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## TECHNOLOGY ADOPTION CHALLENGES AND MARKETING STRATEGIES FOR MSMEs IN SURABAYA: A QUALITATIVE STUDY

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### ABSTRACT

*The specific purpose of this study is that researchers want to see the readiness of the 14 MSMEs in Surabaya facing competition and their readiness for technology adoption, understanding of brands and product attributes. In terms of this technology, both in the use of machines, marketplaces as a means of buying and selling online and the use of social media as a means of promotion. Understanding brand attributes is also an interesting discussion because the brand is the identity of a product which must then be communicated to potential consumers. This research design uses phenomenology and qualitative study. While the sample selection in this study used a purposive sample, by conducting interviews and brief observations before conducting in-depth interviews using a semi-structured model. The result of this research is that MSMEs in entrepreneurship are the determinants of business sustainability. In terms of technology mastery and branding, MSMEs have weaknesses in adapting to join e-marketplaces, financial and sales records, and not many have standardized packaging labels. The constraints of MSMEs are technical capabilities in using computers and their features, making financial reports, and simple sales reports. MSMEs are required to make more efforts to update basic managerial skills and have creativity so that their products have advantages and competitiveness.*

**Keywords:** *E-Commerce Adoption; Marketing Mix; Technology Adoption*

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## 1. INTRODUCTION

Indonesian MSMEs are often in the spotlight in discussions about economic development during the Covid19 pandemic. MSMEs in Indonesia continue to grow from year to year. According to data from the Ministry of Cooperatives, Small and Medium Enterprises (UMKM) in 2018, the number of MSME players was 64.2 million or 99.99% of the total number of business actors in Indonesia. MSMEs also support the country's economic growth with the contribution of MSMEs to the national economy (GDP) of 61.1%, and the remaining 38.9% is contributed by large business actors whose number is only 5,550 or 0.01% of the total number of business actors. The MSMEs are dominated by micro businesses which amount to 98.68% with a labour absorption of around 89%. Meanwhile, the contribution of micro enterprises to GDP is only around 37.8% (<https://www.djkn.kemenkeu.go.id/artikel/baca/13317/UMKM-Bangkit-Ekonomi-Indonesia-Terungkit.html>).

There are several challenges that MSMEs must face, one of which is digital transformation. Technology can make MSMEs develop their business and compete excellently. MSME players are required to be able to adapt to changes in buying and selling patterns, from manual to digital. According to Statista's report on e-commerce user data in Indonesia, e-commerce users in Indonesia are predicted to increase to 189.6 million users by 2024. Since 2017, there have been 70.8 million e-commerce users and the number has increased every year. In 2018, it reached 87.5 million e-commerce users in Indonesia. While in 2020, it reached 129.9 million e-commerce users. In 2021, it is predicted to reach 148.9 million users, while in 2022 it will reach 166.1 million users and 2023 will reach 180.6 million users (<https://data.tempo.co/data/909/prediksi-angka-pengguna-e-commerce-di-indonesia-2024>).

The specific purpose of this study is that researchers want to see the readiness of the 14 MSMEs in Surabaya facing competition and their readiness for technology adoption, understanding of brands and product attributes. In the post-pandemic era, Surabaya and the East Java provincial government have introduced numerous initiatives to support MSMEs. These efforts include providing intensive mentoring programs for entrepreneurs, facilitating business licensing processes, offering training on leveraging digital tools for business operations, and organizing matchmaking events between entrepreneurs and potential investors. Additionally, the government has frequently hosted expos aimed at connecting buyers, traders, and investors, thereby helping MSMEs expand their networks in both national and international markets. It is crucial to assess the current state of small businesses to ensure they receive the appropriate support and interventions needed to elevate their level of the business.

In terms of this technology, both in the use of machines, marketplaces as a means of buying and selling online and the use of social media as a means of promotion. The level of

readiness will determine the sustainability of the business environment. Technological readiness is seen as the most significant impact on a company's ability to cope with volatility. While environmental constraints encourage businesses to adopt e-commerce and take it to the next level (Priambodo et al., 2021a). The adoption of e-commerce by SMEs in Indonesia is influenced by several factors such as perceived benefits, technological readiness, owner innovation, owner IT experience and owner IT capabilities (Rahayu & Day, 2015). The success of an SME business does not lie in the quality of goods or services alone, but the ability to build collaboration to expand business in a global market setting. E-commerce can be an important source of competitive advantage for most business organizations, especially small and medium enterprises (Purnamasari et al., 2020).

Understanding brand attributes is also an interesting discussion because the brand is the identity of a product which must then be communicated to potential consumers. This affects attitudes towards products based on external attributes such as price, brand, and production information as well as intrinsic attributes (Sung & Juyoung, 2018). Attributes implicitly relate to product functions, and external attributes refer to nonfunctional attributes such as country of manufacture or brand. The urgency of this research lies in the high economic needs of these MSME players. Previous research conducted by (Rahayu & Day, 2015) examined the adoption of e-commerce by small business owners in developing countries. The survey was conducted among 292 small business owners and found that technology readiness is one of the determinants factors of Indonesian SMEs' adoption of e-commerce. The findings further emphasize that individual-level factors significantly influence the decision-making process and willingness of MSMEs in Indonesia to adopt e-commerce technology. This factor, which may include the personal attitudes, skills, and perceptions of the business owners or managers, play a crucial role in shaping how MSMEs integrate digital solutions into their operations.

Another research found that the current economic climate is presenting new challenges for MSMEs, with many struggling to survive. These businesses are facing a multitude of difficulties, including limited knowledge, a lack of suitable technology, ineffective marketing strategies, difficulties in identifying new markets, constraints on modernisation and expansion, and an absence of a highly skilled workforce (Das & Das, 2012a). While these deficiencies can be addressed through the development of IT infrastructure and the implementation of training programs, the present study aims to elucidate the interrelationship between MSMEs' competitiveness and the comprehensiveness of their information technology (IT) utilization. In the context of marketing mix, product and promotion, the quality of a product has a direct impact on customer satisfaction. Visual elements and information on packaging can also be used to attract the attention of different age groups. The product itself is a key element that

includes features such as diversity, cleanliness, and naturalness, which influence consumers' product selection. In addition, product availability at the right location and time affects accessibility and consumption levels, while supply shortages can have a negative impact. Promotion involves advertising, promotional events, and personal selling strategies designed to inform, motivate, and convince consumers. The proper promotion helps attract attention and increase purchase interest, provided the product can fulfil customer expectations (Farid et al., 2023). The research identifies a gap between the utilisation of technology, e-commerce adoption, product development and the effectiveness of promotional activities. Many MSMEs are yet to fully leverage the potential of digital technology to support integrated marketing strategies, which is hindering their competitiveness and business growth. Therefore, this research will explore the readiness of MSME players in terms of technology adoption and marketing using in-depth interviews. This study aims to explore in-depth the level of readiness of MSMEs to adopt technology, particularly in the financial and e-commerce sectors. In addition, this research focuses on analyzing the marketing mix strategies adopted by small businesses to meet the challenges and opportunities of the digital age. Through in-depth interviews with business owners, this research provides comprehensive insights into the real conditions faced by small businesses, including barriers to technology adoption, innovations implemented and how they adapt to evolving market dynamics. These interviews allowed us to understand the specific factors that influence business decisions, as well as the marketing strategies that are considered most effective in maintaining business continuity.

## **2. LITERATURE FRAMEWORK**

### **Technology Adoption**

#### **Digital Payment**

MSMEs' knowledge in financial matters is also very necessary for financial management. Electronic media and digital applications can also help MSMEs in terms of recording raw material purchases, recording sales, calculating profit and loss, and overall financial records. Both financial literacy and the ability to adopt financial technology, so that MSMEs can make the right strategy in developing their business. Fintech can be defined as a combination of financial services and technology, which changes the business model from a conventional business model to a modern business model, where buying and selling, lending and borrowing, and other types of transactions no longer have to be done face-to-face. According to a research company called venture scanner, there are 16 types of fintech categories that exist today namely 1) banking infrastructure, 2) research and data, 3) transaction security, 4) POS payments, 5) institutional transfers, 6) institutional investment, 7) business tools, 8) business loans, 9)

personal finance, 10) retail investment, 11) equity funding, 12) crowdfunding, 13) digital banking, 14) consumer loans, 15) consumer payments, 16) payment backend (Purnamasari et al., 2020). In this study, it is only limited to the use of fintech in the form of consumer payments in transactions carried out by MSMEs.

Ease of payment will help sellers and consumers in transactions. The term digital payments describes any type of financial transaction conducted through digital means. This includes, but is not limited to, the use of mobile devices for payments, digital wallets, cryptocurrencies, and other forms of electronic payment (Alkhowaiter, 2020a). In an earlier study, Sharma found that 'fear of new technology', 'lack of new technology skills', 'lack of awareness of the benefits of mobile wallets' and 'complexity of new technology' were identified as major barriers to the adoption of mobile wallets. Users are generally uncomfortable with a new technology, which further influences the decision of whether or not to accept it. It is therefore important to understand a thought process that could otherwise become a barrier to accepting digital payments (Sharma et al., 2018).

### **Machine Production**

In micro and small industries, it is more difficult to recruit and retain technical experts than in large enterprises. Here, workers start out with no technical skills and no prior work experience. They learn the intricacies of work and the operation of related technologies over many years of work. This makes them highly resistant to technological change. There is no scope for formal training due to size and financial constraints. A significant proportion of MSMEs are operating at a relatively low production scale, which is impeding their ability to reduce product costs and engage in technological upgrades. (Maheshkar & Soni, 2021).

### **Computing Sales Record**

It is evident that MSMEs are confronted with a dual challenge: on the one hand, they must navigate the complexities of selecting between traditional, conventional, and modern accounting software in the context of evolving trends, and on the other, they must address the difficulties of integrating these new technologies into their existing operational frameworks. Despite the potential benefits of adopting these new accounting methods, MSMEs continue to lag behind in their adoption of such changes, often due to the challenges they face in fulfilling their day-to-day operational requirements (T K & S. Swathi, 2022).

### **Use of Internet**

The majority of people now have regular, daily access to the internet via a variety of devices, including computers, laptops and smartphones. Social media represents one of the most

effective channels for online marketing, with Instagram being one of the fastest-growing platforms currently available. In light of the intensifying competitive landscape faced by MSMEs, it is imperative that these enterprises leverage modern technologies, including ICT, as a means of gaining a competitive edge. However, there are still many more MSMEs, which have not yet utilised this technology in the operation of their business activities for a variety of reasons. In light of this development, internet use, especially e-commerce, has recently become a popular topic of research among scholars in a range of fields, including MSMEs, electronic business, information management, information systems, and entrepreneurship. However, research investigating the adoption of e-commerce by MSMEs remains limited in number. The intensity of internet usage by MSMEs has been found to have a positive relationship with the level of income per capita. The type of business is also an important factor in encouraging MSEs to utilise the internet. MSMEs with more complicated processes and greater financial risk, but also a high turnover value, are more likely to utilise the internet than those in types of businesses with less degree of computerisation/automation and low investment risk, but also a small turnover value (Tambunan, 2020) .

### **Join E-Marketplace**

Although many SMEs agree that e-commerce is important to them, some industries have not yet embraced the adoption. This lack of understanding in some industries could lead them to believe that they have plenty of time to adopt e-commerce. Not only does SMEs need to understand the new e-commerce business model, but they also need to believe that commitment will reap comparative advantage. In other words, they need to perceive that benefits of e-commerce will outweigh the costs (Batra & Arora, 2020). It is widely recognized that e-commerce technology offers many potential advantages to businesses. The main advantages expressed by the extant e-commerce literature are cost reduction, increased sales, increased productivity, reduced processing time, expanded market reach, and increased customers (Gomber et al., 2018).

The other research identifies a number of factors that influence small firms' e-marketplace entry behaviour, including relative benefits, compatibility, complexity, security, firm size, organisational e-readiness, owner innovativeness, firm characteristics, top management support, industry support, government support, customer readiness and cultural influence. Organisations planning to enter the e-marketplace should carefully consider these variables for effective e-marketplace entry decision making (Hossain et al., 2021). Besides, it must strengthen relationships with vendors, foster a level of public trust in online shopping, guarantee online ordering and payment transactions, and always improve information technology skills (Priambodo et al., 2021b). Based on what is described in this study, the

importance of SMEs as well as the growing importance of e-commerce, it is important to investigate how to facilitate SMEs' entry into the e-commerce field which is a channel for SMEs to enter the global market. However, despite the potential opportunities, many SMEs are unwilling to enter into the field of e-commerce resulting in lower than expected growth of e-commerce among SMEs. It is therefore important to recognize the problems that cause SMEs to be reluctant to enter the e-commerce area. Based on the results obtained, e-commerce is able to reduce operational and non-operational (administrative and support) costs.

### **Marketing Mix**

To find the best marketing strategy and mix, the company engages in marketing analysis, planning, implementation, and control. Through these activities, the company watches and adapts to the actors and forces in the marketing environment. We will now look briefly at each activity (Kotler & Armstrong, 2017). In later chapters, we will discuss each one in more depth. The main objective of the mix is to fulfill the needs and wants of the targeted market. It impacts demand by exploring the needs and wants of current and potential customers. The marketing mix is the set of tactical marketing tools that the firm blends to produce the response it wants in the target market. The marketing mix consists of everything the firm can do to influence the demand for its product (Kotler & Armstrong, 2017). This concept is controlled by the organization and consists of four elements-product, price, place, and promotion. Marketing mix becomes very important to create product excellence, and create value for consumers. In this research, the discussion will focus on product and promotion. Product has several elements, namely: variety, quality, design, brand name, features, and packaging. Meanwhile, promotion includes sales promotion, advertising, public relations, and direct selling (Kotler & Armstrong, 2017).

Previous research explored the marketing mix on customer purchase intention in Bangladesh. The 4P concept in marketing products, price, place, and promotion plays an important role in influencing consumer behaviour. *Product* is a key element that includes features such as diversity, cleanliness, and naturalness, influencing consumers' product selection. Good product quality directly increases customer satisfaction, while visual elements and information on packaging help to attract the attention of different age groups. Price is also a significant factor in purchase intention, with consumers often associating high prices with better quality or status, although some shoppers prioritise low prices. In addition, product availability at the right location and time affects accessibility and consumption levels, while supply shortages can have a negative impact. Promotion involves advertising, promotional events, and personal selling strategies designed to inform, motivate, and convince consumers.

The proper promotion helps attract attention and increase purchase interest, provided the product can fulfil customer expectations. These four elements complement each other to increase marketing effectiveness and influence consumer decisions (Farid et al., 2023). This previous study creates a business development model for street food tourism using data collected from Yaowarat Road and Khao San Road in Bangkok, Thailand and applying Kotler's marketing mix factors model. The results support a business development model of street food stalls in Yaowarat Road and Khao San Road that can be applied to other areas in Bangkok or any Asian country that wants to develop street food tourism as a niche tourist attraction by focusing on price, people, process, product and physical evidence respectively to understand why street food attracts the interest of tourists (Praesri et al., 2022).

### **3. METHOD**

This research design uses phenomenology and qualitative study. While the sample selection in this study used a purposive sample, by conducting interviews and brief observations before conducting in-depth interviews using a semi-structured model. The first stage carried out was to conduct brief interviews and observations of MSMEs that had been selected based on their location in Surabaya, various types of MSMEs, and varied business age ranges. These initial interviews and observations will serve as a guide in creating semi-structured interviews that will further be asked by clustering the issues. This research uses thematic data analysis methods. Thematic analysis is a technique that involves examining, ascertaining, analyzing, recording and uncovering themes relevant to the subject under study. In the second stage there were 6 questions on the technology cluster and 10 questions on the marketing cluster. We conducted interviews with 14 participants who are MSME owners. The types of businesses owned by these participants consist of goods and services including snacks, drinks, food depots, handicrafts, laundry services, and decoration services. Data was collected through in-depth interviews using semi-structured interview techniques. The interview questions focused on two areas: technology and marketing. The interview questions consisted of the use of technology in production, financial recording, promotion, and sales. In addition, we also conducted interviews regarding the marketing process starting from brand naming, brand design, logo making, packaging and label making as well as promotional media used by MSMEs. Questions about the availability and needs of human resources were also part of the interview questionnaire.

In the third stage of the research, transcribing the interviews, writing the transcripts, coding, and presenting a summary of the data from the transcripts in tabular form.



#### 4. RESULT AND DISCUSSION

**Table 1. The Main Profile of Participants**

<b>Interview Participants</b>	<b>Function</b>	<b>Business Size (year)</b>	<b>Sector</b>	<b>Location of the business</b>
P1	Owner	9	F&B	Surabaya
P2	Owner	3	Handicrafts	Surabaya
P3	Owner	3	F&B	Surabaya
P4	Owner	12	F&B	Surabaya
P5	Owner	3	F&B	Surabaya
P6	Owner	3	Shoe	Surabaya
			Laundry	
P7	Owner	3	Laundry	Surabaya
P8	Owner	4	F&B	Surabaya
P9	Owner	3	Décor	Surabaya
P10	Owner	5	F&B	Surabaya
P11	Owner	3	F&B	Surabaya
P12	Owner	5	F&B	Surabaya
P13	Owner	3	F&B	Surabaya
P14	Owner	5	F&B	Surabaya

**Table 2. Code, Themes, and Sample Supporting Cases (Participant Applied Technology and Marketing Context)**

<b>Code and Themes</b>	<b>Sample Cases</b>	<b>Total Cases</b>
<b>Code I: Technology Context</b>		
- Digital Payment	P1, P2, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14	13/14
- Machine Production	P1, P2, P3, P4, P5, P6, P7, P8, P11, P12, P13	11/14
- Computing Sales Record	P5, P6, P7, P12, P13	5/14
- Internet Use	P1, P2,P3, P4, P5, P6, P7, P8, P9, P10, P12, P13	11/14
- Join e-marketplace	P2, P11, P13	3/14
<b>Code II: Marketing Context</b>		
- Brand name	P1, P2, P3, P5, P6, P7, P8, P11, P13, P14	10/14
- Brand design	P1, P2, P3,P4, P5, P6, P7, P8, P9, P12, P13	11/14
- Product design	P1, P2, P3, P4, P5, P6, P8, P9	8/14
- Label Packaging	P2, P3, P8	3/14
- Media promotion	P1, P2, P3,P4, P5, P6, P7, P8, P9, P12,	10/14

**Table 3. Code, Themes, and Sample Supporting Cases  
(Participant Unapplied Technology and Marketing Context)**

Code and Themes	Sample Cases	Total Cases
Code I: Technology Context		
- Digital Payment	P3	1/14
- Machine Production	P9, P10	2/14
- Computing Sales Record	P1, P2, P3, P4, P8, P9, P10, P11, P14	9/14
- Internet Use	P11, P14	2/14
- Join e-marketplace	P1, P3, P4, P5, P6, P7, P8, P9, P10, P12, P14	11/14
Code II: Marketing Context		
- Brand name	P4, P9, P10, P12	4/14
- Brand design	P10, P11, P14	3/14
- Product design	P7, P10, P11, P12, P13, P14	6/14
- Label Packaging	P1, P4, P5, P6, P7, P9, P10, P11, P12, P13, P14	11/14
- Media promotion	P10, P11, P13, P14	4/14

**Table 4. Sample of Evidence**

Themes	Sample of Evidence Participant
Code I: Technology	
- Digital Payment	(-)We still use cash transactions, because it is quite complicated if we use other equipment (P3). (+) For payments and transactions, we also use e-payments such as qris, through shopeepay, ovo, and can also be through bank transfer (P4).
- Machine Production	(-)We do not use machines for production, because the cooking process does not need to use machines (P14). (+) For the use of machines, we have used simple machines for some things, such as wood cutters, wood smoothing and also using a printer (P2).
- Computing Sales Record	(-)Still manually, we have not used computerized media because the income and expenses are not every day only when there is an order (P1). (+) For recording finances and sales, we use a simple google spreadsheet (P5).
- Internet Use	(-)I don't use the internet often, because I'm not very good at it (P11). (+) As for internet usage, I usually use it for financial transactions, to view account mutations. Playing songs from the music application to avoid boredom while working (P7).

		Continued
-	Join E-marketplace	(-)I don't understand how the application works because it looks complicated (P1) (+) I joined Shopee and Tokopedia for the sale of this craft, because it is quite popular. The PO system in these two e-marketplaces can also be facilitated (P2).
Code II: Marketing Context		
-	Brand name	(-) Does not have its own special meaning (P4). (+) The reason I use the name Bakpia Minican is because the shape or size of the bakpia itself is mini and the can comes from my son's name, so it becomes "Bakpia Minican" (P1).
-	Brand design	(-) No special meaning to the name of the "Dapur Hijau" (P10). (+) The word "Yellow" is because I like the colour yellow, and combined with the use of the word "Clean" means that our service focuses on cleaning shoes, which means cleaning shoes that have turned yellow (P6). Given the name "Tante Kriuk" because it sells crunchy food so it is named kriuk, while tante itself is taken because the owner feels old but the word "tante" is more recognisable than "bukdhe" for Indonesians, so it is more suitable for tante, and the two words are combined into tante kriuk. Tante Kriuk itself already has a logo with a picture of a woman (P3).
-	Product Design	(-) I don't make a special initial model, and I try it out. As long as I think it's okay, the taste is good, I sell it. (P14). (+) The bakpia is available in small, large and medium sizes with several flavors to choose from such as chocolate, cheese and mung bean (P1).
-	Label Packaging	(-)Use simple packaging, no labels, only use food wrappers when there are orders that are wrapped P10). (+) The packaging used is a colorful pouch according to the product variant and contains a label that has been approved by PIRT and is halal certified (P3).
-	Media promotion	(-) Not yet, but in the future I want to make a bundling package. promotion using Facebook, WhatsApp, Instagram media (P8). (+) We use Instagram as a promotional medium by uploading content. Promos in the form of bundling with other MSMEs are packaged in the form of hampers. There is also a membership card. We use this social media as a promotional media because of its low cost and wide coverage (P5).

## **Techonolgy**

In the context of technology, there are 5 things that are the focus of this discussion, namely digital payments, machine production, computing sales records, internet use, and joining e-marketplaces.

**Digital Payment.** It is a trend nowadays because it is easy and can be done at any time remotely. Digital payments can be in the form of inter-bank transfers, transfers between e-payment applications, and payments via barcodes. From the coding data results, it can be seen that 13 out of 14 participants have provided digital payment facilities to accelerate and complement customer services. Even though they find that there are costs incurred for e-payments, this payment method is still used because it facilitates the transaction process.

*“For payments and transactions, we also use e-payments such as qris, through shopee pay, ovo, and can also be through bank transfer” (P4)*

*“For payment, we use e-payment and Cash using BCA bank although there is a fee deduction, but this method makes our transactions easier” (P6)*

Some factors that become obstacles for MSMEs to provide digital payments are not connected to mbanking and still find it difficult to activate digital payments.

*“We still use cash transactions, because it is quite complicated if we use other equipment” (P3).*

Digital payment or banking has several literature methods including mobile payment, mobile wallet, mobile banking, electronic banking, internet banking, online banking, crypto currency, bit coin, and virtual payment (Alkhowaiter, 2020b). A small proportion of MSMEs lack an understanding of the operational mechanics of digital payment systems. This lack of comprehension can result in a reluctance or even reluctance to transition from traditional payment methods. Additional costs, such as those associated with administration fees or deductions from digital transactions, are often perceived as a burden by MSMEs, particularly those operating with narrow profit margins. Some MSMEs maintain that traditional payment methods, such as cash or manual bank transfers, are adequate for their business. This resistance to change can act as a barrier to the adoption of digital payment systems.

**Machine Production.** Referred to here is the use of machines in production even though it is still on a small scale. From the coding results, it can be seen that 11 out of 14 participants have used machines to help with production.

*“For the use of machines, we have used simple machines for some things, such as wood cutters, wood smoothing and also using a printer” (P2).*

Machines for production are used by participants in making noodles, cake fillings, coffee brewing, and handicrafts. The lack of machine utilisation among MSMEs is also attributed to limited capital and relatively low production levels. Consequently, these enterprises are still in

the process of determining which aspects of their production processes would benefit most from machine assistance.

*“For our products, the beverage production process already uses machines, but the beverage packaging process is still manual due to limited capital for the addition of a sealer machine” (P5).*

*“We do not use machines for production, because the cooking process does not need to use machines” (P14).*

Production using machines can help participants in accelerating production, as well as increasing the scale of sales so that it can create a competitive advantage for MSMEs. Some of the factors that influence MSMEs not to use machines are due to the type of business that does not require machines for production, such as some food depots. These participants feel that there is no need to use machines to support the production process because food making can still be done manually and on a small scale.

**Computing Sales Record.** It is quite a challenge for MSMEs. A total of 5 out of 14 participants have done computerized sales records. The other participants still use manual records and some even do not make sales or financial records. This recording is a challenge because MSMEs do not understand the sales and financial recording process well.

*“Still manually, we have not used computerized media because the income and expenses are not every day only when there is an order” (P1).*

A significant proportion of MSMEs do not maintain computerised financial records, citing the relatively limited scale of their operations and the associated limitations in financial reporting capabilities and computer literacy as key factors. By aligning information technology with the operational context of the business, organisations can mitigate the risk of failure. The implementation of an effective IT infrastructure can facilitate the generation of additional revenue, the reduction of operational costs, and the enhancement of customer responsiveness through the utilisation of e-business.

*“For recording finances and sales, we use a simple google spreadsheet” (P5).*

*“Our financial statements are computerised although it is still a simple recording. We use a free application in financial recording” (P6)*

IT infrastructure can develop new products and services that have a high-level knowledge component in them with additional skill enhancement that can lead to significant improvements in productivity and competitiveness (Das & Das, 2012b). A significant majority of MSME owners lack an adequate understanding of the importance of maintaining good financial records and of utilising financial software or applications. Their lack of technological and financial literacy makes them hesitant to switch from manual record-keeping. Some MSME owners and operators are concerned that they will make mistakes when using the software or lose data due to technical glitches. This creates resistance to adopting new technology. Despite the potential benefits of adopting these new accounting methods, MSMEs continue to lag behind in their

adoption of such changes, often due to the challenges they face in fulfilling their day-to-day operational requirements (T K & S. Swathi, 2022)

**Internet Use** is defined as being able to use the internet and gadgets well. From the results of data processing, it is shown that 11 out of 14 participants can use the internet and gadgets well.

*“As for internet usage, I usually use it for financial transactions, to view account mutations. Playing songs from the music application to avoid boredom while working” (P7).*

*“We use the internet in this small business mainly for ordering procedures via social media and WA as receiving orders from customers. Using WhatsApp to serve orders online or offline” (P6).*

*“We use the internet to access social media such as Instagram and TikTok as a medium of promotion / introducing products. We think social media is very helpful as a portfolio container and as a marketing medium to make it easier to reach” (P5).*

They use gadgets and the internet to surf search engines, social media, and for other entertainment. It is becoming increasingly evident that MSMEs are beginning to recognise the significance of utilising the internet as a vital tool for marketing, encompassing the creation of content and the expansion of their market reach. Basic IT infrastructure such as the Internet, websites, free application software (Open Office) can make them more competitive. The Internet provides many cheap and easy opportunities for MSMEs to compete with large companies (Das & Das, 2012b). Some MSMEs are conditioned to traditional work practices and are thus reluctant to adopt new technologies. Resistance to change is often driven by concerns about potential failure or the perceived need for greater effort. Additionally, many MSMEs lack the knowledge required to effectively utilise the internet for marketing, reaching new customers, or managing online sales.

**Join E-Marketplace.** Of the 14 participants, only 3 participants joined the e-marketplace as a supporting system in sales. They sell through Shopee and Tokopedia. Joining the e-marketplace was also a challenge for participants.

*“I don't understand how the application works because it looks complicated, and I have no desire to use the marketplace because it is considered less effective” (P1).*

*“I joined Shopee and Tokopedia for the sale of this craft, because it is quite popular. The PO system in these two e-marketplaces can also be facilitated” (P2).*

*“We didn't join the emarketplace due to the tax charged when signing up and to be honest, it was a hindrance due to the high service fee charged” (P12).*

E-commerce has a significant role in increasing speed, accuracy, and improving communication between internal and external parts, reducing operational costs. Finally, e-commerce reduces marketing and advertising costs (Sedighi & Sirang, 2018). The following factors have been identified as deterrents to participation in the e-marketplace: the perceived complexity of the registration process, a lack of reliability in the use of digital devices and a lack of understanding of the concept of the e-marketplace itself. Additionally, the availability of limited human resources, a lack of preparedness in terms of production and the imposition of service fees on products, which contribute to an overall perception of expensive product prices, have also been

identified as potential deterrents. Furthermore, the registration process itself is perceived as imposing additional costs through taxes.

### **Marketing**

In the marketing context, there are 5 things that are the focus of this discussion: brand name, brand design, logo, packaging label, and promotional media.

**Brand Name.** The brand name is the main thing when MSMEs will launch a product. From the results of data processing, it was stated that 10 out of 14 participants already had a brand name and they had a meaning for each brand name selection.

*“The reason I use the name Bakpia Minican is because the shape or size of the bakpia itself is mini and the can comes from my son's name, so it becomes Bakpia Minican” (P1).*

*“We chose our brand name from the names of the owner's children, Abi, Iyas and Nabil (combined), with the hope that it would bring in enough money to cover the children's expenses” (P2).*

This identity will be an attraction for the audience to recognise the product. The selection of brand names by participants is based on the names of the closest people, the uniqueness of the product, and abbreviated words that are considered interesting by participants. The name of the most proximate individual is frequently employed as a means of expressing hope, desire, and prayer that their brand will be acknowledged and endure in the context of market competition. The brand name becomes the identity of a product to be recognised by consumers. A brand name that is easy to remember and unique will be an attraction in itself. The brand itself is one of the most important components of the company's intangible property; companies protect it and pay great attention to shaping it, especially since the brand creates a barrier (Valaskova et al., 2018).

**Brand Design.** Brand design elements are names, marks, and symbols that identify and distinguish brands and include brand names, logo shapes, colours, and fonts. From 11 out of 14 participants have applied this brand design concept as an identity for their products even though with limited use.

*“The word "Yellow" is because I like the colour yellow, and combined with the use of the word "Clean" means that our service focuses on cleaning shoes, which means cleaning shoes that have turned yellow” (P6).*

*“Given the name "Tante Kriuk" because it sells crunchy food so it is named kriuk, while tante itself is taken because the owner feels old but the word "tante" is more recognisable than "bukdhe" for Indonesians, so it is more suitable for tante, and the two words are combined into tante kriuk. Tante Kriuk itself already has a logo with a picture of a woman” (P3).*

MSMEs use brand design from the shape, character, and type of product to be sold. In addition, the owner's preferences, for example in terms of colours, animation characters that are similar to the owner, are also important factors in making brand designs. For example, in

making a logo, some participants just make a logo without giving it a special meaning. But there are also participants who have managed their brand design quite well starting from font consistency, logo meaning, and colour use. Brand design elements are names, signs, and symbols that identify and distinguish brands, and include brand names, logo shapes, colours and fonts (Walsh et al., 2011).

**Product Design.** Product design is defined as the distinct properties of a product's form (i.e., the aesthetics of tangible goods and services) and its function (i.e., its capabilities), along with the holistic properties of integrated form and function (Luchs & Swan, 2011). The product design process consists of determining the number of products to be produced, the product design process, aligning the design with the company's strategy, sample preparation, and sample testing (Andriani et al., 2016).

*“The bakpia is available in small, large and medium sizes with several flavors to choose from such as chocolate, cheese and mung bean” (P1).*

*“We have various forms and functions: (1) Stringart in the form of a house, cutting board, picture frame. (2) Minigold and Scrapframe are in the form of illustrations of pictures or photos desired by customers so it can also be customised” (P2)*

Creating prototypes, analysing functionality are processes that must be carried out when doing product design. A total of 8 out of 14 participants have done product design after analysing the market. Participants made product prototypes by making several variants of products and packaging, then tried to conduct a simple market test by giving the prototype to relatives or acquaintances to evaluate. Product design is creating new products that a business will sell to its consumers (Sihombing et al., 2022). According to (Saidani et al., 2013) defines design as the totality of features that affect how a product looks, and functions for consumers. Design offers three things: (1) Function (2) Aesthetics (3) Attractiveness (Irvanto, 2020).

**Labels and Packaging.** Based on the results of data processing, 3 out of 14 participants have labels and packaging that are in accordance with the standards. Labels and packaging are considered very important for a product to show the quality of a product. This is because the label states the composition, production date, and certification owned by the participant.

*“The packaging used is a colorful pouch according to the product variant and contains a label that has been approved by PIRT and is halal certified” (P3).*

*“It varies depending on the product. For stringart using paper bags, scrap frames and minigold hampers using cardboard boxes. In order to reduce the use of plastic, bubble wrap is also used so that the product is safe when it reaches consumers. If the standardised label is still not, the Byasnacraft label is in the form of a sticker containing the brand name, mobile phone number attached to the product” (P2).*

*“we only wrap the laundry products with plastic packaging just like laundry in general, there is no information on the plastic packaging. Because the cost is quite expensive if you want to make special laundry plastic with labelling information” (P7).*



The production of labelled packaging by MSME is relatively uncommon, largely due to the financial implications and a lack of awareness of the standards that apply to product labels. Similarly, packaging keeps the product durable, safe, and visually appealing. Within the product range of labels, the variety is quite large and includes both food and non-food items. These items include durables, meat products, chilled and frozen foods, dairy products, alcoholic and non-alcoholic beverages, paper and plastic products, animal foods, health products and medicines, clothing, sportswear, medicines, and household appliances (Valaskova et al., 2018).

**Media Promotion.** Based on the results of data processing, 10 out of 14 participants have carried out promotions through the selected media. Most participants use social media to make product offers or promotions.

*“We use Instagram as a promotional medium by uploading content. Promos in the form of bundling with other MSMEs are packaged in the form of hampers. There is also a membership card. We use this social media as a promotional media because of its low cost and wide coverage” (P5).*

*“For promotion Byasnacraft does free shipping promotions where as long as it is still in the Surabaya area and through content on Instagram because there are many Instagram users, so hopefully there are also many potential customers” (P2).*

Promos provided by participants are usually in the form of bundling systems, points, membership, and collaboration with other brands. Social media is used because it can reach a wide audience and is cheap. Advertising on social media is also something that is possible to do, the price of advertising on social media is affordable by MSMEs and the audience coverage is very wide. To achieve a competitive advantage in terms of brand strength, brand popularity, and product image, MSMEs are required to design promotional strategies that will ultimately improve the marketing performance of their business. Marketing through social media starts with research and research that must be continuous. Marketing through social media requires a lot of reading. Not only living off what is happening in the industry but also needing to be aware of the ongoing online conversations happening with the industry, products, services, customers, and competitors. Reading in various forms to digest as much business-related information as possible so as to communicate well effectively (Munir et al., 2019).

## 5. CONCLUSION

The ability of MSMEs in entrepreneurship determines business sustainability. In terms of technology mastery and branding, MSMEs have weaknesses in adapting to join e-marketplaces, financial and sales records, and not many have standardized packaging labels. These obstacles are a barrier for MSMEs to develop products and businesses. Labels are an important thing that must be considered by MSMEs, because labels are the identity of a product. Consumers will

know the brand name, composition, and type of product from the label attached. In the e-marketplace, which is one way to expand the market area and sales, MSMEs are still reluctant to join because it is still considered complicated and the price set will be more expensive. This triggers concerns for MSMEs to join the e-marketplace. As for computerized financial and sales records, most participating MSMEs have not yet done so. The constraints of MSMEs are technical capabilities in using computers and their features, making financial reports, and simple sales reports. MSMEs are required to make more efforts to update simple managerial skills and have creativity so that their products have advantages and competitiveness.

It should be recognised that this study is not without limitations. Primarily, the study only covers MSMEs in a specific region, which may limit the ability to generalise the results to MSMEs in other regions that may have different characteristics or challenges. The degree of digital technology adoption across the MSME sector is highly variable, which may limit the generalisability of the study's findings. The transition towards digitalisation is a gradual process, and this study may not fully capture the long-term outcomes of digital transformation in MSMEs. It is important for MSME players to enhance their digital literacy. This may be achieved by implementing regular training programmes designed to improve their digital understanding and skills. Such training could include the utilisation of e-marketplaces, bookkeeping software and digital marketing tools.

Based on this research, we propose that future studies should focus on the transformation of MSMEs from traditional to digital business models. This research examines the evolution of MSMEs in their adoption of digital technology over time. Additionally, it identifies the factors that facilitate or impede digital transformation, assesses the impact of digital transformation on business sustainability, sales, and operational efficiency, and develops a model to assist MSMEs in successfully navigating the digital ecosystem.

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