 2010).The results (Table 3) show that the square correlation between constructs is lower than the root of AVE so that the measurements in the research model pass the discriminant validity test. It is suitable as a measurement parameter because all loading factors are above 0.5 (Prasetyo, 2020).

Tabel 3. Average variance extracted (AVE), Variance Extract (VE) and Composite Reliability (CR)

| Construct | CR | VE | AVE | Conclusion |
|-----------|-------|-------|-------|--------------------|
| EO | 0.812 | 0.683 | 0.947 | Valid and Reliable |
| PI | 0.896 | 0.722 | 0.946 | Valid and Reliable |
| SMM | 0.866 | 0.632 | 0.923 | Valid and Reliable |
| MC | 0.845 | 0.647 | 0.967 | Valid and Reliable |
| MP | 0.822 | 0.606 | 0.922 | Valid and Reliable |

Tabel 4. Discriminant validity of measured items

| | EO | PI | SMM | MC | MP |
|-----|-------|-------|--------|-------|-------|
| EO | 0.770 | | | | |
| PI | 0.935 | 0.824 | | | |
| SMM | 0.933 | 0.000 | 0.802 | | |
| MC | 0.795 | 0.000 | 0.000 | 0.776 | |
| MP | 0.151 | 0.953 | -0.854 | 0.652 | 0.713 |

The high correlation between entrepreneurship orientation and product innovation scores illustrates that MSME managers with high EO will be more creative in producing product innovations and strategies to deal with various situations (Karnowati et al., 2023)

Goodness of Fit

The Goodness of Fit test in SEM analysis is carried out to ensure that the research model is fit and can be used in other research. The model suitability test can be seen by comparing the results of ChiSquare, Probability, CMIN/DF, GFI, AGFI, TLI, CFI, and RMSEA analysis with Cut of value (Hair & et al., 2010; Khaerani et al., 2024). Then, this goodness of fit test can be accepted, or the model is categorized as fit if at least 5 of these criteria are met (Malarvizhi et al., 2022b). The measurement model shows good goodness of fit values in Table 3.

Tabel 5. Goodness of Fit

| No. | Goodness of Fit Index | Cut of Value | Model Analysis Result | Description |
|-----|-----------------------|----------------|-----------------------|-------------|
| 1 | χ^2 – Chi Square | Least expected | 406.677 | Marginal |
| 2 | Probability | > 0.000 | 0.000 | Marginal |
| 3 | CMIN/DF | < 2.00 | 1.217 | Good |
| 4 | RMSEA | < 0.08 | 0.043 | Good |
| 5 | GFI | > 0.90 | 0.956 | Good |
| 6 | AGFI | > 0.90 | 0.954 | Good |
| 7 | TLI | > 0.95 | 0.971 | Good |
| 8 | CFI | > 0.95 | 0.977 | Good |

Source: Primary Data

Table 3 shows that all goodness of fit model testing criteria are in the excellent category. So, the model in this research is an excellent model and very fit.

Hypothesis Test

Hypothesis testing tests whether the research hypothesis can be accepted or rejected. Hypothesis testing in SEM analysis is carried out with a significance level of 95% or = 0.05. The hypothesis is accepted if the CR value is > two and the p-value is < 0.05. For more details, see table 4 below (Silvia Mayningrum & Kamil Muhtadi, 2021).

Tabel 6. Research Hypothesis Test Results

| Hypothesis | Research Hypothesis | CR Value | P | Hypothesis Result | Test |
|------------|---------------------|----------|--------|-------------------|------|
| H1 | EO → PI | 2.741 | 0.0000 | Support | |
| H2 | EO → MC | 3.577 | 0.0000 | Support | |
| H3 | EO → SMM | 2.640 | 0.0000 | Support | |
| H4 | MC → SMM | 2.203 | 0.0000 | Support | |
| H5 | PI → MP | 7.854 | 0.0000 | Support | |
| H6 | MC → MP | 2.986 | 0.0000 | Support | |
| H7 | SMM → MP | 2.270 | 0.0000 | Support | |

Source: Primary Data

This research highlights the relationship between Entrepreneurial Orientation (EO), Product Innovation (PI), Marketing Capability, and Social Media Marketing in the context of Micro, Small, and Medium Enterprises (MSMEs) operating under volatile and uncertain conditions. These conditions are commonly referred to as VUCA (Volatility, Uncertainty, Complexity, Ambiguity) environments. One of the most prominent examples of the VUCA era in the recent past was the COVID-19 pandemic, which forced MSMEs to rapidly shift their strategies, particularly toward online platforms. Based on the findings in Table 4, all proposed hypotheses in this study are supported, indicating a significant relationship between the variables examined.

First, the research shows that a high level of EO among MSME owners or managers contributes to their continuous search for innovation and ability to adapt to environmental changes. This is particularly crucial in a dynamic and frequently shifting business landscape. During the pandemic, this entrepreneurial drive translated into tangible actions such as product innovation, which significantly enhanced MSME performance. In essence, MSMEs that continuously innovate are more likely to achieve better outcomes and long-term resilience.

Second, high EO is also positively associated with strong marketing capabilities, including the ability to leverage social media for marketing. This was particularly evident during the COVID-19 crisis, where businesses

had to move quickly to digital channels to survive amid lockdowns and mobility restrictions. Social media became a vital platform for communication, customer engagement, and product promotion—highlighting the strategic importance of digital marketing skills in VUCA conditions. While the COVID-19 pandemic serves as a past benchmark of VUCA impact, today's MSMEs continue to face new forms of VUCA challenges. These include geopolitical tensions and wars, such as the Russia–Ukraine conflict and its ripple effects on energy prices and food security, global economic instability driven by inflation and interest rate hikes, and persistent disruptions in supply chains due to political and environmental factors. These evolving threats demand similar levels of adaptability, innovation, and strategic use of digital tools. Overall, the findings from this study provide valuable insights for MSME owners and managers navigating business uncertainty. A strong entrepreneurial orientation, ongoing product innovation, solid marketing capabilities, and effective use of social media remain critical drivers of MSME performance and resilience—both during the pandemic and in confronting the emerging VUCA realities of today.

5. Conclusion and recommendation (Arial Narrow 11 pt, bold, alignment left, Indentation None, Spacing 6 pt After and Before)

This study explores the relationship between Entrepreneurial Orientation (EO) and the performance of Micro, Small, and Medium Enterprises (MSMEs) in the context of today's VUCA (Volatile, Uncertain, Complex, and Ambiguous) environment. While the COVID-19 pandemic served as a critical example of past disruption, current VUCA conditions—such as geopolitical conflicts, economic instability, supply chain disruptions, and shifting consumer behavior—continue to pose serious challenges for MSMEs. The research further investigates how social media marketing, marketing capabilities, and product innovation play strategic roles in strengthening MSME performance under such uncertainty.

The key findings are as follows:

1. EO has a positive effect on MSME performance.
2. EO significantly enhances product innovation.
3. EO positively influences marketing capabilities.
4. Marketing capabilities strengthen the use of social media marketing.
5. Marketing capabilities directly improve MSME performance.
6. Social media marketing positively contributes to MSME performance.
7. Product innovation also positively impacts MSME performance.

These findings offer important theoretical and practical contributions. This study develops a theory-driven model explaining how EO affects MSME performance, both directly and indirectly, through innovation and digital marketing capabilities. It highlights that in an era marked by rapid changes and external shocks, entrepreneurial behavior alone is not enough—adaptive marketing skills, innovation, and strategic use of digital platforms are essential for MSMEs to survive and thrive. By contextualizing EO in the current VUCA environment, this research expands our understanding of how MSMEs can navigate uncertainty, build resilience, and remain sustainable amidst ongoing global challenges.

Practical implication for MSMEs during VUCA era

The current research provides several practical implications for MSMEs operating in increasingly volatile and uncertain environments:

1. **Strengthen Online Marketing and Social Media Capabilities.**
MSMEs must continuously improve their digital marketing competencies and social media skills to enhance sales, profitability, and resilience. In today's VUCA landscape—marked not only by the pandemic but also by geopolitical tensions, wars, inflation shocks, and global supply chain disruptions—real-time market information is critical. Through a proactive Entrepreneurial Orientation (EO), MSMEs should utilize social media platforms to monitor market shifts, customer needs, and competitor strategies, enabling quicker decision-making and stronger customer relationships. Platforms such as Instagram, TikTok, and Facebook offer low-cost, high-reach opportunities to stay connected with consumers even when physical movement or access to traditional marketplaces is restricted.
2. **Promote Entrepreneurial Thinking to Drive Innovation and Problem Solving.**

MSMEs should be encouraged to foster a solution-oriented mindset and entrepreneurial behavior within their teams. VUCA challenges often expose operational bottlenecks and inefficiencies—thus, encouraging employees and owners to ideate new business solutions is essential to achieving long-term sustainability.

3. **Upskill Through Digital and Marketing Training.**
In facing digital transformation under extreme uncertainty, business owners and teams lacking skills should be supported to join short-term marketing and innovation training programs. Public-private partnerships and local business communities can play a role in organizing accessible learning sessions focused on digital tools, content creation, customer engagement, and crisis-responsive business models.
4. **Leverage Social Media as a Strategic Tool in Crises.**
Social media remains highly relevant not only during health-related crises like COVID-19 but also amid regional conflicts and economic shocks where access to traditional communication and retail channels may be disrupted. As recent studies (e.g., Fadhli, 2023; Nursal & Syaifullah, 2024) emphasize, platforms like Facebook, Instagram, TikTok, and even WhatsApp Business enable MSMEs to maintain customer interaction, promote products, and execute sales without the need for a physical store. In conflict-affected regions, such platforms act as lifelines for maintaining business continuity.
5. **Invest in Delivery and Fulfillment Capabilities.**
One major lesson from past VUCA events is the importance of logistics adaptability. Businesses that previously did not offer delivery services have pivoted to include courier partnerships, self-delivery, or even collaborations with ride-hailing apps to continue serving customers during disruptions. In areas affected by war or political unrest, having flexible and decentralized delivery systems can keep businesses operational.

Drive Product Innovation in Times of Disruption

Product innovation continues to be a critical success factor. During the COVID-19 pandemic, for instance, many MSMEs—such as coffee shops—began offering 1-liter takeaway coffee bottles, DIY kits, and bundled home packages to meet shifting consumption patterns. Similarly, in times of fuel shortages, food insecurity, or supply chain delays, innovative packaging, localized sourcing, or new product variants adapted to crisis contexts can drive both customer satisfaction and business survival

References

- Ahmed, M. U., Kristal, M. M., & Pagell, M. (2014). Impact of operational and marketing capabilities on firm performance: Evidence from economic growth and downturns. *International Journal of Production Economics*, 154, 59–71. <https://doi.org/10.1016/j.ijpe.2014.03.025>
- Almodóvar, P., & Nguyen, Q. T. K. (2022). Product innovation of domestic firms versus foreign MNE subsidiaries: The role of external knowledge sources. *Technological Forecasting and Social Change*, 184(January). <https://doi.org/10.1016/j.techfore.2022.122000>
- Asemokha, A., Musona, J., Torkkeli, L., & Saarenketo, S. (2019). Business model innovation and entrepreneurial orientation relationships in SMEs: Implications for international performance. *Journal of International Entrepreneurship*, 17(3), 425–453. <https://doi.org/10.1007/s10843-019-00254-3>
- Atalay, M., Anafarta, N., & Sarvan, F. (2013). The Relationship between Innovation and Firm Performance: An Empirical Evidence from Turkish Automotive Supplier Industry. *Procedia - Social and Behavioral Sciences*, 75, 226–235. <https://doi.org/10.1016/j.sbspro.2013.04.026>
- Bettiol, M., Capestro, M., Di Maria, E., & Micelli, S. (2022). Overcoming pandemic challenges through product innovation: The role of digital technologies and servitization. *European Management Journal*, April 2021. <https://doi.org/10.1016/j.emj.2022.05.003>
- Chawla, Y., & Chodak, G. (2021). Social media marketing for businesses: Organic promotions of web-links on Facebook. *Journal of Business Research*, 135, 49–65. <https://doi.org/10.1016/j.jbusres.2021.06.020>
- Clauss, T., Abebe, M., Tangpong, C., & Hock, M. (2021). Strategic Agility, Business Model Innovation, and Firm Performance: An Empirical Investigation. *IEEE Transactions on Engineering Management*, 68(3), 767–784. <https://doi.org/10.1109/TEM.2019.2910381>
- Dai, R., Feng, H., Hu, J., Jin, Q., Li, H., Wang, R., Wang, R., Xu, L., & Zhang, X. (2021). The impact of COVID-19 on small and medium-sized enterprises (SMEs): Evidence from two-wave phone surveys in China. *China Economic Review*, 67, 101607. <https://doi.org/10.1016/j.chieco.2021.101607>
- Dimitratos, P., Lioukas, S., & Carter, S. (2004). The relationship between entrepreneurship and international performance: The importance of domestic environment. *International Business Review*, 13(1), 19–41. <https://doi.org/10.1016/j.ibusrev.2003.08.001>

- Elbanna, A., Bunker, D., Levine, L., & Sleight, A. (2019a). Emergency management in the changing world of social media: Framing the research agenda with the stakeholders through engaged scholarship. *International Journal of Information Management*, 47, 112–120. <https://doi.org/10.1016/j.ijinfomgt.2019.01.011>
- Elbanna, A., Bunker, D., Levine, L., & Sleight, A. (2019b). Emergency management in the changing world of social media: Framing the research agenda with the stakeholders through engaged scholarship. *International Journal of Information Management*, 47(October 2018), 112–120. <https://doi.org/10.1016/j.ijinfomgt.2019.01.011>
- Fathurrahman, M. I., Fajri, A., & Purwanto, E. (2019). *Jurnal Bisnis dan Manajemen Entrepreneurial Behaviour in Choosing Capital Alternatives in MSMEs and Investment Trends in Indonesia* (Vol. 11, Issue 2). <http://jurnal.unmer.ac.id/index.php/jbm>
- Ferreras-Méndez, J. L., Olmos-Peñuela, J., Salas-Vallina, A., & Alegre, J. (2021). Entrepreneurial orientation and new product development performance in SMEs: The mediating role of business model innovation. *Technovation*, 108(July). <https://doi.org/10.1016/j.technovation.2021.102325>
- Hair, Joseph. F., & et al., et al. (2010). *Multivariate Data Analysis*. Pearson Education International.
- Hanaysha, J. R. (2022). Impact of social media marketing features on consumer's purchase decision in the fast-food industry: Brand trust as a mediator. *International Journal of Information Management Data Insights*, 2(2). <https://doi.org/10.1016/j.ijimei.2022.100102>
- Hassan, N., Eltayib, E., Chandrakant Bhimani, A. M., Ashok Kumar Gandhi, I., Sanfeev, T., & Kamdar, A. (2018). The Effect of Social Media Marketing in Small Business Performance. *International Journal of Novel Research in Marketing Management and Economics*, 5(1), 141–147. www.noveltyjournals.com
- Iqbal, S., Martins, J. M., Mata, M. N., Naz, S., Akhtar, S., & Abreu, A. (2021a). Linking entrepreneurial orientation with innovation performance in smes; the role of organizational commitment and transformational leadership using smart pls-sem. *Sustainability (Switzerland)*, 13(8). <https://doi.org/10.3390/su13084361>
- Iqbal, S., Martins, J. M., Mata, M. N., Naz, S., Akhtar, S., & Abreu, A. (2021b). Linking entrepreneurial orientation with innovation performance in smes; the role of organizational commitment and transformational leadership using smart pls-sem. *Sustainability (Switzerland)*, 13(8). <https://doi.org/10.3390/su13084361>
- Karnowati, N. B., Sudarto, S., Suwandari, L., Prakoso, F. A., & Apriandi, D. W. (2023). Achieving Marketing Performance through Orientation Innovation and Entrepreneurial Orientation. *Jurnal Manajemen Bisnis*, 14(2), 417–435. <https://doi.org/10.18196/mb.v14i2.19086>
- Khaerani, T. R., Alvianolita, P., Sarai, M. V., & Cornelia, G. (2024). Collaborative Governance in the Development of MSME in Samarinda City Through the Penta Helix Approach. *Available at SSRN 4781187*.
- Kotler, P. (2011). Reinventing Marketing to Manage the Environmental Imperative. *Journal of Marketing*, 75 No. 4, 132–135.
- Kreshpaj, B., Bottai, M., Matilla-Santander, N., Axén, M., Orellana, C., Burström, B., Hemmingsson, T., Jonsson, J., Håkansta, C., Wegman, D. H., & Bodin, T. (2022). Business performance and occupational injuries trajectories in the construction sector in Sweden. *Safety Science*, 152(March). <https://doi.org/10.1016/j.ssci.2022.105772>
- Lestari, R., Pradani, T., & Digdowiseiso, K. (2020). The Effects of Digital Marketing, Entrepreneurship Orientation, and Product Innovation on Competitive Advantage and Its Impact on the Marketing Performance of Talas Bolu Sangkuriang in Bogor City. *Budapest International Research and Critics Institute-Journal*, 5(1), 2081–2087.
- Malarvizhi, C. A., Al Mamun, A., Jayashree, S., Naznen, F., & Abir, T. (2022a). Modelling the significance of social media marketing activities, brand equity and loyalty to predict consumers' willingness to pay premium price for portable tech gadgets. *Heliyon*, 8(8). <https://doi.org/10.1016/j.heliyon.2022.e10145>
- Malarvizhi, C. A., Al Mamun, A., Jayashree, S., Naznen, F., & Abir, T. (2022b). Modelling the significance of social media marketing activities, brand equity and loyalty to predict consumers' willingness to pay premium price for portable tech gadgets. *Heliyon*, 8(8).
- Mariadoss, B. J., Tansuhaj, P. S., & Mouri, N. (2011). Marketing capabilities and innovation-based strategies for environmental sustainability: An exploratory investigation of B2B firms. *Industrial Marketing Management*, 40(8), 1305–1318. <https://doi.org/10.1016/j.indmarman.2011.10.006>
- Marolt, M., Zimmermann, H. D., & Pucihar, A. (2022). Social Media Use and Business Performance in SMEs: The Mediating Roles of Relational Social Commerce Capability and Competitive Advantage. *Sustainability (Switzerland)*, 14(22). <https://doi.org/10.3390/su142215029>

- Martin, S. L., Javalgi, R. G., & Cavusgil, E. (2017). Marketing capabilities, positional advantage, and performance of born global firms: Contingent effect of ambidextrous innovation. *International Business Review*, 26(3), 527–543. <https://doi.org/10.1016/j.ibusrev.2016.11.006>
- Martin, S. L., & Javalgi, R. R. G. (2016). Entrepreneurial orientation, marketing capabilities and performance: The Moderating role of Competitive Intensity on Latin American International New Ventures. *Journal of Business Research*, 69(6), 2040–2051. <https://doi.org/10.1016/j.jbusres.2015.10.149>
- Millar, C. C. J. M., Groth, O., & Mahon, J. F. (2018). Management innovation in a VUCA world: Challenges and recommendations. *California Management Review*, 61(1), 5–14. <https://doi.org/10.1177/0008125618805111>
- Miller, D. (1983). The Correlates of Entrepreneurship in Three Types of Firms. *Management Science*, 29(7), 770–791. <https://doi.org/10.1287/mnsc.29.7.770>
- Mulyana, M., & Hendar, H. (2020). Market and entrepreneurial orientation on business performance: role of networks innovation agility. *Journal of Small Business and Entrepreneurship*, 65(4), 1–23. <https://doi.org/10.1080/08276331.2020.1855025>
- Njoroge, M., Anderson, W., Mossberg, L., & Mburu, O. (2020). Entrepreneurial orientation in the hospitality industry: evidence from Tanzania. *Journal of Entrepreneurship in Emerging Economies*, 12(4), 523–543. <https://doi.org/10.1108/JEEE-11-2018-0122>
- Nur Feriyanto. (2021). *Digitalisasi UMKM untuk Meningkatkan Ekonomi dan Pencapaian SDGs*. November, 1–44.
- Prasetyo, P. E. (2020). The role of government expenditure and investment for MSME growth: Empirical study in Indonesia. *The Journal of Asian Finance, Economics and Business (JAFEB)*, 7(10), 471–480.
- Ratten, V. (2020). Coronavirus (covid-19) and entrepreneurship: changing life and work landscape. *Journal of Small Business and Entrepreneurship*, January, 503–516. <https://doi.org/10.1080/08276331.2020.1790167>
- Santosa, A. D., Alversia, Y., & Rahmawati, M. (2022). *Factors influencing consumer attitudes towards web series content marketing*. 4(5), 2193–2203.
- Santosa, A. D., Bintari, I. V., & Hamzah, R. A. (2019). *PERAN KEPERCAYAAN DAN BRAND IMAGE DALAM PENGAMBILAN KEPUTUSAN PEMBELIAN SECARA ONLINE DI INSTAGRAM*. 5(Mei), 60–68. <https://doi.org/10.37058/jem.v5i1.856>
- Santosa, A. D., & Taufik, N. (2023a). Jurnal Bisnis dan Manajemen Post-Pandemic Behavior: Continuance Intention of Baby Boomer and X Generation as New Users of Online Shopping Platforms During Covid-19. In *Jurnal Bisnis dan Manajemen* (Vol. 10). <http://jurnal.unmer.ac.id/index.php/jbm>
- Santosa, A. D., & Taufik, N. (2023b). Jurnal Bisnis dan Manajemen Post-Pandemic Behavior: Continuance Intention of Baby Boomer and X Generation as New Users of Online Shopping Platforms During Covid-19. In *Jurnal Bisnis dan Manajemen* (Vol. 10). <http://jurnal.unmer.ac.id/index.php/jbm>
- Sari, D., Kusuma, B. A., Sihotang, J., & Febrianti, T. (2023). The role of entrepreneurial marketing & innovation capability in the performance of SMEs during covid-19 pandemic: Evidence of MSMEs in West Java. *Cogent Business and Management*, 10(1). <https://doi.org/10.1080/23311975.2023.2194091>
- Sedalo, G., Boateng, H., & Kosiba, J. P. (2022). Exploring social media affordance in relationship marketing practices in SMEs. *Digital Business*, 2(1), 100017. <https://doi.org/10.1016/j.digbus.2021.100017>
- Silvia Mayningrum, & Kamil Muhtadi. (2021). i-SMARTS: Digitalization of Agrotechnopreneurship-Based MSME Development to Support Acceleration of East Java Economic Recovery in The Middle of The Covid-19 Pandemic. *East Java Economic Journal*, 5(1), 1–26. <https://doi.org/10.53572/ejavec.v5i1.56>
- Susanto, P., Abdullah, N. L., & Wardi, Y. (2019). Entrepreneurial orientation: Prioritising and mapping in the context of small and medium-sized enterprises. *Polish Journal of Management Studies*, 20(1), 429–446. <https://doi.org/10.17512/pjms.2019.20.1.37>
- 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. <https://doi.org/10.1108/JEEE-03-2021-0090>
- Tajeddini, K., Martin, E., & Ali, A. (2020). Enhancing hospitality business performance: The role of entrepreneurial orientation and networking ties in a dynamic environment. *International Journal of Hospitality Management*, 90(May). <https://doi.org/10.1016/j.ijhm.2020.102605>
- Tolstoy, D., Nordman, E. R., & Vu, U. (2022). The indirect effect of online marketing capabilities on the international performance of e-commerce SMEs. *International Business Review*, 31(3), 101946. <https://doi.org/10.1016/j.ibusrev.2021.101946>
- Troise, C., Corvello, V., Ghobadian, A., & O'Regan, N. (2022). How can SMEs successfully navigate VUCA environment: The role of agility in the digital transformation era. *Technological Forecasting and Social Change*, 174(April 2021), 121227. <https://doi.org/10.1016/j.techfore.2021.121227>



- Vaitoonkiat, E., & Charoensukmongkol, P. (2020). Interaction effect of entrepreneurial orientation and stakeholder orientation on the business performance of firms in the steel fabrication industry in Thailand. *Journal of Entrepreneurship in Emerging Economies*, 12(4), 453–473. <https://doi.org/10.1108/JEEE-05-2019-0072>
- Weerawardena, J., & O’Cass, A. (2004). Exploring the characteristics of the market-driven firms and antecedents to sustained competitive advantage. *Industrial Marketing Management*, 33(5), 419–428. <https://doi.org/10.1016/j.indmarman.2003.07.002>
- Wibowo, S., Farida, N., & Dewi, R. S. (2024). *Jurnal Bisnis dan Manajemen The Influence of Social Capital and Marketing Capability on Marketing Performance Through Innovation as a Mediating Factor : Study Of Batik Tulis Kebon Indah MSMEs In Bayat Klaten* (Vol. 11, Issue 2). <http://jurnal.unmer.ac.id/index.php/jbm>