

## An Investigation of Entrepreneurial Orientation, Social Media Adoption and E-commerce on MSME Business Performance: An Empirical Study in Indonesia

Investigación da orientación empresarial, a adopción de medios sociais e o comercio electrónico no rendemento das PEME: Un estudo empírico en Indonesia

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Received: 30/01/2023; Accepted: 13/03/2023

### Abstract

The COVID-19 pandemic has significantly impacted the health, economy, and social sectors, and micro, small, and medium-sized enterprises (MSMEs) worldwide, including in Indonesia. This paper examines the use of social media and e-commerce with an entrepreneurial orientation to enhance the business performance of MSMEs. The study should serve as a model for improving the quality of micro, small, and medium-sized enterprises in the Jambi Province, in Indonesia. The research employs quantitative and qualitative approaches. The latter method employs in-depth interviews, focus group discussions (FGDs), and observation, whereas the former uses the partial least squares method (PLS). The findings and discussions conclude that social media adoption positively affected the performance and entrepreneurial orientation of MSMEs during the said period. Similarly, e-commerce positively affected the performance and entrepreneurial orientation of MSMEs. Entrepreneurialism and social media adoption had a significant impact on the performance of MSMEs, and due to its entrepreneurial orientation, e-commerce influenced the performance of MSMEs.

**Keywords:** Micro; Small; and Medium Enterprises (MSMEs); Business Performance; Social Media Adoption; E-commerce; Entrepreneurial Orientation; COVID-19.

## Resumo

A pandemia de COVID-19 tivo importantes repercusións nos sectores sanitario, económico e social, así como nas micro, pequenas e medianas empresas (MIPYME) de todo o mundo, incluída Indonesia. Neste traballo examínase o uso dos medios sociais e o comercio electrónico cunha orientación empresarial para mellorar o rendemento empresarial das MIPYME. O estudo debería servir de modelo para mellorar a calidade das MIPYME na provincia de Jambi, en Indonesia. A investigación emprega enfoques cuantitativos e cualitativos. O segundo método emprega entrevistas en profundidade, debates en grupos de discusión e observación, mentres que o primeiro utiliza o método de mínimos cadrados parciais (PLS). Os resultados e as discusións conclúen que a adopción de medios sociais afectou positivamente o rendemento e a orientación empresarial das MIPYME durante o devandito período. Do mesmo xeito, o comercio electrónico afectou positivamente o rendemento e a orientación empresarial das MIPYME. O espírito emprendedor e a adopción de medios sociais influíron significativamente no rendemento das MIPYMES e, debido á súa orientación emprendedora, o comercio electrónico influíu no rendemento das MIPYMES no mesmo período de tempo.

**Palabras chave:** Microempresas; pequenas; e medianas empresas; MIPYME; rendemento empresarial; adopción de medios sociais; comercio electrónico; orientación empresarial; COVID-19.

**JEL Codes:** M3; M30; M31.

## 1. INTRODUCTION

The world is currently grappling with the repercussions of a novel and highly transmissible strain of the coronavirus disease (COVID-19), which is anticipated to have a higher fatality rate. On March 11th, 2020, the World Health Organization (WHO) designated it as a global pandemic and has since been coordinating worldwide endeavors to mitigate its impact and curb its transmission (WHO, 2020). The magnitude of the effect is unprecedented, and research indicates that the world will likely take a decade or more to recover socially and economically (U.N., 2020). The G20 countries pledged \$5 trillion to defend the global economy (G20, 2020). This ongoing pandemic, believed to have originated in China, has presented numerous unprecedented challenges for public health sectors worldwide, which have already witnessed the emergence of new infectious viruses over the past two decades, such as Influenza A virus subtype H1N1, H.I.V., SARS-CoV1, Influenza A virus subtype H5N, MERS-CoV, and Ebola. From an epidemiological standpoint, the swift and extensive transmission of COVID-19 has exposed our limitations in effectively managing pandemic situations. Indonesia is expected to suffer longer than other, less densely populated countries due to its large population (A.D.B., 2020). During COVID-19's severe outbreak in China, Indonesia reported no infection cases from December 2019 to February 2020. Indonesia's president, Joko Widodo, reported the first two confirmed cases of COVID-19 infection in the country on March 2<sup>nd</sup>, 2020. As of May 31<sup>st</sup>, 2020, the National COVID-19 Prevention Task Force reported a total of 26,473 infected individuals, including 17,552 in intensive care, 7,308 recoveries, and 1,613 deaths. Meanwhile, similar reports by province, particularly the Jambi Province, indicated that 97 people had been exposed to the virus, whereby 15 had recovered, and no fatalities had occurred (<http://COVID-19.go.id>, 2020). Moreover, Haneberg (2021) reported that the COVID-19 pandemic had created a precarious situation for small and medium-sized enterprises (SMEs) as authorities imposed restrictions on business activity to contain the virus.

The situation wreaked havoc on the health, economic, and social sectors with the Indonesian government urging everyone to wear face masks, maintain social distancing, and wash their hands with soap and running water to halt its spread locally. Economically, the COVID-19 epidemic had a profound impact on multiple industries, leading to significant disruptions. These disruptions manifested in several ways, including the adoption of remote working practices, a decline in income levels, and the emergence of solemn obligations towards third parties. Several business sectors shifted from traditional to digital marketing, utilizing social media and e-commerce to promote their products and services.

The emergence of technology and the internet has brought about a substantial transformation in the management of businesses, particularly in the case of small and medium-sized enterprises (SMEs). One notable change that has occurred is the digitization of business operations. SMEs have progressively adopted technology to digitize various aspects of their operations, such as inventory management, customer relationship management, and financial management. This has led to increased efficiency, cost savings, and improved decision-making. Secondly, the rise of e-commerce has opened up new markets for SMEs, allowing them to reach customers beyond their local area. This has also led to increased competition, although SMEs that can adapt and take advantage of e-commerce have a significant opportunity for growth. Thirdly, data analytics, namely the collection and analysis of data, has become a critical aspect of business management. SMEs can now use data analytics tools to gain insights into customer behavior, market trends, and operations, helping

them make more informed decisions. Fourthly, remote working, a trend that has accelerated due to the COVID-19 pandemic, has become increasingly feasible due to advancements in communication and collaboration technology. SMEs that can adapt to remote working have the advantage of being able to tap into a wider pool of talent and reduce costs associated with office space. Fifthly, social media, which has become an important tool for SMEs, allows them to market their products and services, engage with customers, and build brand awareness. Those that can leverage social media effectively can gain a competitive edge in their industry. Overall, the changes brought about by technology and the internet have had a significant impact on business management, particularly in SMEs. Those that can adapt and take advantage of these changes have a significant advantage in the marketplace.

SMEs play a vital role in the global economy, contributing significantly to job creation, innovation, and economic growth. According to the World Bank, they account for around 90% of businesses and more than 50% of employment worldwide. The number of small and medium-sized enterprises (SMEs) has witnessed a significant increase in recent years, driven by several factors such as advances in technology, globalization, and changes in consumer behavior. The growth of SMEs is expected to continue as technology continues to advance, and new opportunities arise in emerging markets. However, these companies still face several challenges such as gaining access to finance, having limited resources, and needing to compete with their larger counterparts.

SMEs and micro, small, and medium enterprises (MSMEs) are both categories that are based on business size and scale of operations. However, there are some differences between each term: the definition of the latter varies from country to country, but generally, they are smaller than SMEs and have fewer employees and lower annual turnover. For example, in India, a micro-enterprise has a turnover of up to 5 million rupees (about US\$68,000) and employs up to 10 people, while a small enterprise has a turnover of up to 50 million rupees (about US\$ 680,000) and employs up to 50 people. In contrast, SMEs are larger and have higher annual turnover and more employees than MSMEs. The European Union defines SMEs as businesses with up to 250 employees and an annual turnover of up to €50 million (about US\$ 60 million). In terms of support and policy measures, MSMEs are often given priority by governments as they are considered to be more vulnerable due to their smaller size and limited resources. This support can come in the form of access to finance, training and capacity building, and regulatory and tax incentives.

Internet penetration affects business performance (Kim et al., 2016); Web 2.0 has enabled internet capabilities to transform into a social environment where individuals can interact (Sigala & Chalkiti, 2014). The growth of social media has created a virtual space where reliable information can be accessed (Sigala, 2012). This medium allows users to communicate and create content without being physically present (Zhang et al., 2017). Almost all businesses leverage social media to increase interaction with their clients.

The way businesses are run has changed as a result of social media, which promotes open communication, helping them to understand the needs of their customers and motivating them to respond proactively and efficiently. Another critical aspect of this platform is that it encourages innovation because it monitors customer communication, feedback, and opinions (Matuszak, 2007; Tapscott & Williams, 2006). Similarly, businesses that use it are willing to take risks and invest in new products and services to keep customers interested, as well as improve feedback and brand image. Indeed, researchers have investigated the impact of culture and entrepreneurial orientation on various aspects of technology and organizational performance (Elliot & Boshoff, 2005; Mostafa et al., 2006; Colton et al., 2010).

Numerous studies have examined the use of social media in business and discovered many benefits (Pan & Crotts, 2012; Venkataraman & Das, 2013; Arora & Predmore, 2013; Siamagka et al., 2015; Zolkepli & Kamarulzamn, 2015; Kenly & Poston, 2016). Gazal et al. (2016) define social networking sites as electronic marketplaces where businesses and consumers interact. According to Bilbao-Osorio et al. (2014), social media enables MSMEs to reach markets outside their geographic area without physically being present. This is one of its appealing aspects as it offers the advantage of being accessible regardless of time or distance (Alarcon et al., 2015). Durkin et al. (2013) state that MSMEs benefit more from business management tools such as social media than traditional ones.

In addition, MSMEs adopt social media as a business strategy to improve their performance and competitiveness. They must also adapt to e-commerce as a means of implementing these strategies since it is rapidly establishing itself as an essential technological medium for attending to customers, expanding businesses, responding to competitive pressure, and lowering operational costs (Martin & Matlay, 2003; Beck et al., 2005; Permana, 2014; Wymer & Regan, 2005). Regardless of the significant growth in global e-commerce, there are still substantial differences between MSMEs and established businesses (Formin et al., 2005; Prat, 2002).

Affordable and straightforward connectivity has increased the number of internet users in Indonesia. According to the 'We Are Social' report, it has done so annually, even by as much as 17% between January 2017 and January 2018. Most Indonesians are becoming more and more aware of the importance of the World Wide Web, namely for communication, information retrieval, entertainment, and online business processing.

According to Mofokeng, (2021), illustrated that 48% of internet users searched for online products in 2018, 46% visited online stores, and 41% made online purchases. Roughly a third (34%) made purchases using a personal computer, whereas 33% used a mobile phone. This also explains the potential for MSMEs if they adopt e-commerce. According to data from the Jambi Province Cooperative and the MSMEs Office (2015), the Jambi Province had 81,959 MSMEs, and the city of Jambi had 13,723 businesses, MSMEs accounting for the majority of them. These are classified according to capital assets, with "micro" denoting businesses worth between IDR 0 and 50 million, "small" being defined as businesses valued from IDR 50 to 500 million, and "medium" referring to those with a value of IDR 500 million to 10 billion.

Based on the findings of a previous study (Yacob et al., 2021), it was revealed that out of a sample of 40 MSMEs, 34 were small businesses (85%) and six were medium-sized businesses (15%), all actively engaging in e-commerce for their trading activities. These results shed light on the underutilization of trading activities, specifically e-commerce, within the MSMEs in Jambi. As a result, this aspect requires special attention, given the negative perception of most SME owners regarding the adoption of e-commerce and social media for business promotion.

Additionally, Shah and Ahmad (2019) have reported that entrepreneurial orientation has a significant impact on the business performance of MSMEs, while Yacob et al., (2021) have found that e-commerce adoption significantly affects the sustainability of the business performance of MSMEs. In response to the COVID-19 epidemic, an empirical study was conducted to assess the impact of social media and e-commerce on the performance of sustainable micro, small, and medium-sized enterprises (MSMEs) with an entrepreneurial orientation. The study aimed to provide an accurate depiction of the benefits derived from these technologies in the context of the Jambi Province, Indonesia.

The paper is divided into five sections. Following the introduction, Section 2 develops the literature review. Section 3 discusses the methodology and empirical context in which

the survey has been conducted. Section 4 presents the results and the discussion, and finally, Section 5 covers the conclusion, the limitations, and future research recommendations.

## 2. LITERATURE REVIEW

According to Kietzmann et al. (2011), there are numerous definitions of social media depending on how it is used and its interpretation. This study employs Kaplan and Haenlein's (2010) definition due to its simplicity and readability. As stated by Kaplan and Haenlein (2010), social media is defined as "a collection of Internet-based applications built on the ideological and fundamental principles of Web 2.0 technology, facilitating the creation and exchange of user-generated content." When utilized effectively, social media has the potential to facilitate organizational growth by strengthening relationships with trading partners, promoting information sharing, and enhancing communication and logistics management across the supply chain (Humphrey et al., 2003). Several studies have been conducted on the adoption of social media and its impact on the performance of MSMEs in developing and developed countries. Thus, it is paramount to recognize that generalizing previous studies in this context is problematic for a country to progress (Dewan & Kraemer, 2000).

Social media can have a significant positive impact on organizations when it comes to a brand's reputation, increasing its value, relationships, and brand equity (Kim & Ko, 2012); not only this, but it can also improve digital advertising and promotion, and customer service standards, as well as inspire innovative ideas, and build customer relations (Solis, 2010). More specifically, in addition to the aforementioned benefits, social media plays a crucial role in enhancing organizational services (Parveen et al., 2014). Social media is a low-cost option (Paridon & Carraher, 2009), and its use in organizations lowers the cost of marketing and customer service operations (Parveen et al., 2014). Besides this, it can help them learn more about the market, competitors, and, most importantly, their customers and their needs. This improves companies' accessibility to information (Parveen et al., 2014). Although it provides many benefits to organizations, there have been very few studies investigating its impact on these areas of organizational performance. When companies utilize social media effectively for marketing, customer relations, and information research, it can have a positive impact on various aspects of their operations. This includes cost savings in marketing and customer service, improved customer relations, and enhanced accessibility to information. Parveen, (2016) investigated the impact of social media adoption on organizational performance and entrepreneurial orientation using the system of value chain theory.

Durkin et al. (2013) discuss two indispensable perspectives on the theoretical model and the use of social media by small businesses. The first is business development, which focuses on increasing sales, referrals, e-commerce, and relationship depth. According to Kim et al. (2012), this combines the concepts of profitability, loyalty, and commitment with an emphasis on acquiring new customers and providing after-sales services. Businesses leverage social media to drive indirect and direct sales. Social commerce encourages consumer interaction via social media (Hajli, 2013, 2014), making businesses more appealing to a broader audience (Chen et al., 2011). The second focus is on reputation management (Durkin et al., 2013), which is concerned with brand perception, price comparison, and online public relations. Businesses typically gain visibility by providing customer support centered on brand integration and customer engagement (Murdough, 2009). There are many advantages to higher visibility, one of which is working together with customers, by, for instance, designing new products to meet their needs (Hensel & Deis, 2010).

Kalakota and Whinston (1997) state that e-commerce adoption is a business-to-consumer (B2C) perspective that entails acquiring and sharing information and purchasing and selling products and services via computer networks. Preliminary research indicates a link between adoption and non-adoption decisions (Riemenschneider et al., 2004; Fomin et al., 2005; Wymer & Regen, 2005). Additionally, several studies have examined various internal and external factors affecting e-commerce adoption in MSMEs (Grandon & Pearson, 2004; Sutanonpaibon & Pearson, 2006; Saffu et al., 2008). According to Pearson and Gardon (2004), organizational readiness, external pressure, and perceived ease of use significantly impact e-commerce adoption. Raymond et al. (2005) have examined the assimilation of e-business activities into manufacturing MSMEs. They report that most of the benefits and capabilities gained due to this adoption fall under the categories of communication, functions, information business intelligence, and collaborative functions. Moreover, Hajli and Sims (2014) note that by proposing and testing an e-commerce pre-adoption model, this study contributes to the theoretical foundation of information systems and e-commerce adoption studies. The use of e-commerce SMEs has received little attention even though they play a vital role in all economies. The findings show a link between organizational readiness and e-commerce adoption. The finding also demonstrates a positive relationship between e-commerce awareness and adoption.

According to Johnstan and Wright (2004) and Kim et al. (2008), the adoption of e-commerce by micro, small, and medium-sized enterprises (MSMEs) with a substantial supply chain enhances internal business efficiency. However, one of the primary disadvantages they have is their small resource base and comparative weakness against larger competitors. As a result, these businesses face enormous challenges to identify and nurture a more extensive customer base while competing globally (Etemad, 2004; Loan, 2006). Accordingly, e-commerce capabilities for MSMEs are realized through increased global visibility and the acquisition of new customer bases across geographic boundaries (Mehta & Shah, 2001; Moodley, 2003). As a result, e-commerce satisfies existing customers' needs more efficiently and conveniently, as they can access it from anywhere and at any time (Johnston & Wright, 2004; Beck et al., 2005). Additionally, these companies better understand their current and prospective customers (Auger, 2005).

Miller (1983) is the first researcher who proposed 'entrepreneurial orientation,' which was later adjusted by Covin and Slevin (1989). This term refers to managerial characteristics associated with risk-taking, innovation, and proactivity (Covin & Slevin, 1989). Additionally, it describes a firm's interest in identifying and exploiting new opportunities arising from the macroenvironment's dynamics and scope (Shane & Venkataraman, 2000). Indeed, previous research indicates that entrepreneurial orientation is slightly related to market orientation, although, while the latter places a premium on customer and competitor intelligence, the former is primarily motivated by markets that have not capitalized on opportunities. According to Covin and Slevin (1989), the construct 'entrepreneurial orientation' encompasses three distinct components: 1) innovation, 2) proactivity, and 3) risk-taking.

Entrepreneurial innovation refers to the willingness to embrace experimentation and creativity in the development of new products or services. It encompasses characteristics such as technological leadership, novelty, and the utilization of research and development to establish innovative processes (Lumpkin & Dess, 2001). The risk-taking behavior of entrepreneurs in the online environment has been extensively examined and has been associated with their inclination for measurable business risks (Brockhaus, 1980; Kreiser et al., 2002). 'Proactivity' represents an approach that involves identifying opportunities,

introducing new products or services to the market, and anticipating future demands to shape and influence the business ecosystem (Lumpkin & Dess, 2001). This construct has been extensively validated through numerous cross-sectional, longitudinal, and cross-country studies (Kreiser et al., 2002).

Most previous research has focused on entrepreneurial orientation and organizational performance. Rauch et al. (2009) discovered a generally positive and moderately significant correlation between the two terms across measures of both growth and profitability in a meta-analysis of 51 studies. Similarly, most studies on entrepreneurial orientation in Malaysia are concerned with determining its impact on firm performance, Poon et al. (2006) found the relationship to be positive. Zain and Hassan (2007), Zainol and Wan Daud (2011), and Mahmood and Hanafi (2013) also concur.

While previous research has examined the relationship between entrepreneurial orientation and firm performance in-depth, Lechner et al. (2005) assert that social networking is essential for developing entrepreneurial capabilities because it improves learning and relationships with other firms. Entrepreneurs differ in terms of what size and type of social network they use to complement their expertise and knowledge and how they use it (McQuaid, 1996). Social media plays a vital role in enhancing the social network, thereby increasing the potential for success across different stages of a business's development (Adebayo, 2015). As a result, this research aims to investigate the impact of social media on the entrepreneurial orientation of organizations.

According to a previous study on entrepreneurial orientation, adopting corporate entrepreneurship entails taking more significant risks than non-entrepreneurial firms and a constant search for new business opportunities (Khandwalla, 1977). According to Miller and Friesen (1982), this approach emphasizes the importance of new product innovation and is characterized by a willingness to take calculated risks with product-marketing strategies.

According to Wheelen and Hunger (2014), business performance is assessed through metrics such as sales, market share, and profitability. Similarly, Best (2009) highlights that these metrics reflect similar business activities, including revenue growth and profitability. Hubbard and Beamish (2011) further note that these indicators stem from a company's marketing and financial performance. Consequently, marketing-related business performance metrics encompass market growth, sales, and market share. Similarly, financial performance is quantified using various metrics, including return on investment (ROI), revenue mix, asset utilization (measured by asset turnover), and significant cost savings.

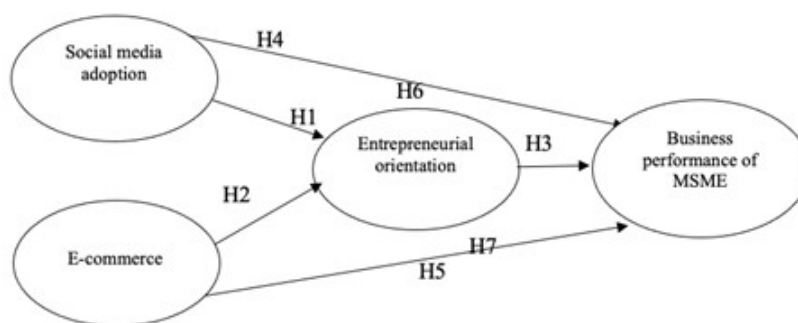
In this study, the performance of micro, small, and medium-sized enterprises (MSMEs) is analyzed using the balanced scorecard method. This method is employed due to its ability to incorporate a comprehensive set of benchmarks derived from the corporate strategies implemented in these specific types of companies. According to Kaplan and Norton (1996), the success of business units is determined by four factors: internal business processes, financial performance, customer satisfaction, and learning and growth.

Based on the findings of previous papers, this study aims to enhance the quality and sustainability of business performance in MSMEs located in the Jambi Province. It has been developed via social media and e-commerce and has been mediated by entrepreneurial orientation. Only a few studies have been conducted on the model used in this study, and as a result, our paper demonstrates a high degree of originality.

In this study, a research model has been developed, incorporating variable constructs related to social media and e-commerce adoption, entrepreneurial orientation, and business performance in micro, small, and medium-sized enterprises (MSMEs).



Figure 1. Research Model



### Hypothesis

H1: Social media adoption benefits entrepreneurial orientation.

H2: E-commerce improves entrepreneurial orientation.

H3: Entrepreneurial orientation positively impacts an MSME's performance.

H4: Social media adoption positively impacts an MSME's performance.

H5: E-commerce has a beneficial effect on an MSME's performance.

H6: Social media adoption benefits an MSME's business performance through entrepreneurial orientation.

H7: E-commerce benefits an MSME's business performance through entrepreneurial orientation.

## 3. RESEARCH METHODS

This study has used questionnaires to collect data from a defined target population. The questionnaires were distributed online using the G-form platform and in person. They were sent to a specific group of respondents, specifically, owners of MSMEs. As the study covers the pandemic period, the data was collected at the end of 2020. The qualitative data was used to help interpret the results. This study was conducted in the Indonesian cities of Jambi, West Tanjung Jabung, and Sungaipenuh. The study included owners of MSMEs from various representative areas, including urban, suburban, and remote regions. The STROBE guidelines/checklist for cross-sectional studies were followed in this study.

The population of this study included owners of MSMEs from various locations in the Jambi Province, including 500 MSME members of the Jambi Chapter Association of MSMEs. The study collected quantitative data using a questionnaire survey and purposive sampling to recruit MSME respondents. Meanwhile, qualitative data was gathered through interviews with various stakeholders, including 15 MSME owners, five local government officials, five suppliers, and ten customers.

The researchers selected three districts in the Jambi Province for the research sample, with each district receiving 50 entrepreneur respondents. The research sampled up to 150 MSME entrepreneurs. The study concentrated on specific statistical characteristics of the investigated population, such as gender, age, level of education, business field, monthly revenue, business experience, social media platforms owned by MSME owners, the reasons why they chose e-commerce to market their products or services, the amount of time spent on social media each day, and the extent to which MSMEs used social media as a marketing tool.

The data collection instrument used for this study is a five-section questionnaire. Section A contains questions about the respondents' characteristics, Section B asks about social media adoption, Section C focuses on e-commerce, Section D is interested in entrepreneurial orientation, and Section E includes questions about the performance of MSMEs. Sections B, C, D, and E include items based on authentic research in the current area of interest. The data has been analyzed using a 5-point Likert-type scale ranging from strongly disagree (1) to strongly agree (5).

The variables examined in this study are social media adoption, e-commerce, entrepreneurial orientation, and MSME business performance. At first, it was assumed that the study's sole dependent variable would be the latter variable. Social media adoption, e-commerce, and entrepreneur orientation served as independent variables, with entrepreneur orientation as a mediating variable.

Kaplan and Norton provide the elements for the business performance variable (1996). This survey section is divided into four categories and contains fourteen items. There are four categories: 'Financial Perspective' (4 items), 'Customer Perspective' (4 items), 'Internal Business Perspective' (3 items), and 'Growth and Learning Perspective' (3 items).

The variables relating to social media adoption have been adapted from [Durkin et al. \(2013\)](#) and Hensel and Deis (2010). This survey section is divided into two categories and contains nine items, 'Business Development and Sales' (seven bullet points) and 'Reputation Management' (three items).

The e-commerce variable has derived from Kalakota and Whinston (1997). This survey section is divided into three sections and contains twenty-one items. The categories are 'E-commerce Benefits' (ten items), 'Technology Capability' (five items), and 'E-commerce Adoption Rate' (six items).

Lumpkin and Dess (2001) have provided us with the entrepreneurial orientation variable elements (Kreiser et al., 2002). This survey section is divided into three categories and contains fifteen items. There are four categories: 'Proactive' (four items), 'Risk-Taking' (seven items), and 'Innovation' (four items).

A pilot study has been conducted with 30 participants. The respondents to the pilot project were not included in the main survey. The researchers conducted the pilot study to ensure that all survey items were valid and reliable. A Smart PLS has been used to properly code the questionnaire data and calculate a reliability and validity score for each construct, specifically Cronbach's alpha, and AVE values. The reliability coefficients ( $r$ ) for each section are as follows: social media adoption,  $r = 0.926$ ; e-commerce,  $r = 0.947$ ; entrepreneurial orientation,  $r = 0.941$ ; and MSME business performance in the COVID-19 period,  $r = 0.875$ . Because all the variables scored greater than 0.70, they were all considered reliable. Meanwhile, all of the variables had an AVE greater than 0.5, indicating that they were valid. We carefully examined the pilot project's weaknesses and took additional steps to improve the survey instrument before using it to collect data.

Partial least squares (PLS) is a statistical technique used for predictive modeling in situations where there are many predictor variables and a limited sample size. How large or small it is in this type of analysis depends on several factors, including the number of predictor and latent variables, the desired level of precision, and the complexity of the model. The quantitative data analysis has been performed using SmartPLS version 3.0, with the varying parameters being MSME business performance ( $Y$ ), social media adoption and e-commerce ( $X$ ), and the objective factor being entrepreneurial orientation ( $Z$ ). The researchers have used thematic analysis to generate related themes from the interview for the qualitative data analysis.

## 4. RESULTS AND DISCUSSION

### 4.1 A brief overview of the respondents

The respondents have been classified according to their gender, age, most recent academic qualifications, business field, monthly revenue, business experience, social media platforms owned by MSME owners, use of e-commerce to market their products or services, number of hours per day spent on social media, and use of social media as a marketing tool. Finally, the MSMEs were asked about the most significant impact of COVID-19 on their business. The characteristics of the respondents are listed in [Table 1](#).

**Table 1. Respondent characteristics**

Characteristics	Criteria	Number	Percentage (%)
Gender	Male	86	57.33
	Female	64	42.67
Total		150	100
Age (Years)	17–20	6	4.00
	21–30	37	24.67
	31–40	42	28.00
	>40	65	43.33
Total		150	100
Education level	SD / equivalent	3	2
	Junior high school/equivalent	4	2.67
	Senior High School/equivalent	40	26.67
	Bachelor's degree	44	29.33
	Graduate	51	34
	Postgraduate	8	5.33
Total		150	100
Business field	Retail, hospitality, and the restaurant industry	45	30.00
	Private services	22	14.67
	Financial services, leasing, and company services	11	7.33
	Transport and communication	15	10.00
	Construction	12	8.00
	Agriculture, livestock, forestry, and fisheries	14	9.33
	Mining and excavation	8	5.33
	Processing industry	11	7.33
	Electricity, gas, and water supply	12	8.00
Total		150	100
Turnoverper month (IDR)	< 10,000,000	13	8.67
	11,000,000–20,000,000	18	12.00
	21,000,000–30,000,000	21	14.00
	31,000,000–40,000,000	23	15.33

Characteristics	Criteria	Number	Percentage (%)
	41,000,000–50,000,000	42	28.00
	> 50,000,000	33	22.00
Total		150	100
Business experience (Years)	1–3	38	25.33
	4–6	41	27.33
	7–10	37	24.67
	More than 10	34	22.67
Total number of		150	100
social media accounts held by MSME owners	YouTube	24	16
	WhatsApp	35	23.33
	Facebook	38	25.33
	Instagram	28	18.67
	Tiktok	4	2.6
	Liner	8	5.33
	Twitter	11	7.33
	Other	2	1.33
Total number of		150	100
MSMEs choosing e-commerce in marketing products or services	Tokopedia	27	18
	Bukalapak	29	19.33
	Shopee	36	24
	Lazada	17	11.33
	Blibli	21	14.00
	JD	9	6.00
	Zalora	11	7.33
Total length of time		150	100
using social media per day (hours)	Less than 5	53	35.33
	6 to 10	61	40.67
	11to15	29	19.33
	More than 16	7	4.67
Total		150	100
use of social media as a marketing tool	At least	8	5.33
	A little	16	10.67
	A fair amount	62	41.33
	A considerable amount	64	42.67
Total		150	100
What was the most significant effect of the COVID-19pandemic on the MSME?	Decreased turnover by 30% during the COVID-19 pandemic	25	16.67
	Decreased turnover by 50% during the pandemic	31	20.67

Characteristics	Criteria	Number	Percentage (%)
	Delayed payment of MSME loan installments to banks	17	11.33
	A decrease in production capacity by 50% during the COVID-19 pandemic	28	18.67
	A 50% reduction in the MSME workforce	28	18.67
	Not being issued new loans unlike during the COVID-19 pandemic	21	14.00
Total		150	100

Table 1 shows that approximately 57.33% of respondents are male, 43.33% are over 40 years old, and 27.33% have four to six years of business experience. Additionally, according to the social media profiles of the MSME owners, 25.33% use Facebook daily, while 40.67% use it for approximately 6 to 10 hours. Over 42.67% of them market their businesses via social media platforms. In comparison, when respondents were asked if they felt the pandemic's impact.

## 4.2. Reliability and validity test

The validity and reliability of an instrument's items are critical in determining its efficacy and functionality. Validity entails that all of the scores of an instrument must be justifiable, meaningful, and effective in assisting the analyst to reach valuable, comprehensive conclusions. Reliability refers to the coherence of scores, which is necessary for validity (Creswell & Creswell, 2017). Validity and reliability are inextricably linked; meaningless scores are incoherent, and vice versa.

The reliability and validity tests for each construct variable are shown in Table 2.

Table 2.: Construct reliability and validity

Variable construct	Cronbach's Alpha	rho_A	Composite reliability	The average variance extracted (AVE)
Social media adoption	0.926	0.933	0.923	0.550
E-commerce	0.947	0.958	0.943	0.659
BusinessPerformance of MSME in the COVID-19 Period	0.875	0.800	0.787	0.628
Entrepreneurial orientation	0.941	0.943	0.888	0.573

According to Table 2, the social media adoption, e-commerce, and performance variables of MSMEs during the COVID-19 period, and the entrepreneurial orientation ones were 0.926, 0.947, 0.875, and 0.941, respectively. These values demonstrate the accuracy and reliability of all of the variables, as all of the scores were greater than 0.7. At the same time, the social media adoption, e-commerce, MSME performance, and entrepreneurial orientation variables during the COVID-19 period were 0.923, 0.943, 0.787, and 0.888, respectively. The results indicate that the overall variable was reliable, as the scores were higher than 0.7.

The variables for social media adoption, e-commerce, MSME performance during the COVID-19 period, and entrepreneurial orientation were 0.550, 0.659, 0.628, and 0.573,

respectively. The results indicate that the overall variable was valid, as the scores exceeded 0.5.

Additional statistical testing was conducted to determine the R square value's influence on the research model (see Table 3).

**Table 3.: R-square value**

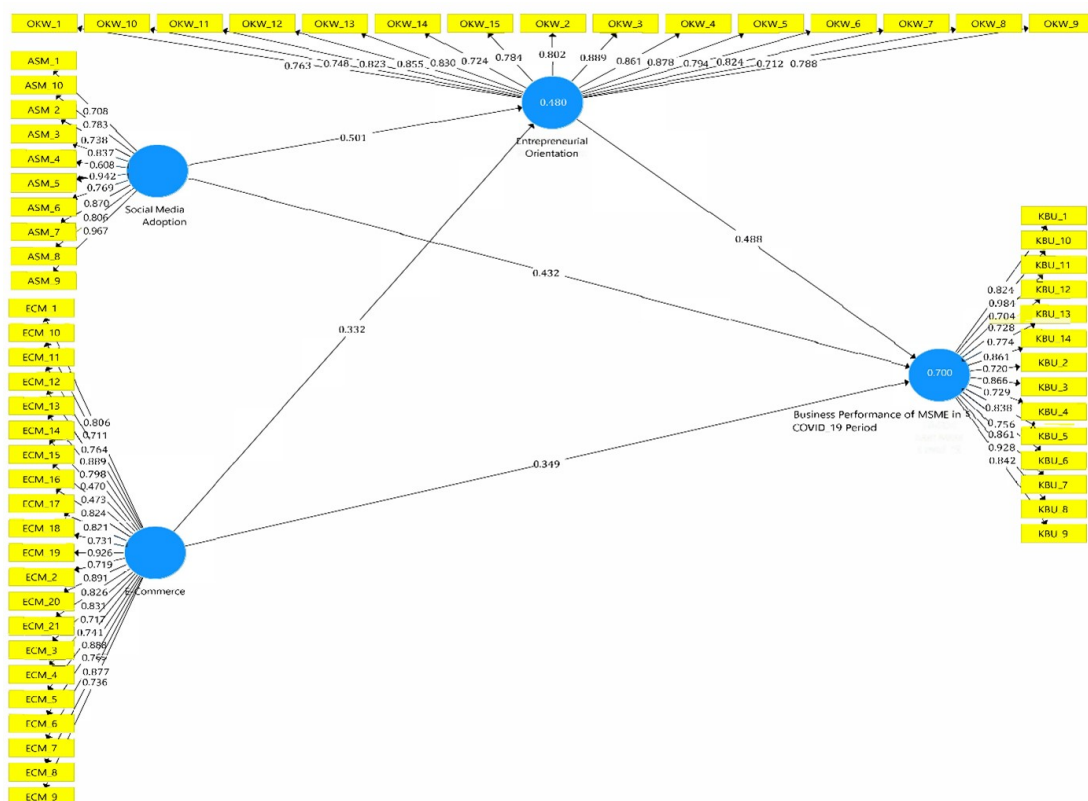
Variable	R-square	R-square adjusted
Business performance of MSME in the COVID-19 period	0.700	0.691
Entrepreneurial orientation	0.480	0.462

According to Table 3, the R-square value of MSME performance during the pandemic was 0.700 when a criterion of 0.3 was used. This means that the adoption of social media and e-commerce had a 0.700% impact on the performance of MSMEs during the COVID-19 period.

Meanwhile, the R-square value for entrepreneurial orientation was 0.480 with a criterion of 0.3, indicating that social media and e-commerce adoption impacted entrepreneurial orientation by up to 0.480.

The measurement results were described using SmartPLS 3.0, and the complete model was used (Figure 2).

**Figure 2. Full model**



Entrepreneurial orientation contributes to the profitability of e-commerce. The purpose of this study is to examine the mediating effect of entrepreneurial orientation in the Jambi Province, in Indonesia, and the direct effect of social media adoption and e-commerce on the

sustainability of MSMEs. These findings substantiate previous research by demonstrating that e-commerce adoption indirectly affects these variables (Yoon & Uysal, 2005).

The research hypothesis has been tested using the path coefficient value, as shown in Table 4, processed using the SmartPLS version 3.0 application.

**Table 4:. Findings**

Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	t-statistics ( O/STDEV)	P-values	Result
Social media adoption -> MSME performance during the COVID-19 period	0.432	0.427	0.342	7.952	0.000	Accepted
Adoption of social media -> Entrepreneurial orientation	0.501	0.524	0.456	8.733	0.008	Accepted
E-commerce-> MSME performance during the COVID-19 Period	0.349	0.337	0.392	8.137	0.004	Accepted
E-Commerce-> Entrepreneurial orientation	0.332	0.314	0.627	7.907	0.000	Accepted
Entrepreneurship orientation -> MSME performance during the COVID-19 period	0.488	0.493	0.522	10.853	0.000	Accepted
Adoption of social media -> Entrepreneurship orientation -> MSME performance duringthe COVID-19 period	0.433	0.475	0.614	8.640	0.000	Accepted
E-commerce-> Entrepreneurship orientation -> MSME performance during the COVID-19 period	0.597	0.566	0.385	7.009	0.003	Accepted

T-values greater than 1.96 and P-values with a significance level of 0.05.

This study examines the mediating effect of entrepreneurial orientation in the Jambi Province, in Indonesia, and the direct effect of social media adoption and e-commerce on the performance of MSMEs. These findings corroborate prior research by demonstrating that the adoption of e-commerce has an indirect effect on these variables (Yoon & Uysal, 2005). Entrepreneurial orientation is associated with social media adoption, e-commerce, and the performance of MSMEs. Additionally, businesspeople with a positive e-commerce experience and performance have a greater likelihood of experiencing and exhibiting long-term business performance. Kollmann et al. (2021) reveal that different combinations of EO dimensions and types of cooperation partners can explain product/service innovation in digital and non-digital contexts.

These hypotheses are accepted in Table 4 because their values are close to 0.00 and below the 0.05 level of significance. All research hypotheses have yielded results consistent with the initial assumptions. Social media adoption and e-commerce positively affect an entrepreneurial orientation, which had a positive effect on the performance of MSMEs during COVID-19.

Thus, entrepreneurial orientation is a mediator between social media adoption and MSME performance. Additionally, it acts as a bridge between the latter and e-commerce adoption. These findings contradict AlSharji et al. (2018) and Ahmad et al. (2019), who conclude that social media does not affect micro, small, and medium enterprises' performance. Both findings may assist managers and decision-makers in the MSME sector to keep up to scratch with social media research and enable them to benefit from social commerce as it becomes more prevalent. Meanwhile, Hajli (2012) states that the model predicts forums, communities,

ratings, reviews, and referrals and makes recommendations for electronics vendors to present new business plans. Furthermore, the model demonstrates that trust is a persistent issue in e-commerce that must be addressed through social commerce construction.

The adoption of social media and e-commerce is widely recognized as an effective commercial tool, especially for marketing and sales of diverse products and services on a global scale. It offers significant benefits to businesses, including increased operational efficiency, reduced inventory costs, heightened sales figures, and enhanced customer satisfaction. Rates of new market penetration and financial returns are increasing, and many businesses are implementing e-commerce.

This study aims to determine the significance of social media and e-commerce adoption and the relationship between entrepreneur orientation and business performance. According to [Grandon \(2004\)](#), MSME owners are reluctant to embrace e-commerce and instead rely on commercial and technological resources to conduct business. Grandon's study has discovered that when business owners see the benefits of increased sales and reduced working hours, price is not a barrier to using and adopting e-commerce.

Global e-commerce has experienced significant growth over the past decade, driven by several factors such as increasing internet penetration, advances in mobile technology, and changing consumer behavior. As for the first key trend, developing countries have especially benefited from having greater access to the world wide web, which has made it possible for more people to shop online. According to the International Telecommunications Union, around 53% of the world's population is now able to connect to the internet. When it comes to the second key trend, the widespread adoption of smartphones has also made it easier for online purchases to be performed, anytime and anywhere. Mobile commerce, or m-commerce, has become increasingly popular, with users browsing, comparing prices, and buying items. As regards the third abovementioned trend, changing consumer behavior, convenience is being more and more sought, and online shopping offers a fast and easy way to buy products and services. In addition, the COVID-19 pandemic has accelerated the shift towards e-commerce, as many people have since turned to online shopping to avoid crowded stores and reduce the risk of infection. Another factor is globalization: e-commerce has made it possible for businesses to reach customers anywhere in the world, opening up new markets and opportunities for growth; cross-border e-commerce, or international trade, has become increasingly popular. Overall, the growth of global e-commerce is expected to continue as more people gain access to the internet, mobile technology advances further, and consumers continue to demand convenience and choice in their shopping experience. However, e-commerce businesses also face challenges such as cybersecurity threats, regulatory issues, and intense competition.

The sustained expansion of global e-commerce and its advancement is closely tied to the increasing adoption of online shopping by Asian consumers. Compared to Western countries, Asian nations exhibit a lower average adoption rate. The present study highlights that the adoption of social media and e-commerce by businesses can potentially have a three-fold impact on consumer engagement in e-commerce: addressing security concerns, privacy issues related to online transactions, and building trust in the reliability of online suppliers ([Wei et al., 2010](#)).

Indonesian policymakers and business leaders faced many challenges in March 2020, when countries began closing borders and shuttering industries to halt the spread of COVID-19. Public and private finances were put under strain due to the suspension of international travel, severe disruption of supply chains, and a decline in global demand. While the disruption had unquestionably negative consequences on the economy, socializing, and



health, it also created opportunities for agile and innovative businesses that were able to respond quickly to fluctuations in demand and adopt digital solutions across the board.

Kim (2020) discusses the influence of COVID-19 on consumer behavior, which has received little attention. Managers typically took a wait-and-see attitude toward COVID-19's effect on sales because they were unaware of how many customers would return after the pandemic. Business owners were forced to view the pandemic as a catalyst for structural change in consumption and the digital transformation of market sectors. Managers could reintroduce or even increase their trading through digital transformation. Meanwhile, Haneberg (2021) reports that the impact of COVID-19 resulted in both uncertainty and learning, the former primarily leading to more focus on affordable loss, whereas the latter caused experimentation to occur.

The pandemic put the financial strength, governance standards, and adaptability of organizations to the test. While strong governance could not eliminate all risks, it was able to reduce them significantly. Without delegated authority, checks and balances on those trusted authorities, and a matrix structure, everything would have ground to a halt. Hierarchical organizations were often incapable of responding quickly enough: they frequently had a single dominant CEO or family member who made all the major decisions; managers and staff typically waited for instructions before acting.

In light of the above, coordination and collaboration between human resources, corporate social responsibility, production, and purchasing divisions were required, which occurred without senior management intervention, functioning flawlessly in organizations. Additionally, firms had to retrain employees who could not complete tasks remotely for them to remain productive members of the team. Meanwhile, Dirgantari et al. (2020) highlight that one of the recommendations for e-commerce businesses is that they should maintain system and information quality, as these are critical components of ensuring consumer happiness.

The successful corporate leaders of the future will ultimately be those who adhere to these values, which will enable Indonesia to progress toward becoming a more environmentally and economically sustainable country. Physical mass transportation assets will need to be scaled to maintain social distancing. The service sector will need to find a way to balance this with increased telecommuting practices to thrive. It is hoped that innovative solutions will overcome obstacles (Mowilex, 2020).

This study demonstrates that entrepreneurial orientation had a moderating effect on MSME performance during the COVID-19 outbreak, resulting in increased use of social media and e-commerce. These findings contradict Shah and Ahmad (2019), who conclude that entrepreneurial orientation improves the performance of SMEs. Additionally, differentiation strategies obscure the relationship between entrepreneurial orientation and the performance of small businesses. Hence, several attributes of entrepreneurial orientation, such as proactiveness and risk-taking propensity, play a crucial role in influencing performance. However, innovativeness, competitive aggression, autonomy, and competitive energy do not improve business performance significantly. The findings indicate that an entrepreneurial mindset in which owners aggressively manage new product innovation is necessary for an MSME to be sustainable.

Silva et al. (2022) illustrate the positive effects of entrepreneurial orientation on network capability, as well as the subsequent non-sales and sales performance of the participants in their study. Furthermore, Fadda (2018) shows that innovativeness, proactiveness, and autonomy are significantly associated with tourist firm performance, whereas risk-taking and competitiveness are not. According to Huang et al. (2022), three (four) configurations can result in high (low) firm performance, demonstrating that EO dimensions can either help or

hinder firm performance. Furthermore, the configurations that result in the same outcome differ between high-tech and low-tech firms, indicating that the effects of the EO dimensions on firm performance vary depending on the type of firm. [P. Susanto et al. \(2021\)](#) report that entrepreneurial orientation has a significant and positive effect on an SME's performance. However, the outcomes are dependent on the role of social media and marketing capabilities. The empirical findings show that the latter significantly mediates the relationship between entrepreneurial orientation and SME performance. Social media adoption also moderates this relationship and partially mediates it. This is consistent with the findings of [Abebe \(2014\)](#), in which e-commerce adoption improves the annual revenue growth rate of SMEs. Besides this, Yacob, in [Said et al. \(2020\)](#), finds that through entrepreneurial orientation, e-commerce was able to affect the performance of MSMEs during the Covid-19 period. The effect is even more significant when a firm's management has a higher degree of entrepreneurial orientation. Another research group, [Ritala et al. \(2021\)](#), reveal that their paper is one of the first to investigate innovation entrepreneurial orientation (IEO) in the context of digital strategy, which has implications for maximizing the entrepreneurial and innovative potential of employees in digital transformation. MSME owners are more proactive, take more risks, and are more innovative in these instances. These administrators can use a wide range of e-commerce technology to increase their risk tolerance, pursue new business opportunities, develop cutting-edge products or services, and adapt to today's rapidly changing economic climate. Additionally, [Cao et al. \(2018\)](#) report that external pressures, internal readiness, expected benefits, strategic objectives, and perceived risks all influence organizational social media use, which in turn affects operational and marketing performance outcomes, as well as the level of satisfaction of internal and external constituents such as customers, employees, partners, and suppliers. The findings of our study indicate that the variables interact positively, not to mention that they also aid in the analysis of preliminary studies.

This piece of research has developed a multi-perspective framework to examine various factors associated with the intention of SMEs to use social media. It will enable researchers to better understand the factors that influence these companies when it comes to adopting them in a developing country. Additionally, it contributes by empirically validating the framework in Indonesia and small businesses. The majority of studies on social media adoption have focused on developed countries. However, there are significant distinctions between developed and developing countries, and research findings from developed countries should not be extrapolated to developing countries ([Durkin et al., 2013](#); [Lorenzo-Romero & Romero, 2014](#)). Meanwhile, [Ipsmiller et al. \(2022\)](#) have provided evidence for the positive impact of entrepreneurial orientation on the use of active internationalization websites. This study contributes to understanding the business use of social media by examining SMEs in Southeast Asian countries. Finally, the findings indicate that SMEs adopt social media technology in response to economic pressure. This is concerning, as it demonstrates that its adoption does not align with a firm's strategy nor does it consider its likely impact on business performance. Adopting technology to "keep up with the Joneses" is risky. In summary, this study appears to be one of the few attempts to develop an empirical theory of SMEs in Indonesia adopting social media technology. The findings should address the general dearth of research on SMEs in the Southeast Asian region.

## 5. CONCLUSION

This study aims to determine the impact of social media and e-commerce on the performance of MSMEs during the COVID-19 outbreak. Its findings on the actual benefits gained from social media use motivate owners of MSMEs to provide initial and ongoing support for other organizations wishing to adopt said technology. It also reveals that using social media improves the entrepreneurial orientation of businesses, allowing owners to understand their role in creating an innovative culture, making them proactive and take risks to make decisions. Social media adoption has been classified into three sub-constructs based on the study's limitations: social media adoption for marketing, for building customer relationships, and for seeking information. However, the technology may have other uses that have not been addressed in this study. Meanwhile, entrepreneurship orientation may act as a moderator of this correlation. Our study has been successful in establishing the critical role of social media adoption, e-commerce, and entrepreneur orientation in improving MSME performance during the COVID-19 period and in paving the way for future studies that may wish to delve deeper into the fundamental components of social media adoption, e-commerce, and entrepreneur orientation.

This study has examined three of the Jambi province's eleven districts, including the City of Jambi, West Tanjung Barat, and Sungaipenuh City; thus, it does not provide a comprehensive description of MSMEs in Indonesia. Due to its sample size limitations, it is recommended that future pieces of research conduct a similar study in additional countries and regions to allow broader conclusions to be drawn. The findings and conclusions in this paper, as mentioned above, are the recommendations made in this section: when formulating policies in the MSME-development sector for the government, it is possible to assert that social media and e-commerce influenced sector performance during the COVID-19 period. Academically, these research findings contribute to the science of marketing strategy management, particularly in the area of SMEs.

The researchers conclude that government engagement was critical to improving the performance of MSMEs during the COVID-19 outbreak in terms of policymaking; this was shown by seeing social media and e-commerce adoption enables the growth of these businesses. Secondly, due to this technology, as well as possessing entrepreneurial mindsets, MSME owners identify and map new clients. Thirdly, academics and practitioners can take advantage of these findings to improve marketing strategy management, particularly for SMEs.

## AUTHOR CONTRIBUTION

Conceptualization, S.Y.; methodology, S.Y.; formal Analysis, S.Y.; Writing-original draft preparation, S.Y.; Writing-review and editing, U.S.; Methodology, J.M.; Validation, J.M.; Software, J, M.; Project Administration, A.P.S.; Resources, A.P.S.; Visualization, A.P.S.; Data Processing, A.P.S.; Writing-review & editing, A.M. All authors have read and agreed to the published version of the manuscript.

## Acknowledgments

The authors would like to express their sincere gratitude to all individuals and organizations who have contributed to the completion of this research. First and foremost, we extend our deepest appreciation to the participants of this study, the micro, small, and

medium-sized enterprises (MSMEs) in Indonesia, for their cooperation and willingness to share valuable insights and data. Furthermore, we would like to thank the Universitas Jambi research institutions that have provided financial support for this study. Their contribution has enabled us to conduct this research and gain meaningful findings. This study would not have been possible without the collective effort and support of all these individuals and organizations. Thank you for your invaluable contributions. Finally, we thank Prof. Junaidi, Prof. Johannes, and Prof. Sutrisno for their helpful comments on earlier drafts of this article. We gratefully acknowledge the funding that was provided for this research by Universitas Jambi.

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