DIGITAL ECONOMIC INTEGRATION OF MSMES IN THE GLOBAL SOUTH COUNTRY REPORT: INDONESIA

INDEF

JANUARY 2023

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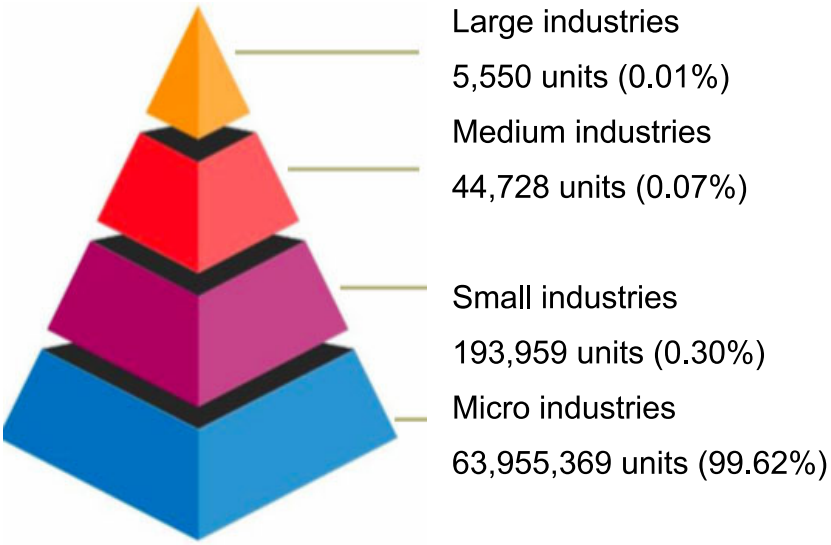
INTRODUCTION

Background

In most developing countries, including Indonesia, micro-enterprises are more dominant than small and medium enterprises in the number of units. According to data from the Indonesian Ministry of Cooperatives and SMEs (2021), approximately 99.62% of the total MSME units in Indonesia come from micro-enterprises

Figure 1 The level of enterprises in Indonesia



Source: The Indonesian Ministry of Cooperatives and SMEs, 2021

MSMEs are the backbone of Indonesia's economy. They stimulate domestic demand, create jobs, innovate, and compete nationally. However, this enterprise does not require much skill and capital nor has a wage standard, so it is open to anyone. The MSMEs empowerment programs, therefore, have become one of the most important strategies for alleviating poverty. These programs include production capacity expansion and human capital capability improvement through training, capital assistance, and technology support. As the dominant player in the economy, in terms of numbers, they contributed 61% of total GDP and 97% of total employment in 2021. In

terms of unit numbers, micro firms (98.6%) are the largest part of the business structure in Indonesia, compared to small (1.22%) and medium enterprises (0.1%).

The covid-19 pandemic has impacted negatively on Indonesia's economy, as well as on MSMEs. As dominant economic players, mobility restriction due to the Covid-19 pandemic results in negative performance and income for MSMEs. According to a survey by BPS (2020), about 67.7% of total MSMEs experienced a decreased income. Moreover, almost all MSMEs (98%) faced an obstacle in their sales, distribution, and supply of inputs. SMEs in Indonesia mostly operate in sectors requiring mobility and interaction, such as agriculture, farming, forestry, and fisheries (50%), Trade, hotel, and restaurant (29%), logistics and communication (8%), and Processing Industry (7%). Thus, SMEs in these sectors must catch up on the negative impact of mobility restrictions due to the pandemic.

Conversely, the Covid-19 pandemic has also accelerated the use of digital platforms and tools for SMEs and helped them survive during the pandemic and the new normal economy. It brought the bright prospect of Indonesia's digital economy, where SMEs are part of the ecosystem. This opportunity should transform into new economic opportunities for supporting marginalised groups, such as SMEs and women-owned SMEs in the whole region of Indonesia, including in urban and rural areas. Therefore, SMEs' participation in the digital economy will promote inclusive and equitable economic growth and development.

Specific Research Interest Sector

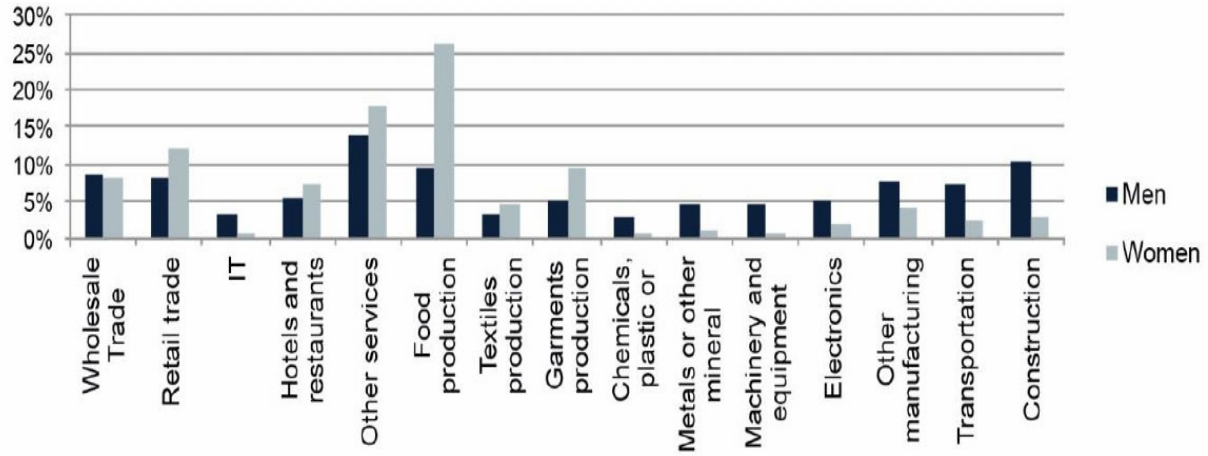
MSMEs have contributed to the agriculture and manufacturing sectors' output. In these sectors, MSMEs act as subcontractors of larger manufacturing. Therefore, MSMEs in agro-processing sectors are relevant and have the potential to be further studied on how SMEs might face opportunities and challenges as they integrate with the value chain, digitalized market, and economy.

Agriculture MSMEs contribute to employment and GDP, which are expected to grow larger by harnessing digital infrastructure. According to Katadata Insight Center (KIC), agriculture MSMEs business units consist of agriculture (42.5%), plantation

(16.8%), fisheries (16.4), farming (12.6%), and forestry (11.7%) during the covid-19 pandemic experienced demand correction due to national physical distancing (22.90%) (KIC, 2021). However, based on this survey, most MSMEs expand the market within the city/regency, and only 12.1 % of the business group exports the products. For Indonesia, as a nation with abundant natural resources, this is still a small number, and it is urgent to increase productivity and integrate into the global value chain. Thus, it is necessary to increase technological capabilities and integrate MSMEs in agricultural sectors, especially agro-processing, by using the information and market to connect with local, regional, or global value chains. Ahmad (2020) has proven that technologies and the global value chain correlate strongly.

Additionally, according to UNWTO (2022), the GDP contribution of tourism sectors is about 4.16% on average between 2008-2020. Indonesia's tourism sectors are comprised of SMEs business in such sub-sectors as services sectors, such as hotels and restaurants, transportation, and the manufacture of craft goods. This sector has the potential to grow as it is targeted to contribute about 4.8% to Indonesia's GDP. This sector also hires many employees, which is targeted to be 13 millions of employment. Therefore, this sector is one of the prioritized sectors to boost inclusive economic growth, as many SMEs play a significant part in this sector.

Figure 2 SMEs business sectors by gender



Source: IFC, 2016

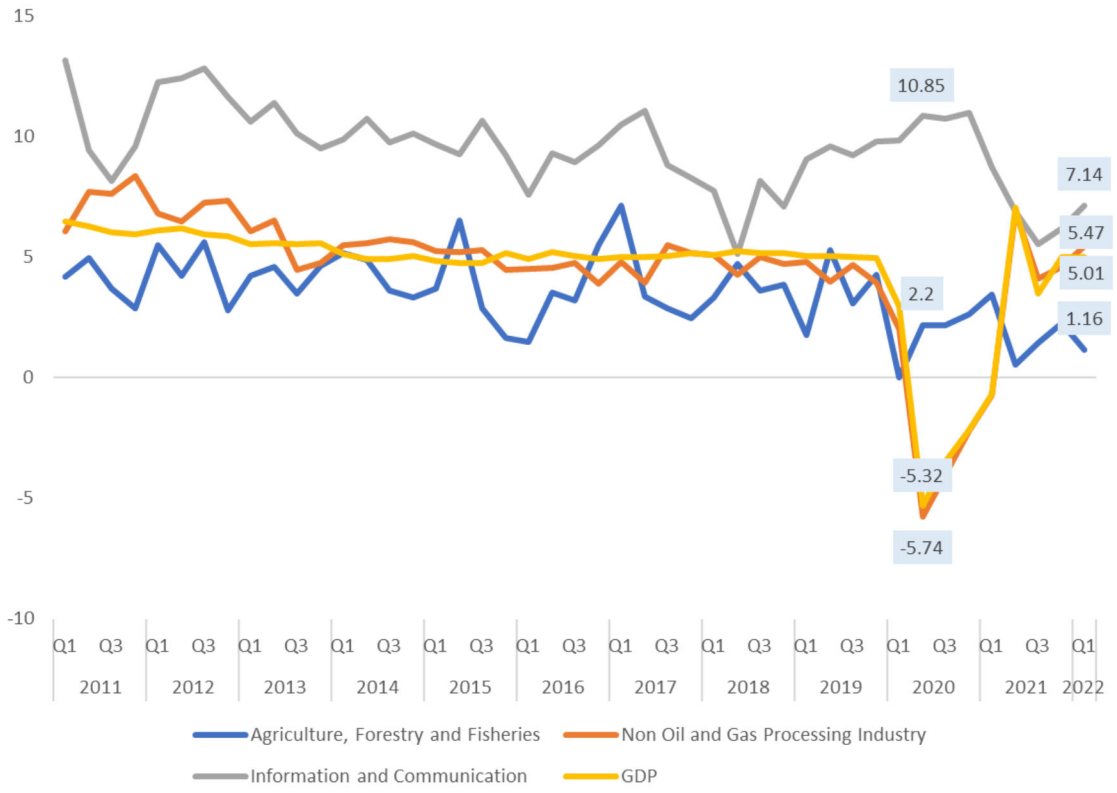
According to IFC (2016), women-owned businesses tend to be small compared to men, often owning medium enterprises. By sectors, Figure 2 shows that women SMEs belong to trade (20%) and other services sectors (17%). In manufacturing, women SMEs dominated food production (26%) and textile and garment business (15%). These women-owned business sectors are relevant sub-sectors to be included in the study, particularly to observe their development in the digitalisation of SMEs. Therefore, we are interested in including two sectors of SMEs, such as the agro-processing and tourism sectors, as our focus of the study.

LITERATURE REVIEW

Digitalization in Indonesia

Indonesia has the most rapid economic growth globally, with an annual growth rate of 5.1 percent. Moreover, it is supported by a sizable population of over 275 million in 2022 (https://dukcapil.kemendagri.go.id). Besides population, other elements are fundamental to Indonesia's digital economy expansion. As a proxy to digitalization, the ICT sector's contribution to GDP is relatively stronger than other sectors during the pandemic . Even during recessions or sluggish growth in the mainstay sectors, the ICT sector can grow by double digits.

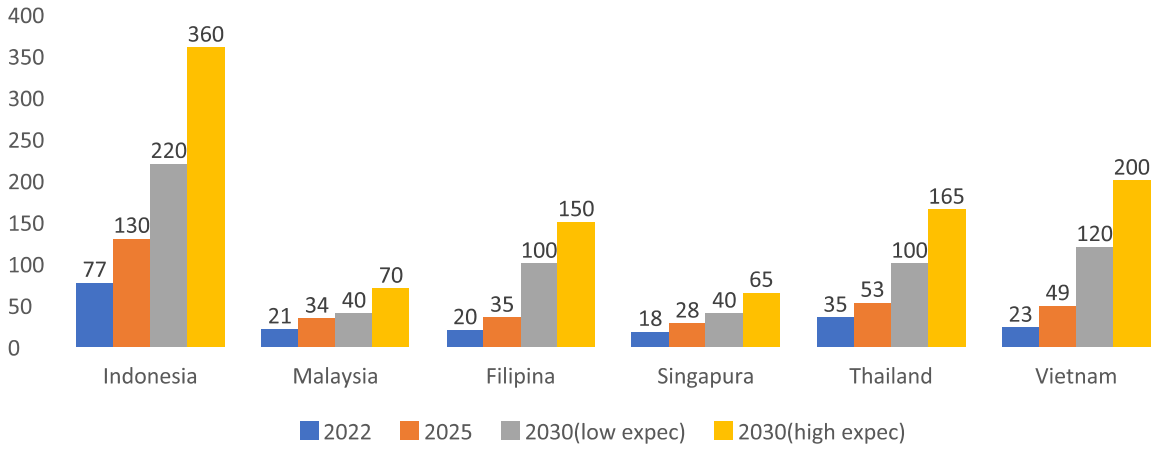
Figure 3 Indonesia's Economic Growth by Sector



Source: Indonesia Central Bureau Statistics, 2022

Indonesia is the nation in Southeast Asia with the biggest share of the digital economy, according to Google, Temasek, and Bain (2022). Indonesia's digital economy, which consists of 5 leading (e-commerce, transport&food, online travel, online media, and financial services) and 4 nascent (health tech, SaaS, edtech, and Web3) sectors in the digital economy, is 3.7 percent of the country's overall GDP (Google, Temasek, and Bain, 2022). Even in 2025, the digital economy's contribution is predicted to increase to 9.3 percent of the national GDP. The Indonesian E-Commerce Road Map aims for domestic e-commerce transactions to reach a minimum of USD 330 billion by 2030 (Google, Temasek, and Bain, 2021).

Figure 4. E-Commerce Transaction



Source: Google, Temasek, and Bain, 2022

The following are a few aspects influencing the growth of Indonesia's digital economy:

a. Political Factors

- Powerful digital regulation

According to the Electronic Information and Transactions (ITE) Act, unless they can demonstrate that a third party's wrongdoing was involved, providers of electronic systems (such as websites, mobile applications, and so forth) are inherently liable for everything that occurs to those systems.

- Relaxation of the tax laws for digital businesses

  Exemption from Import Duty from USD 100 to USD 75 per day as a threshold. The E-Commerce tax is on online marketplaces, classified ads, daily deals, and online retail.

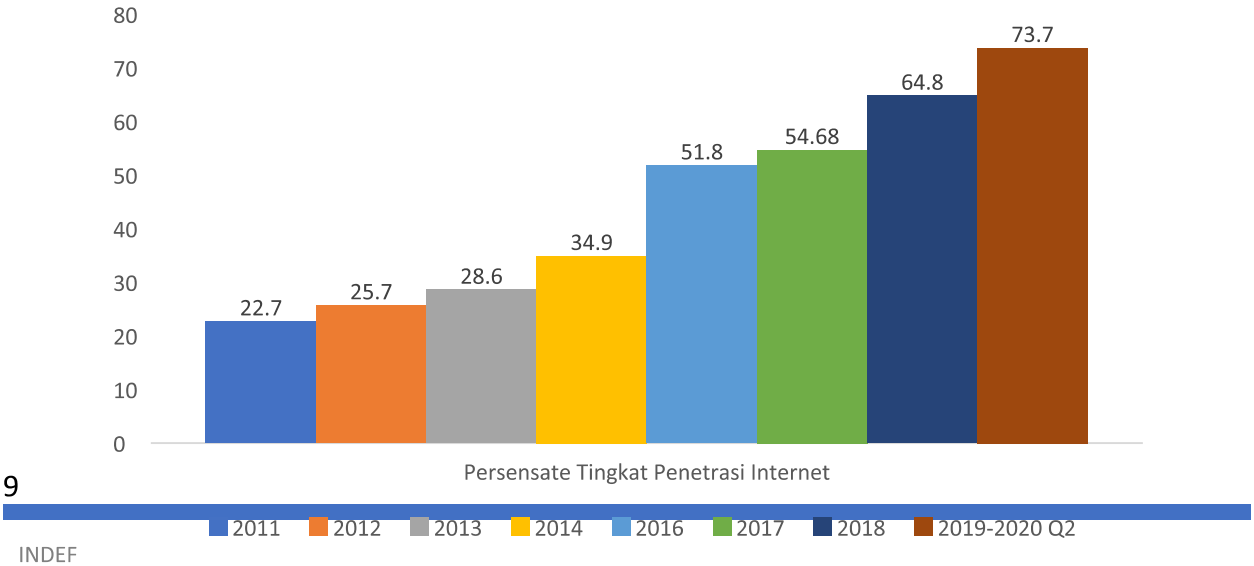
b. Economic Factors

During the pandemic, Indonesia's economic growth rate experienced a severe contraction of -2.07 percent YoY in 2020. The economy gradually improved in 2021 (3,69 percent) and 2022 (INDEF expects around 5 percent) (Indonesia Central Bureau Statistics, 2022).

c. Social Factors

In 2017 the internet penetration rate was 39.7 percent (105 million users), where 72.5 percent (76.11 million users) came from mobile phones. In 2018, internet penetration in the country reached 64.8 percent, and its level rose to 73.7 percent in 2019-2020 (APJII, 2020).

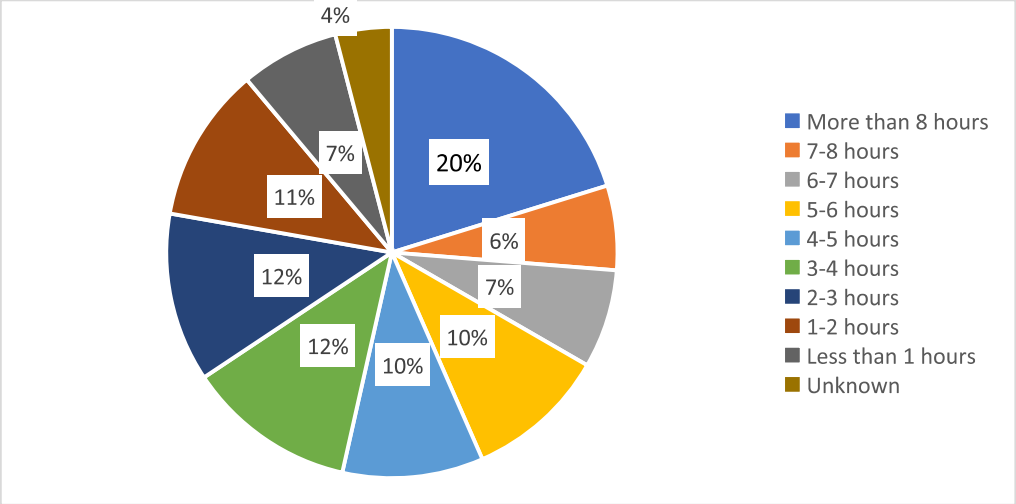
Figure 5. Percentage of Internet Penetration Rate in Indonesia



Source: APJII, 2020.

The Association of Indonesian Internet Service Providers (APJII) has just released a report, "Indonesian Internet Profile 2022 (https://apjii.or.id/). APJII revealed that Indonesia's internet penetration had reached 77.02 percent in 2021-2022. Indonesia is one of the top 4 countries in the world for internet usage, according to APJII (2020). Between 2 and 8 hours daily, 58 percent of Indonesians use the internet. Another 20% of people use the internet for longer than 8 hours daily.

Figure 6. Hours of Internet Usage



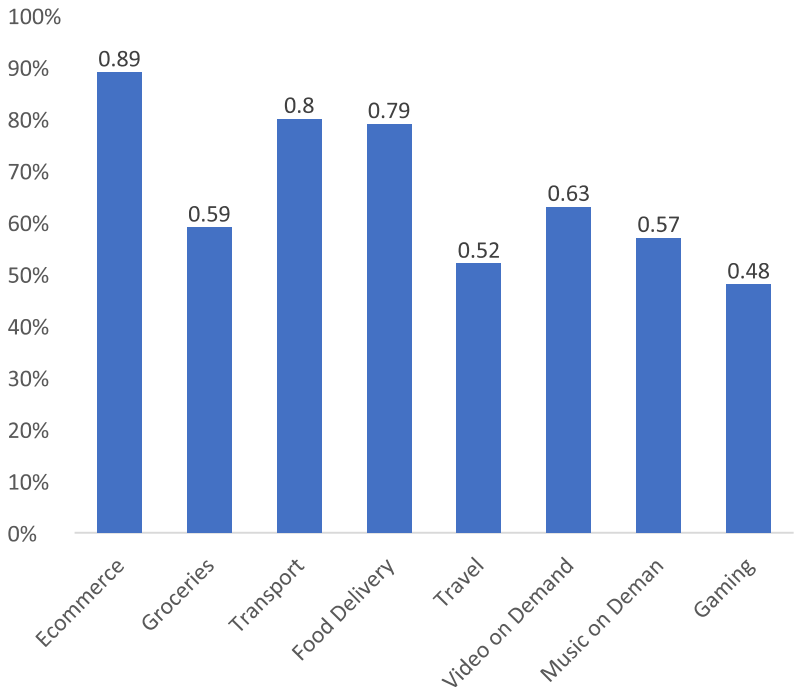
Source: Indonesia's Internet Service Provider Association APJII, 2020

d. Technological Factor

Indonesia has 210 million smartphone users, ranking fourth worldwide for smartphone penetration in 2021 (Statista, 2022). Smartphone penetration in the country has reached 76,2% of the total population (Statista, 2022). At least 89.2% of Indonesia's population will have smartphones by 2025 (Statista, 2020). E-commerce, groceries, transportation, food delivery, lodging, video on demand,

music on demand, and gaming are a few industries using digital technology. However, the e-commerce, grocery, transportation, and food delivery industries are Indonesia's key drivers of digital adoption.

Figure 7. Digital Adoption in Types of Activities in Indonesia



Source: Google, Temasek, dan Bain (2022)

Note: 'Digital adoption' accounts for active users (last used in the past 3 months) and lapsed users (last used more than 3 months ago). Question: S8. Which of these activities have you done before?

Promoting Participation of Women in the Digital Economy

According to data for 2021 from the Ministry of Cooperatives and Small and Medium Enterprises (Kemenkop UKM), women own most Indonesian micro businesses. The MSME sector employs 97% of women and has 53.76% female owners, contributing to 61% of the economy. This situation demonstrates women's roles and contributions in

overcoming various obstacles to revive, change, and reform the economy. Despite playing a significant economic role and helping to create jobs, discriminatory gender norms in Indonesia place structural impediments in the way of women. Unsurprisingly, there are still a significant number of female MSME actors who fit into the subsistence and micro categories. Subsistence-level MSMEs have the following characteristics:

1) Entrepreneurship is not their desirable job but the only available one.
2) Only to cover basic needs.
3) The key issues are the lack of funding and the need for basic internet training.
4) Does not desire to expand his business.
5) Relatively need more education and employment.
6) Internet usage is limited and typically restricted to communication.

Most women who are MSME actors have additional jobs/chores, such as accompanying children to learn from home. This condition makes it challenging for women to perform their primary job. Subsistence-level women MSMEs also frequently place childcare ahead of their own company, even to the extent of being prepared to switch to a different enterprise.

Other issues are also present in the restricted number of gadgets, forcing MSME women to lend their gadgets so kids can learn from home. This interferes with operations in the workplace, such as promotions. In fact, according to Campos et al. (2015) and Alibhai (2015), family support is crucial for enabling women-owned MSMEs to transition to a more lucrative business sector. Men possess relatively superior business abilities to women who own SMEs because their educational attainment is generally higher. Men use the internet more frequently than women do.

Since MSMEs play a significant role in absorbing labor in Indonesia, strategies specifically designed to help MSMEs recover from the COVID-19 pandemic while advancing digital transformation are required. The internet can limit the dual roles at home and work, particularly for women. By supporting work activities online and encouraging involvement in business start-ups, for example, digital transformation can reduce the impact of the COVID-19 pandemic in numerous industries, such as e-commerce. Moreover, through altering patterns of unequal gender relations, digital

change has the potential to empower women even more. In this case, digital platforms and regulations need to take gender sensitivity into account. Specifically, gender sensitization needs to occur at different levels, such as access, affordability, awareness, impact, and decision-making on tech. So, digital transformation has great potential to create opportunities for the continuation and aggravation of many forms of gender inequality.

Digital Adoption by Sector

In terms of digital adoption, defined as the use of digital technology, Indonesia's data reveals that the food and beverage industry have the most remarkable rate (71%), followed by trade (70%) and services (68%), respectively. On the other hand, the manufacturing and service sectors are the second-largest industry group to adopt digital. This results from these four sectors' relatively high customer penetration rates—roughly 60%—but the service industry is still in the lead in integrating digital business procedures and utilizing digital analytical tools.

Table 1. Digital Adoption by Sector

Sector	Finding suppliers	Customer outreach	Business process digitalization	Use of digital tools and analytics
F&B	71%	69%	26%	23%
Trade	70%	68%	26%	21%
Services	68%	63%	32%	30%
Manufacturing	63%	63%	29%	29%
Agriculture & Fishers	58%	52%	22%	19%
Real estate & Cities	58%	54%	31%	34%
Transportation	56%	53%	29%	30%

High (>=70% adoption) Low (<30% adoption) Moderate (30-69% adoption)

Source: Boston Consulting Group, 2022

OBJECTIVES

Based on the background and literature review above, the aims of the research in this report are as follows:

1. Understand how the current pathways for digital integration and the existing policy and regulatory and governance frameworks can support the equitable development of MSMEs in Indonesia.
2. Study the gendered impact of these developments with a specific focus on how women-led enterprises may be responding to the changing landscape and the extent to which gender is mainstreamed in the policy discourse.

Digital integration is defined as the digital-led engagement of MSMEs with other firms in local/global networks or consumers for economic growth. Equitable development is integrated strategies through policy and programs to reduce community disparities. There are six aspects of equitable development:

1. Agency over Digital Integration Choices
2. Barriers to Integration
3. Enterprise Autonomy
4. Economic Growth
5. Labour Outcomes
6. Ecosystem Support

The sector that focuses on research in Indonesia is MSMEs engaged in the agro-processing and tourism sectors. In addition, there are two critical questions in examining the policy landscape, namely:

1. How do national and global policy frameworks shape the digital capacities and models of integration of MSMEs? To what extent has gender been mainstreamed into such frameworks?

2. What kind of a policy ecosystem is required to enable the equitable development of MSMEs?

This research also studies gendered impacts between two nexuses: individual change-systemic change and informal-formal aspect. These nexuses can impact into four parts, namely:

1. Social Norms

   What kind of socio-cultural barriers concerning digital integration do women entrepreneurs face?
2. Capabilities and Consciousness

   To what extent are women able to develop the capacities for digital integration?
3. Rules

   To what extent do policies, programs, and rules address gendered barriers to digital integration?
4. Resources

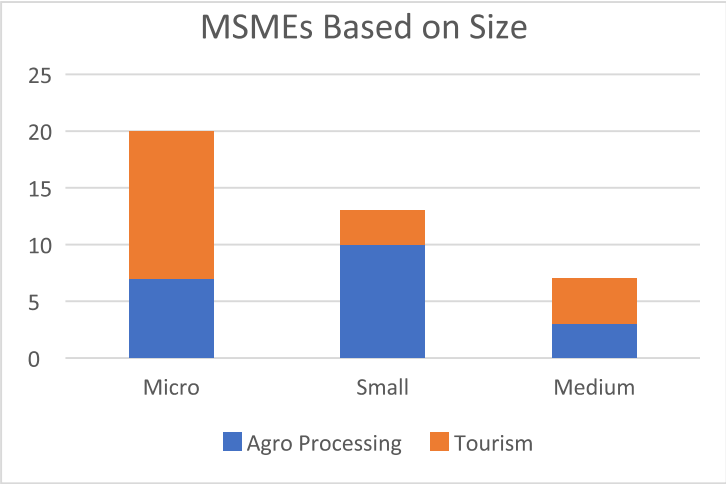
   To what extent do women own or have access to the productive resources for digital integration?

METHODOLOGY AND DATA

This study uses primary data sources and secondary data. Primary data comes from data obtained directly from 40 MSMEs and six key stakeholders who can provide data and information to the study team. The researcher got them through some MSMEs partners and snowballed the others from our partner's recommendation. Secondary data sources are literature reviews which include various bibliographical data and various documents from various individuals or institutions. The researcher analyzes all the information through content analysis. The respondents were 40 respondents, which each sector having 20 respondents. According to its size, agro-processing is 7 for

micros, 10 for small, and 3 for medium enterprises. Meanwhile, we interviewed 13 micro, 3 small, and 4 medium enterprises for tourism.

Figure 14. MSMEs Size



Source: INDEF, 2023

Primary data collection using in-depth semi structured interview techniques. In-depth interviews were also conducted with six key stakeholders regarding the condition of the governance framework, rules, and policies that support MSME development in Indonesia. The six key informants are the Indonesian Chamber of Commerce and Industry (KADIN), the Indonesian Young Entrepreneurs Association, the Central Statistics Agency (BPS), the regional Cooperative and SMEs Office, the Regional Development Planning Agency, and the Tangan Di Atas (an entrepreneur community). The 40 MSMEs interviewed comprised 20 MSMEs engaged in the tourism sector and 20 in agro-processing. According to the level of digital adoption, MSMEs can be divided into three categories: 1) using digital infrastructure, 2) using platforms, and 3) using frontier technology. For the detail, see Appendix 1& 2.

More detail from this in-depth interview is as follows:

1. All MSMEs come from various regions in Indonesia, ranging from micro, small, to medium-scale businesses.
2. Orientation of domestic and export-scale businesses.
3. MSMEs are registered or not registered at the relevant agency.
4. Some Women-led MSMEs.

In-depth interviews with MSMEs used a question guide that contained nine sections of questions, namely as follows:

1. Types of digital integration
2. Drivers for digital integration
3. Benefits of digital integration
4. Challenges to digital integration
5. Supports for digital integration
6. Resources for digital integration
7. Consciousness and capabilities
8. Social Norms
9. Recommendations/Suggestions

Thus, in-depth interviews with MSMEs can help understand the experiences of digital integration concerning equitable development outcomes. In addition, in-depth interviews with key stakeholders were conducted semi-structured based on triangulation of literature review and MSME interview insights.

While secondary data collection uses data and information collection techniques through literature review: collecting and documenting articles, reports, books, journals, scientific papers, and other documents related to the overview of digital integration pathways and policy ecosystem.

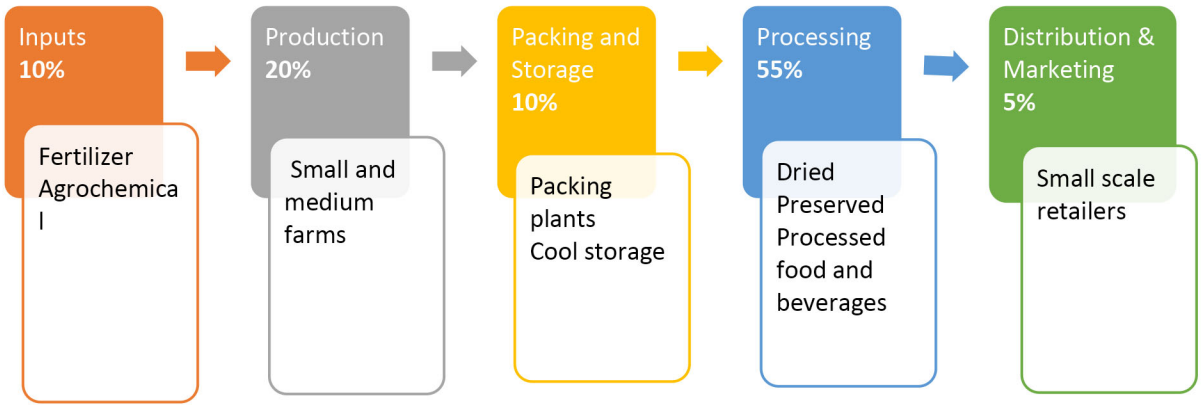
MSMEs IN AGRO-SECTOR

Level of Digital Integration

This study uses in-depth interviews to evaluate Indonesian MSMEs' level of digital integration, motivation, and digital integration pathway of impact. There are 20 MSMEs in the agro-processing sector, . From the in-depth interviews, we gathered information from MSMEs about their digital adoption and production activities in the value chain. Then, we observed that MSMEs' production activities varied in this sector in the value chains. For instance, their roles ranged from input producer to distribution and sales enterprise.

As displayed in Figure 8, about 10% of the total surveyed MSMEs, or two MSMEs, produce intermediate input and roles as input suppliers. Those MSMEs produce fertilizer and agrochemicals and supply them to other businesses in another stage of value chains, i.e., production. There are also four agro-sector MSMEs, about 20%, which involve agriculture, livestock, and farming activities. In this category, the products go directly to the consumer or other enterprises to be processed further. For instance, one of the observed MSMEs raises organic chickens in their farms to supply direct consumers and other businesses, e.g., processed food businesses.

Figure 8. Descriptive Statistics of Agro-sector MSMEs Mapping in Value Chain, (%)



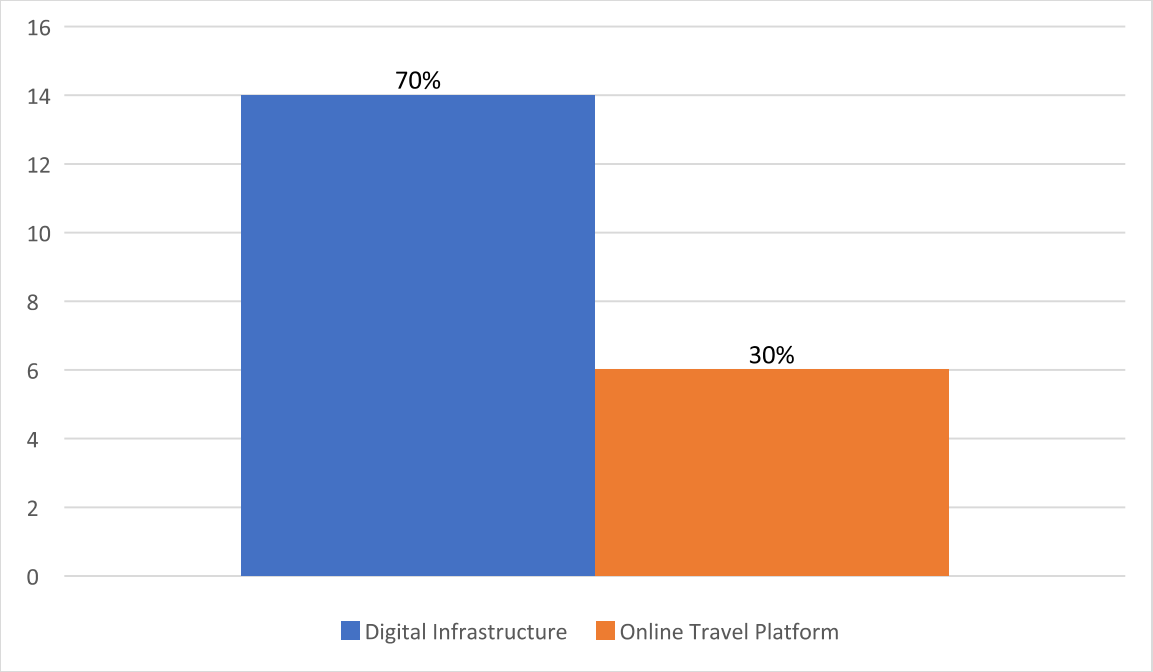
Source: INDEF Analysis (2023)

Another category of MSMEs in the value chain comprises the packaging and storage business, including those MSMEs buying products from small and medium producers and selling them in the export market. Only about 10% of observed MSMEs in this sector are considered to belong to this packing and storage value chain. Meanwhile, some products from farmers are also being proceeded to the processing value chain. More than half of the interviewed MSMEs in the agro-sector, about 55% or 11 MSMEs, belong to this value chain. They generate outputs categorized as more value-added agro-products and sold to resellers (distribution and marketing) and direct consumers. In our observation, their products vary, including more value-added such as processed food and beverages, natural health and beauty products, and household and children's goods.

In the last stage of the value chain, MSMEs in the agro-sector conduct business activities, such as distribution and marketing business, which only account for 5% of our observation. The one belongs to these category sourcing products, not only raw products, such as vegetables and fruits, from farmers but also processed agro-products, such as ready-to-cook foods, ready-to-eat meals, and beverages, from processing producers in the value chains to be sold to final consumers.

Furthermore, this study also categorizes MSMEs in the agro-sector by their level of digital integration. Figure 9 shows MSMEs' digital integration level in the agro-sector. There are 20 MSMEs in the agro-processing sector, of which ten use digital infrastructure (including social media platforms) (50%), and ten MSMEs have adopted e-commerce platforms (50%). However these are not mutually exclusive categories, as MSMEs using e-commerce platforms were also using social media platforms and other digital infrastructure.

Figure 9. MSMEs' Digital Integration Level in Agro-processing Sector, (Unit, %)



Source: INDEF Analysis (2023)

a. Using Digital Infrastructure

Most of the agro-processing MSMEs interviewed employed digital infrastructure in their business operations. MSMEs mainly use the basic digital infrastructure in this sector: computers, laptops, tablets, internet connection/Wi-Fi, mobile phone providers, and CCTV. For accessing the internet, they usually connect through a mobile internet connection or Wi-Fi connection. They also use social media as an online communication medium by accessing the internet. Frequently used social media tools~~,~~ include WhatsApp, Facebook, Instagram, YouTube, TikTok, business websites, and Telegram. These tools enable MSMEs to generate orders, market their products, and promote their brand. ~~These MSMEs use social media for business purposes, including marketing their products. For this MSMEs category, access to digital infrastructure is used to generate orders and promote their products via social media. However, some have not yet been able to market and sell their products through digital platforms.~~

Digital payment is also a crucial digital infrastructure that MSMEs ~~have~~in this category have ~~importantly~~ used. QRIS, known as Quick Response Code Indonesian Standard, is the type of digital electronic payment rapidly used by MSMEs and consumers in Indonesia, supported by the national payment system. In the form of a barcode, QRIS, an interbank-connected system, allows business transaction payments to be digitally conducted by scanning the QR code. The financial institution releases this code unique to each merchant and automatically connected to its bank account. This QRIS in the merchants, MSMEs, and consumers is more convenient for conducting transactions.

Another feature characteristic of this group, they use digital infrastructure, such as computer software or mobile application, to help business operations, such as financial record/accountancy, and manage logistics, such as production records, demand, and stock in the warehouse. Besides, they also utilize applications or software management for teamwork, such as Google Workspace, to manage production schedules, time management, company activities, document management, and other managerial activities that must be well integrated and coordinated within the organization.

b. ~~Using~~ E-commerce Platforms

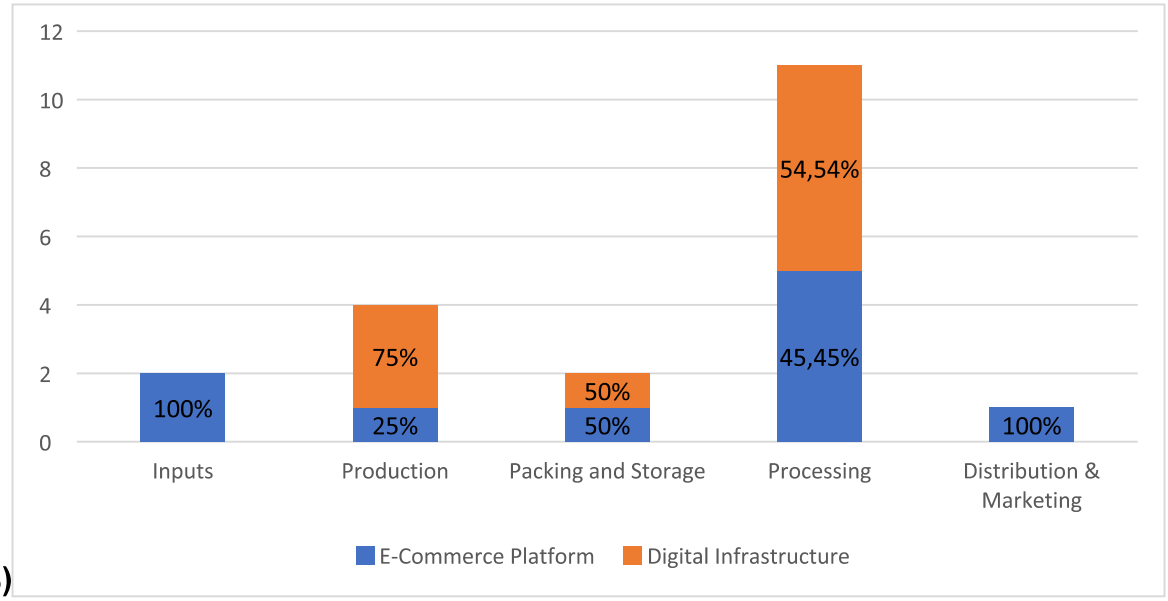
Agro-processing MSMEs in this category use digital platforms, i.e., e-commerce, such as Tokopedia, Shopee, Lazada, and others to increase their market access and ~~, to~~ sell their products. ~~They also have used digital platforms to increase their market share.~~ There are also digital platforms focusing on agro-products marketplaces, such as Sayurbox, Segari, and Eden Farm. These platforms, which are specialized in selling harvest, groceries, and food products, connect farmers to off-takers (B2B) and final consumers (B2C).

Other digital platforms usually help MSMEs in the agro-sector mainly offer services, such as ride-hailing, online shipment, logistics, and accounting platforms. Gosend and Grab Express are popular instant delivery services offered by ride-hailing companies such as Gojek and Grab. Even their services are integrated with a digital

marketplace, such as Tokopedia. In addition, online delivery platforms offer delivery services to other regions and national-wide services, such as Si Cepat, Paxel, AntarAja, Tiki, and JNE. Some provide specific needs for agro-processing businesses, such as cold storage delivery for agro-products and frozen processed products.

Agri-sector MSMEs' digital integration levels categorized by value chain are displayed in Figure 10.

Figure 10. Agro-sector MSMEs' Level of Digital Integration by Value Chain (Unit, %)



Source: INDEF Analysis (2023)

These breakdown numbers highlight several significant findings. Over half of MSMEs in the processing value chain have accessed digital infrastructure, i.e., 54.5% of the total observed MSMEs in the agro-sector. Meanwhile, about 45.45% have utilized e-commerce platforms for their business.

Secondly, in this study, all MSMEs in both inputs and distribution and marketing value chains had integrated into the digital economy through ecommerce platforms. Despite the small numbers of interviewed MSMEs in the two value chains, this result highlights

that ecommerce platforms are an essential channel for their digital integration and product sales. Specifically, for those in the distribution and marketing value chain, applying ecommerce platforms is very useful for their business process as they utilize e-platforms, such as e-commerce, ride-hailing, e-delivery, and logistics, which impacts cost-efficiency and time-efficiency for their marketing and distribution process.

Meanwhile, in the production stage, MSMEs rely more on digital infrastructure than digital platforms. About 75% of MSMEs in production have adopted digital infrastructure, such as mobile devices, the Internet, and social media. Based on our sample, they are mostly located in the rural area and/or outside Java regions. Most of the observed MSMEs in this stage of the production value chain have limited know-how and knowledge in using digital platforms for their production and business. Therefore, only 25% have utilized e-commerce platform for their product sales.

Lastly, for packing and storage, the share of those using digital infrastructure is the same as those utilizing the digital platform. Both categories agree that access to digital infrastructure and e-commerce platforms is vital for their market expansion. However, those using e-commerce platforms highlight that their access to digital infrastructure, i.e., social media, has a more enormous impact on their product sales than other marketing and sales channels.

Motivating factors in digital adoption

Most of the observed MSMEs in the agro-sector have integrated with digital technology by accessing digital infrastructure and platforms. They also mention that adopting digital technology is advantageous and accommodating for their business, particularly during the covid-19 pandemic, in which mobility and economic activity were restricted. At that moment, some MSMEs entered the digital ecosystem and began utilizing social media for business marketing and promoting agro-products like groceries, food, beverages, etc. Many also used digital platforms, i.e., e-commerce to conduct online sales transactions during the lockdown and mobility restriction period. Some other MSMEs had used social media and the internet before the pandemic. To this extent, covid-19

pandemic had been triggered a significant increase in MSMEs integrating into the digital ecosystem, including those in the agro-sector.

Based on interviews with MSMEs in the agro-sector, this study finds several motivating factors they integrate into the digital ecosystem, using digital infrastructure, digital platforms, and frontier technology. These factors are elaborated as follows.

a. Cost-effectiveness ~~motivation~~

Cost-effectiveness is the driving force for MSMEs' use of digital technologies. According to our observation, 9 of 20 are motivated by this factor. They mentioned that they do not require an offline store to reduce rent costs, thus, total cost. Opening physical stores is an expensive part of the burden for MSMEs in the agro-sector. Many of them begin with supplying to big retailers that own physical stores before integrating into the digital ecosystem. However, having this sales channel also takes big expenses and risks for agro-sector MSMEs as these retailers will not repay them if the products are unsold. One of the observed MSMEs, a coffee producer and packaging business, explained that the cost of selling their products through social media is relatively low compared to opening an offline store or with a retailer's consignment system.

Several MSMEs also use digital infrastructure for their management process. Using digital software and application, such as stock management, schedule management, finance, and accounting, and physical, digital devices, such as monitoring and security systems, is believed to induce time efficiency, thus, cost-efficiency in business and production processes. Moreover, MSMEs adopting frontier technology also gained production efficiency as this technology helped them to produce more products to be sold with high quality and standards.

b. Market access and reach

6 MSMEs, or about 80% of the total observed MSMEs in the agro-sector, indicated that the major motivating factor for digital integration is related to sales increase and market expansion. They mentioned they wanted to increase market access using

digital infrastructure, i.e., social media and e-commerce platforms. e.g., social media, and digital platforms, e.g., e-commerce. Social media channels in particular were found to be useful to reach out to a larger customer base, share information about the product and promote product sales. One of the business owners acknowledged that social media is its primary channel to generate a positive impact and influence its followers. Overall the study found that many businesses are now aware of the necessity to utilize digital infrastructures, such as the Internet, social media, and digital platforms, to reach larger consumers and markets, and also its perceived benefits in terms of sales and revenue increase. This awareness was mainly triggered by the covid-19 pandemic and the advancement of digital technology.

(c) Ability to export

Access to digital infrastructure, e.g., the internet, website, and social media, allows MSMEs to access information, promote their products, and penetrate the international market ~~abroad~~. By using digital infrastructure and digital platforms, the observed MSMEs in the agro-sector can expand their geographical presence, not only for the market in the regions and within the country but also for the international market. One of the observed MSMEs sells their agro-products dominantly to the export market. This agro-sector MSME acknowledges that their usage of digital infrastructure, such as the company website, is a vital instrument to attract global consumers and support their penetration into the export market.

Support in accessing and using the digital platform.

Support for MSMEs in using and accessing digital platforms is crucial to their adoption of digital technologies. MSMEs are given support through training in digital skills, specifically how to use digital platforms. For instance, Rental Mobil, a tourism MSME in Sumatra, also said the government has good assistance to the MSMEs in their area and

their sector regarding training in the use of technology. They said that MSMEs need to learn faster to adapt to technology development.

In addition, Jahe Instan Yuni, one of the MSMEs in the agro-processing sector in West Kalimantan, said that in their city, the local government has programs to educate MSMEs to enhance their access to and use of technology. Jahe Instan Yuni can access the program through the MSMEs community that their local government empowers. On the other hand, they give a note to the government to create those programs more accessible so other MSMEs, especially MSMEs who aren't joining the community, can access the program and increase their digital skills. The reason is, they said, there are so many MSMEs that have little digital literacy, so they lack digital skills.

Digital Integration: Pathways of Impact

The results of this study have shown that most MSMEs in the agro-sector have been integrated into the digital ecosystem in different pathways. As their integration to digital ecosystems varies in terms of digital technology usage and their business activities, their impact pathway into digital integration differs from one to another. In observing digital integration impact, the analysis for agro-sector MSMEs is categorized based on their level of digital integration.

a. Digital infrastructure

The primary impact pathway for MSMEs in this category is their ability to promote their products and increase their sales by using digital infrastructure, such as the internet, and social media. These were seen as simple, and user-friendly digital infrastructure that could be used to carry out basic day to day business operations. MSMEs in this category were aware that upgrading to use e-commerce platforms might bring more benefits to their business. For example, interview respondents mentioned that their production capacities are still limited, so they might not fulfill higher demand due to selling on the digital platform. Instead, they prefer to use social media to sell their products to their their contacts and followers.

They also agree that some important factors need to be improved, such as productivity, managerial and financial skill, and financial access, to enlarge its production capacity. Overall, digital infrastructure, and in particular, social media platforms seemed to operate as building blocks or the foundational infrastructure for digital integration and digital entrepreneurship.

b. ~~Digital~~E-commerce platforms

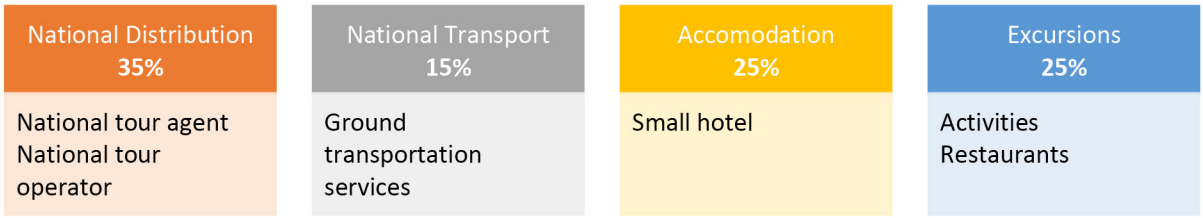
The primary impact pathway for MSMES using e-commerce platforms and digital infrastructure was increased efficiency and lowered operational costs. These MSMEs have adequate digital skills to conduct business and transactions on the digital platform. Firstly, the ability to conduct business from everywhere and at any time was seen as a huge benefit. Secondly, since they no longer needed a physical store and labor to be in store ~~f~~, they were able to save on rent and labour costs, thus lowering their overall operational costs. Thirdly, by offering scale, they allowed MSMEs to connect and conduct business transactions with customers across geographies – domestic, regional and international.

MSMEs IN THE TOURISM SECTOR

Level of Digital Integration

This study also conducts interviews with 20 MSMEs in the tourism sector. This study also evaluates MSMEs' Level of Digital integration in the tourism sector. We collected information from several MSMEs in different tourism value chains, displayed in Figure 11. Based on its value chain, the respondents consist of MSMEs in the national distribution sector (35%), national transportation sector (15%), accommodation sector (25%), and excursions (25%). Most of the observed MSMEs conduct business as inbound tourism enterprises, such as national tour agents, tour operators, ground transportation services, small hotels, excursion activities, and restaurants. They serve both domestic and foreign tourists coming into the country.

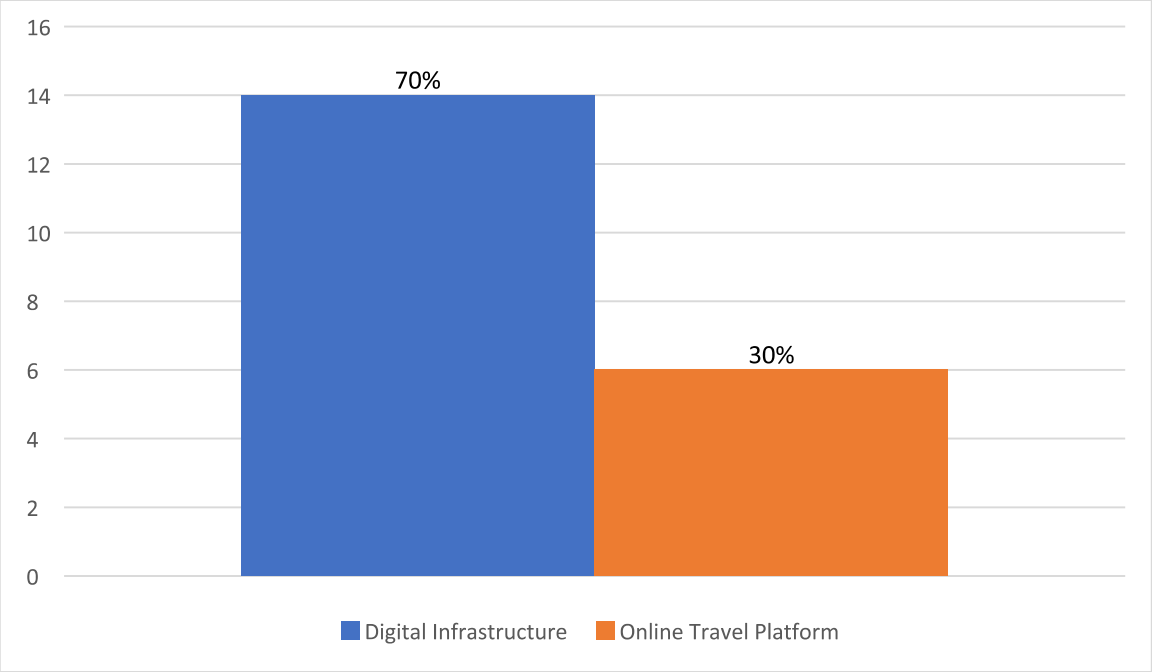
Figure 11. Surveyed Tourism MSMEs Mapping in Value Chain, (%)



Source: INDEF Analysis (2023)

~~All the MSMEs in the tourism sector have integrated into the digital ecosystem by utilizing digital infrastructure and online travel platforms.~~ Based on our interviews, MSMEs' level of digital integration in the tourism sector is categorized into two groups: digital infrastructure, and online travel platforms. Figure 12 displays MSMEs' level of digital integration in the tourism sector. Detailed explanations about the digital integration level of MSMEs in this sector are elaborated as follows.

Figure 12. MSMEs' Level of Digital Integration in the Tourism Sector



Source: INDEF Analysis (2023)

a. Using digital infrastructure

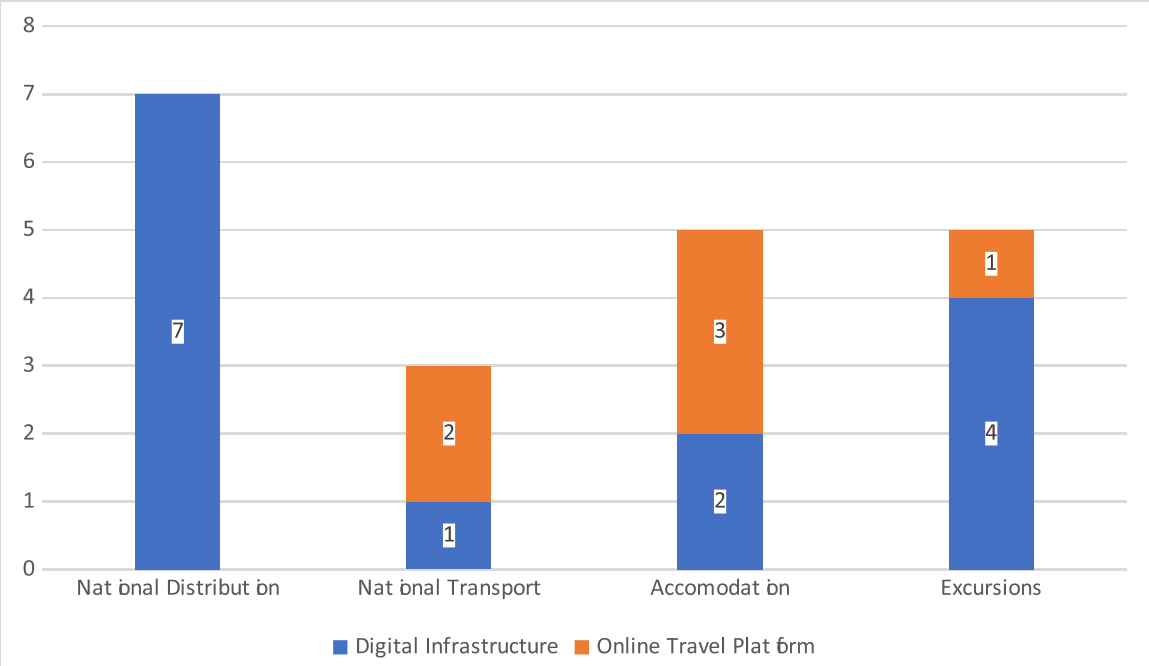
~~Most MSMEs in the tourism sector have integrated into the digital ecosystem using digital infrastructure and online travel platforms.~~About 14 MSMEs, or 70% of the total observed MSMEs in the tourism sector, have used digital infrastructure to access the internet and mobile service providers. In terms of devices, mobile phones, and laptops are the main types of digital infrastructure that they use for daily activities and business. Additionally, they advertise their products via social media platforms like WhatsApp, Instagram, Facebook, Twitter, TikTok, and the company website. Since they can access and utilize digital infrastructure, they can access the internet and social media to reach consumers and sell their services.

b. Using ~~digital~~ online travel platforms

~~Additionally, s~~Six MSMEs, or 30% of MSMEs in the tourism sector, use ~~digital~~online travel platforms to conduct company operations. ~~In this category, they also use digital platforms that sell and offer services in the tourism sector.~~ These platforms are online marketplaces, e.g., websites and applications, where tourism businesses

could meet potential buyers or tourists demanding tourism services. Several digital platforms offer tourism services in Indonesia, such as Traveloka, Trevo, Tiket.com, Airbnb, Agoda, etc.

Figure 13. Tourism MSMEs' Level of Digital Integration by Value Chain (Unit)



Source: INDEF Analysis (2023)

Further analysis of the digital integration of MSMEs in the tourism sector is also elaborated regarding their activities in the value chain. MSMEs in the tourism sector interviewed for this survey conduct their business in the following tourism activities: event planning, tour guide services, travel agencies, accommodation, and transportation. They are categorized into four stages of the tourism sector's value chain, as shown in Figure 13. Their levels of digital integration differ across groups in the value chain. The breakdown numbers in the level of digital integration by value chain highlight several important findings.

First, all MSMEs in the national distribution value chain, consisting of seven travel agents and operators, have been integrated into the digital ecosystem using the digital infrastructure. They realize the importance of digital adoption in their business and have access to digital infrastructure. This group promotes and sells holiday packages to consumers using traditional marketing and social media. However, based on our interviews, they consider that traditional marketing channel dominantly attracts more consumers than the online channel. Many of them realize that they still face challenges in optimizing the utilization of social media to sell and reach more consumers.

"Our customers are still dominantly coming from offline marketing channel. We realize that social media is trending now, and business can reach customers from abroad using social media. We probably need to be trained to optimize social media engagement with customers, so that our products will be popularly known in the social media. (A travel agent based in Batam, Riau Islands)"

Second, MSMEs in the national transportation value chain and those in the accommodation value chain have dominantly utilized digital platforms. About 2 out of 3 MSMEs in the transportation sector have integrated to travel platforms online. In addition, about 3 out of 5 MSMEs in the accommodation sectors have also utilized ~~digital~~ online platforms for tourism. Using this platform, they can promote transportation and accommodation services and manage booking orders. They believe these platforms help reach consumers and expand their market sales. Some respondents offering car rental services and accommodation acknowledge using several digital platforms to get more customers and frequent bookings from digital platform orders. In addition, they can also maintain their sales performance as digital platforms sometimes offer discounts to customers when they order bookings on some occasions. These discount programs offered are advantageous not only for customers but also for MSMEs joining through the digital platform.

Lastly, in the excursion value chain, all MSMEs have only been accessing and using digital infrastructure, such as social media, to share information about their services, and offers and to get customers. One of the respondents, an owner of the boat

excursion MSME in Kutai, East Kalintan, mentions using several social media applications for sales promotion and getting customers. She also highlights that the customers coming from each social media have different characteristics and market segmentation. For instance, it may differ by region, customer demand, and taste. She mentioned that *"Customers from her region, i.e. local tourists, and older customers are more engaged in Facebook, while tourists from other regions, such as from Java, and younger tourists are coming from Instagram promotions. ~~(A boat excursion MSME in Kutai, East Kalimantan)~~"* In this case, using several social media is a way to optimize and enlarge its market share for its service products. Another respondent acknowledges that using several social media and active promotions through these channels allows them to attract more tourists, not only domestic travellers but also foreigners, to book excursion activities.

Motivating factors in digital adoption

The tourism sector was heavily impacted by the pandemic, particularly MSMEs. Based on our study, All MSMEs agree that adopting digital technology brings advantages for attracting more customers and tourist demand for their services. They realized that integrating into the digital ecosystem by adopting digital infrastructure and online travel platforms benefited their business survival and sustainability, particularly during the recovery period. This study finds that MSMEs in the tourism sector are motivated to adopt digital infrastructure and digital platforms due to the following factors:

a. Market access

Almost all MSMEs in the tourism sector, about 19 out of 20 MSMEs, dominantly agree that their motivation to adopt digital technology is for increased market access. They mention that they can share products or services and promote their brand to greater audiences, not only in their local area and national-wide regions but also in countries abroad, by using social media and digital platforms. In a few cases, digital platforms were also found to be facilitating access to communities and knowledge networks. For example, an owner of the homestay mentioned that he

preferred to use online travel platforms, such as Airbnb, which supports the business community of accommodation owners. He added that this platform had a forum for this community to exchange information related and learn from each other, which he found helpful for his business. Overall, our study found that digital tools and technologies are widely used by tourism enterprises in reaching out to new customers, partly also in response to perceived business competition and an implicit pressure to adopt these tools in order to keep up with the market.

b. Cost and time saving in marketing and customer acquisition-effectiveness

By using digital infrastructure and platforms, about 2 out of 20 MSMEs believed that one benefit from digital integration is cost and time saving. One of the respondents, a homestay owner, mentioned that using social media as a brand marketing and promotion channel was cheaper than traditional marketing channels, for instance, publishing advertisements in the newspaper. He added that social media, e.g., Instagram, charged no fees when someone posted digital content for branding and promotion of products or services. Another respondent, an owner of car rental enterprise, stated that before using digital technologies, he had to wait in front of hotels to distribute promotional flyers to attract customers. After using digital technologies, he could reach more customers in less time, and considerably less manual effort. Thus, digital technologies were providing were allowing MMSEs to circumvent traditional marketing / customer acquisition channels in customer awareness and brand building, which were seen as expensive, laborious and time consuming.

Digital Integration: Pathway of Impact

This study has found that most MSMEs in the tourism sector have adopted digital technology in different pathways. Based on our interviews, the digital integration of MSMEs in this sector also positively impacts their business development, including

attracting more consumers and incoming tourists and increasing sales revenue. Further analyses are elaborated from observing the pathway impact of MSMEs in the tourism sector based on their level of digital integration, as follows.

a. Digital infrastructure

Similar to what we observed in the agro-processing sector, the primary impact pathway for tourism MSMEs using digital infrastructure was their ability to reach more customers in order to promote their business. However, MSMEs found that their shared information and social media promotion do not always convert potential customers, to actual customers. The successful promotion through this channel depends on MSMEs' digital literacy, technology capacity, and active promotion, in particular their ability to use advertisement and analytics tools such as paid promotions on social media platforms such as Facebook and Instagram. In other words, while digital presence was essential for their business, translating that presence into customer acquisition and sales was found to be a challenging task, and here MSMEs found , direct promotions (traditional marketing) to still be very useful to their businesses.

b. ~~Digital~~Online travel platforms

The primary impact pathway for MSMEs using e-commerce platforms was increased efficiency in the selling process. One of our respondent mentioned *"Before using digital platform, we must wait customer in front of hotels or distribute brochures to hotels. By using digital platform, now our market reach is expanded, we can get customer from abroad. We think that this way is more efficient in terms of marketing cost, since we can reach larger market and we do not need to print brochures anymore. When we promote our services/product in the platform, we can observe how many potential customers interested in our services/products. (A car rental MSMEs based in Bandung, West Java)"*

In addition, platforms were found to offer various features which suit MSME business needs, such as discount features, educational content booking and order

management, digital payments and other related marketing and promotion strategies. ~~In addition,~~ They ~~it~~ also allowed MSMEs to reduce search costs and transaction costs, making it easier for them to be discovered by more customers and tourists, not only from the surrounding areas within the regions but also from foreign countries.

Finally, online platforms were also found to be helpful in promoting the exchange of information for business development. An owner of the homestay mentioned that he preferred to use online travel platforms, such as Airbnb, which supports the business community of accommodation owners. He added that this platform had a forum for this community to exchange information related and learn from each other; thus, it allowed them to upgrade and innovate for their business development.

CHALLENGES TO DIGITAL INTEGRATION AND PERCEIVED THREATS

MSMEs in Indonesia face major challenges in digital integration in their business. Three challenges have surfaced based on the INDEF research team's interviews with MSMEs engaged in agro-processing and tourism in various regions in Indonesia, and are listed below

1. Lack of skilled manpowerThe lack of skilled manpower is one of the biggest challenges due to inadequate digital skills, both from MSME owners, MSME employees, and the general public, who are prospective workers from these MSMEs. MSMEs owners who experience difficulties operating digital technology in their business are generally people who are old enough. The owner of Abon Ikan Tongkol, one of the MSMEs in the agro-processing sector, said that she was unclear about the process to register ~~confused about registering his~~ her MSMEs in e-commerce platforms and had difficulties using social media to market her products. Another example is the owner of Nadif Travel, one of the MSMEs in the tourism sector, who admits that the older he is, the slower he becomes in his abiity to keep pace with changes in digital technologies. ~~is to innovate~~. Even technically, photographing things remains challenging, starting with downloading software for selling and submitting images. In this case, several MSMEs owners have concluded that, as an older generation, they must be able to keep abreast of digital technology developments, for example, through involvement in training for the use of the latest digital technology.

MSME employees also face the challenge of improving their digital technology skills. Because, in general, employees who work in MSMEs are employees with relatively limited skills. One of the MSMEs in agro-processing, Planteria.id, said that this is a challenge because it takes about a year to justify their business mindset and learn digital marketing, so they have to spend up to millions of rupiahs to improve these digital technology skills. In addition, the experience of Tabo Cottage, one of the MSMEs in the field of tourism, states that employees with limited digital technology skills lack the confidence to manage official social media accounts. A Tabo Cottage's social media

account is still being managed by its owner.

There is also a limited supply of workers qualified in digital skills which pushes up the cost of hiring of these workers, making them unaffordable for MSMEs. Therefore, one of the MSMEs in the field of tourism, Marvelindo T&T, proposes that vocational education at the school level be made more massive so that there are more prospective workers at a more affordable cost for MSMEs who are ready to work with the use of digital technology.

2) Lack of support for e-commerce platform integration

Transacting on e-commerce platforms typically requires familiarity with digital payment / fintech solutions. Most MSMEs in our study continued to rely heavily on cash payments and were not well versed in using the services offered by fintech companies. The inability to adopt digital payment solutions proved to be a barrier to e-commerce platform integration. Secondly, regarding downstream market access linkages, MSMEs need help reaching customers outside of their territory due to the expensive transportation across Indonesian islands. Consumers, too, are burdened by logistical restrictions that frequently occur in the market. For instance, purchasing products online can cost less than Rp50,000, but shipping to Kalimantan can cost more than the purchase price of the goods, as a result of which MSMEs may not prefer to use these platforms.

3) Inadequate digital connectivity infrastructure

Several MSMEs have complained about the weak internet signal. Unfortunately, the internet service provider that many MSMEs have complained about is a subsidiary of state-owned enterprises. For instance, Lurik Rahmad, MSME in agro-processing, stated that the internet from the Wi-Fi service provider was sometimes slow. On the other hand, Omah Minggir, one of the MSMEs in the tourism sector, said that the Wi-Fi service provider had not yet arrived in his area. Even Omah Minggir is in the suburban area of one of Indonesia's most prominent tourist destinations, Yogyakarta. To overcome this problem, Sukasantay, one of the MSMEs in the tourism sector, uses a

router so that they can still access the internet. However, if the router is having problems, the new router can be repaired by the provider in the following week. It means that many MSMEs feel the challenges of the absence and lack of internet access.Moreover, some MSMEs also complain about the lack of availability of electricity. Another tourism MSME in the Yogyakarta sub-urban area, Omah Gerabah, shared his experience that electricity in his area often experiences power outages. In fact, on any given day, power outages can occur up to two times a day. According to Haveltea, one of the MSMEs in the agro-processing sector, the impact of the power outage is that they cannot operate during it. Thus, the continuous availability of electricity is fundamental for the business activities of MSMEs.

Apart from that, Haveltea also conveyed other digital infrastructure challenges, namely the high cost of gadgets with specifications that support their business operations. The reason is that some software must be used on computers with high specifications that are expensive. A similar challenge was also expressed by Sangreat, one of the MSMEs in agro-processing, who said that gadgets that support the marketing of their products are gadgets like iPhones. However, Sangreat has limited financial means. Therefore, the cost of developing digital technology is a crucial issue in integrating digital technology in MSMEs.

4) Policies related to digital integration

The third challenges to digital integration are policies related to digitalization. The budget for digital adoption is still not optimally absorbed by MSMEs. Putri Dalem Tourism Village, one of the MSMEs in the tourism sector, raised this issue, which stated that there is a special budget for increasing digital adoption. However, it is still not optimal because it depends on village budget policies. In this case, the political will of village officials determines how optimally the budget is utilized for digital adoption.

Another policy issue is that the fees set by internet service providers in Indonesia, including the cost of internet services from subsidiaries of state-owned enterprises, are too expensive, according to MSMEs. Rezupan Bakery, one agro-processing SME, said internet costs are pretty high. Moreover, Rezupan Bakery says internet data packages

are quite wasteful for video conferencing software, such as Zoom. It means that high internet costs hinder digital integration in MSMEs.

A complicated bureaucracy is also a concern in Indonesia because various administrative processes still require hardcopy documents. Haveltea said they must always prepare printed documents for product certification. The hope is that this process can be done digitally by uploading the documents through the related website. Therefore, policies to digitize the bureaucratic system and human resources in the bureaucracy must be encouraged to improve MSME services in the future.

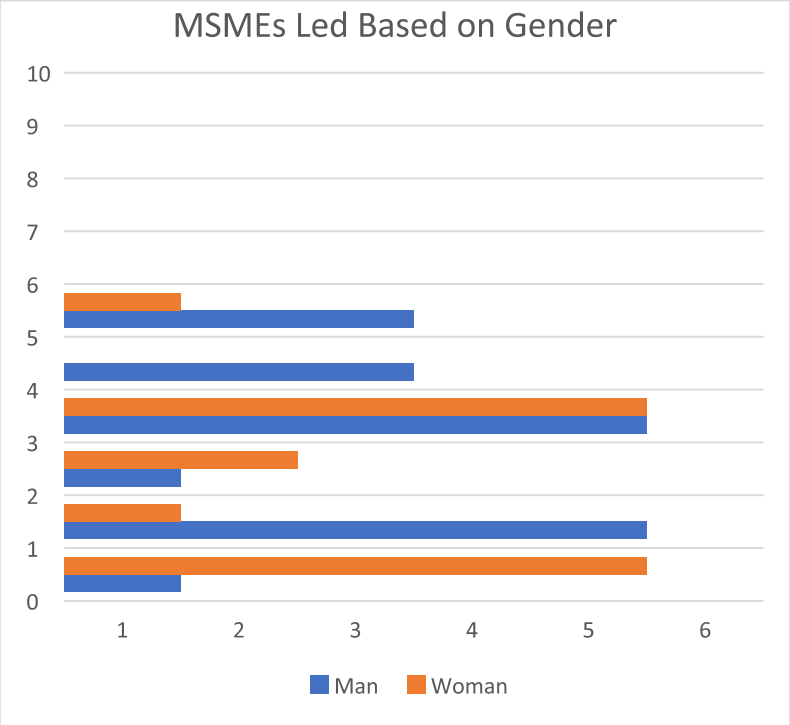
In addition to these challenges, the MSMEs we interviewed also conveyed the risks and threats of using digital technology. One such risk is an open negative response from consumers. MSME in the agro-processing sector, Haveltea, said they had received complaints from consumers because they did not provide cash payment options. Another threat that can arise is the spread of personal data in open forums on social media. Mahakam Bahtera Jaya, one of the MSMEs in the tourism sector, said that they had received calls or SMS from scammers because they shared their phone numbers on Facebook.

WOMEN LED MSMEs:

DIGITAL DIVIDE AND THE CHALLENGES OF DIGITAL INTEGRATION

This section will clarify digital challenges, particularly for women-led MSMEs. Our sample included a total of 16 women-led MSMEs. As shown in the figure below, ~~the~~ women led MSMEs in our study were more likely to concentrated in the “micro” enterprise segment.

Figure 15. MSMEs Led Based on Gender.



Source: INDEF Analysis (2023)

~~Regarding the findings, there are four main findings in the gender lens:~~Four key findings emerged in our study:

Finding No 1: The digital divide at the intersection of gender and geography is particularly disadvantageous to women led enterprises

Indonesia has numerous islands, and the challenges of these dispersed geographical conditions generate different outputs not only for internet availability and quality, but also for delivery and transportation logistics. Further, the majority of e-commerce and internet use is concentrated in urban regions, exacerbating the rural-urban divide. For example, men and women whose businesses are in Batam City, where the government significantly supports the business climate through Special Economic Zone, highlighted that they have reliable digital infrastructure. On the contrary, the women-led MSMEs from Pontianak and Samarinda, capital cities in the Borneo island, reported facing issues with internet connectivity. In some locations, electricity was also found to be a challenge - Omah Gerabah is a tourism enterprise led by a woman who reported facing disruptions to her business operations because of weak Wi-Fi signals.

The digital divide also manifests at the level of skill and resources– with women-led MSMes facing higher barriers to integrating digitally. For example, women-led enterprises in our study had neither the skills to manage digital / social media advertising, nor the capital to hire specialist digital marketing resources. The owner of Ikan Abon Tongkol, one of the MSMEs in the agro-processing sector, for example, confessed that they are not adept at handling social media and do not understand how to optimize its use for her business. Similarly, we found that Search Engine Optimisation (SEO), which dramatically impacts the MSME's discoverability in search platforms such as Google, were used only by 2 MSMEs in tourism, and those were male-led. These findings evidence support for well-established data on gender divides in internet and e-commerce use , particularly in the South East Asia regions. For example, a recent study of women e-commerce sellers in Indonesia and the Philippines found that men are 12 percentage points more likely than women to take advantage of paid offerings such as advertisements, etc., which could help boost sales[1]. Women led enterprises are also less likely to have budgets for innovation and upgrades – for example, the owner of 101 Coffee Shop shared they would like to use journal software to improve their accounting

1 https://www.ifc.org/wps/wcm/connect/04f295ac-172b-4c74-8957-700609c293d4/202105-digital2equal-women-and-e-commerce-southeast-asia.pdf?MOD=AJPERES&CVID=nCGTdWq

capabilities, but the price was unaffordable. Thus, even though digital technologies are allowing women led enterprises to access more clients and markets, we see differences in how, and, to whom, these benefits manifest, driven by a combination of intersecting factors including geography, skills and resources.

Finding Number 2 : Women are more likely to use social media platforms as compared to e-commerce platforms.

Majority of female MSMEs use primarily social media platforms like TikTok, Facebook, and WhatsApp, with fewer– using e-commerce platforms. It appears that there is a continuum to how digital integration plays out in women led enterprises, with most of them starting out as informal businesses on social media with limited digitalization capacities, and then becoming users of larger e-commerce platforms as they grow[2]. Since onboarding and using social platforms require less familiarity with tools such as digital payments, inventory management, and other business software, this ease of use may have greater appeal to novice digital entrepreneurs who are just entering the market, hence social commerce may act as a gateway to the formal e-commerce platforms (Ibid).

Finding 3: Women led firms face significant obstacle to financial aid and are also less likely to be able to access training support, compared to male led firms.

~~This section compares the financial and training/advisory support received by male and female led MSMEs.~~ A majority of the MSMEs (36 out of 40 respondents) did not receive any financial support. The 4 firms that received financial support were male led firms. No women led firm was able to access any financial support, and they were mostly

2 https://www.ifc.org/wps/wcm/connect/04f295ac-172b-4c74-8957-700609c293d4/202105-digital2equal-women-and-e-commerce-southeast-asia.pdf?MOD=AJPERES&CVID=nCGTdWq

bootstrapped, relying on the personal savings / investments for start up and growth capital. Women led firms were also less likely to be able to access training and advisory support as compared to male led firms. The findings substantiate the unmet financial as well as human capital gaps that confront women led firms, as well as the differential entry points for entrepreneurship for male and female led firms. For example, women who want to run their business for subsistence levels may find formal finance options risky, or they may not have the minimum documentation and working capital requirements to qualify for formal sources of finance[3].Women may also be less available to attend training programs because of their time poverty on account of domestic work and child care burdens.

Table 2. MSMEs on financial and trainings support

	Firms receiving financial support	Total firms	%
Women-Led	0	16	0
Male-Led	4	24	16%

	Firms receiving trainings/advisory support	Total firms	%
Women-Led	7	16	43%
Male-Led	12	24	50%

3 https://www.ifc.org/wps/wcm/connect/04f295ac-172b-4c74-8957-700609c293d4/202105-digital2equal-women-and-e-commerce-southeast-asia.pdf?MOD=AJPERES&CVID=nCGTdWq

Finding 4. For women entrepreneurs, digital integration is seen as a pathway to flexible work.

While most women receive their family's moral, material and physical support in balancing business and household activities, they do bear disproportionately high child care and domestic burdens as compared to their male counterparts. In fact, balancing work and child care was a central priority for women entreprenuers. We found in MSMEs like Omocha Toys, 101 Coffee Shops, and Rezupan Bakery, owners have greater time since they have more staff now, and therefore focus on managing the family. In such a context, digital integration, by enabling them to run their businesses online, also helped them spend more time with their family. For example, one enterprise owner, who sells instant ginger, highlighted, “I share the role of parent with husband. However, as a wife, I spend more time with my children”. This suggests that many women are using e-commerce to overcome challenges such as care responsibilities that often present barriers to economic participation. This finding speaks to larger literature that has demonstrated that women were more likely to report “flexibility,” “reaching personal goals,” and “meeting basic needs,” as the top benefits of selling online, while men are more likely to report “ability to start a new business” as one of their top benefits[4].

Case Studies Haveltea: Digital Integration to boost the market, engage customers, and advance management.

Haveltea is a successful medium enterprise MSME focusing on healthy tea production, which has expanded its market to foreign countries such as Malaysia and Singapore. It partners with government and private companies on Java Island, Sumetera Island, and Bali Island. Haveltea is founded by 2 women and a man, namely

4 https://www.ifc.org/wps/wcm/connect/04f295ac-172b-4c74-8957-700609c293d4/202105-digital2equal-women-and-e-commerce-southeast-asia.pdf?MOD=AJPERES&CVID=nCGTdWq

Anggi (founder), Ifana Azizah (co-founder), and Widyoseno Estitoyo (founder). Haveltea has 30 workers, 80% of whom are women.

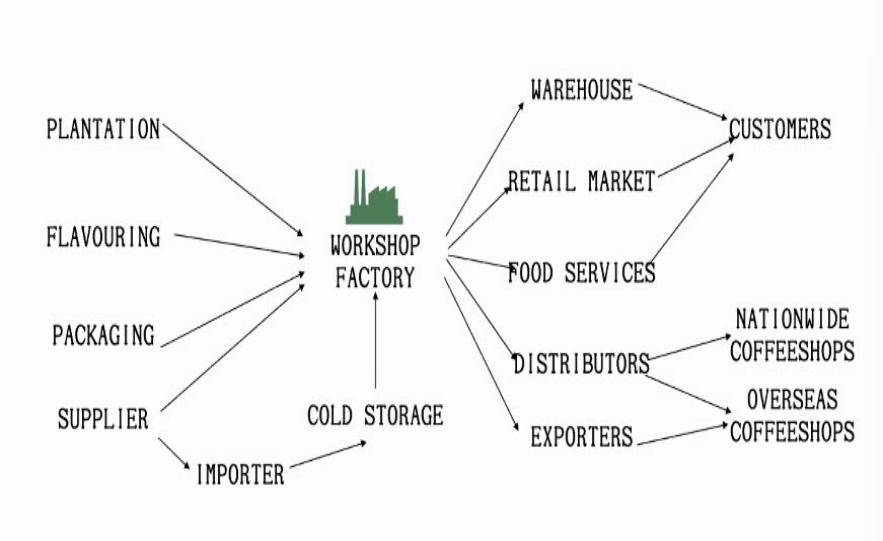
Lessons learned from successful digital integration from one of the MSMEs respondents, namely Haveltea, are explained in this section. Haveltea is one of the MSMEs active in the agri-processing industry and is skilled in utilizing digital platforms and, infrastructure. , and frontiers. Prior to Covid 19, the online channel contributed to only 5% of Haveltea's sales. In the past, Haveltea faced a bottleneck in sales. This MSME has collaborated with hotels, restaurants, and café. The sales are from offline shops and low profit for segments of hotels, restaurants, and café. Before covid-19, 50% contribution was from Horeka; meanwhile, export and private label were 40%, and online was only 5%.

Then, the covid 19 struck oke their business through a social distancing policy, and they had to shift their focus to the online channel. . It focuses on elevating income by 300% through online channels. Like a blessing in disguise, this problem accelerates this business and starts innovating the products since herbal is highly appreciated during covid. It started the business from social media and continues to use e-marketplace. Haveltea leverages social media to advertise its products to the public via Instagram, Facebook, and TikTok. In addition, Haveltea advertises its items via e-commerce sites like Tokopedia and Shopee for e-marketplace.

Realizing that online retail and digital integration are crucial to minimizing regular administrative activities, Haveltea employs and advances its business activities with various apps, including accounting software and Google Workspace services, to carry out its business operations. Haveltea conducts business using both cashless and digital payments. Semi-digital machinery has also been used in the production process. Haveltea experiences technology benefits in terms of time efficiency, product quality, and marketing, helping the growth of its firm. Besides, the founders actively promoted their product through the exhibition of MSMEs conducted by the government before the pandemic. One of them is from Creative Economy Agency. Besides, it also created roadshows to introduce the product or sponsor various activities. To maintain customer loyalty, Haveltea educates them via social media that attract customers online.

Here is the business procedure at Haveltea. The production of Haveltea consists of flavoring and storing. Then, various channels are used for distribution, including retail, food service, distributors, and exporters.

Figure 17. Business Process in Digital Adoption in the Agri-Processing Sector (The Case of Haveltea)



Source: Haveltea, 2022

ANALYSIS OF FINDINGS

In general, MSMEs in Indonesia's agro-processing and tourism sectors actively used using digital technologies to carry out a range of business functions, from operations to sales, marketing, logistics, and payments. The most compelling reason to integrate digitally is market access. Before digital integration, MSMEs were largely only able to serve local markets, and digital tools and technologies have enabled them to expand their reach to national and international markets. This has been the single biggest driver for digital adoption across both agro-processing and tourism sectors in Indonesia. Additionally, the pandemic and the resulting mobility restrictions provided an impetus to digital adoption, in a sense forcing some enterprises to digitalize, despite lower levels of preparedness. Some of these forms of unpreparedness are the availability of skilled manpower, the supporting infrastructure for technology adoption, and finally, the tools themselves and the complexities involved in using them. To a large extent, tools such as

email, WhatsApp, Tiktok, and other social media are seen as easier to navigate as compared to e-commerce platforms such as Tokopedia and Shopee. Therefore MSMEs with limited business as well as human resource capacities prefer to use the former to reach out and interact with their customers through features such as chats, etc., serving a largely local clientele. The extent to which the use of these technologies can truly help MSMEs to achieve greater scale, cost saves, and improved business efficiency is highly debatable, although it is also apparent that in the absence of other viable market access options, the use of these technologies is seen as both desirable and inevitable.

A smaller number of MSMEs have been able to use e-commerce platforms to sell their wares to potential customers. E-commerce platforms offer a more integrated set of offerings starting from sales, and transaction processing, to payments and logistics support.

MSMEs in this category generally realize that using e-commerce platforms opens up better market opportunities, including opportunities to export. However, some realize that a bigger market also means a need to increase business capacity and the quality of human resources, and this requires capital support. Importantly, e-commerce adoption is contingent on several levels of infrastructure support, including access to and use of digital technology, financial inclusion, postal reliability, and electronic security, many of which are not adequately developed in the emerging companies. A recent paper found that emerging market economies are not very well prepared to support e-commerce adoption, primarily due to inadequate infrastructure, digital illiteracy, and low use of digital payments by enterprises[5] Indonesia, in particular, was found to Indonesia had the lowest proportion of individuals using the Internet in 2020 and ranked lowest in overall use of digital payment methods[6] .

5 https://icrier.org/pdf/Working_Paper_416.pdf
6 https://icrier.org/pdf/Working_Paper_416.pdf

Overall, our study found that there are three constraints that impede MSME's ability to integrate digitally. The first is the human resource gap. Generally, MSME owners have limited digital skills and financial capacities. Put together, they find technologies unaffordable, and have limited means to upgrade their skills. Limited business capital also causes MSME owners to be unable to employ highly skilled workers. The reason is that workers with high skills generally have large salaries, so MSME owners only use workers with limited digital skills at relatively affordable costs. So, the digital skills gap causes different digital adoption rates among MSMEs in Indonesia.

The second aspect is infrastructure. Among the G20 countries, Indonesia ranks lowest on the DQLI (The Digital Quality of Life Index) - an index that ranks 110 countries on the different parameters affecting digital quality of life[7]. In particular, Indonesia is one of the worst performers on 2 parameters of this index - Internet affordability and Internet quality. This gap is one of the main obstacles for MSMEs digital integration, albiet it manifests differently in different geographies. While the citiesBetter internet and adequate access to electricity, the suburban and rural areas are severly constrained by lack of adequate digital connectivity. An example is the slow internet that is felt by many MSMEs. In fact, Wifi service providers have not yet entered the sub-urban area of one of the largest cities in Indonesia. Moreover, the response from Wifi service providers, including services from one of the state-owned enterprises, is also slow, making it difficult for the operational activities of MSME businesses that are not in big cities. The absence of electricity continuously outside big cities also causes MSMEs to be unable to run their business digitally. Thus, the digital infrastructure gap that occurs geographically causes a gap in MSME development between regions in Indonesia.

The challenge of the digital infrastructure gap also manifests economically. Good gadgets can produce the quality expected by MSME actors. For example, the more expensive a cellphone, the better the image or video results for marketing MSME products. However, many MSMEs do not have enough purchasing power to own these

7 https://icrier.org/pdf/Working_Paper_416.pdf

good gadgets. In this context, the gap in access to suitable digital infrastructure creates a gap in the competitiveness of MSMEs.

The third aspect is government policy related to digitalization. The key to equitable development is the government's political will to encourage equal digital integration for MSMEs. An example is the existence of a budget to increase digital adoption depending on the village fund policy determined by the village head. Another example is the exorbitant cost of internet subscriptions from state-owned enterprises, which the central government decides. Finally, digitalization in the bureaucracy is only a government slogan but is not implemented in community services, including MSMEs. The implication is that there is inequality in obtaining digital rights services by MSMEs.

In conclusion, the digital integration that has occurred in MSMEs in Indonesia, a country in the Global South, based on our interviews, is both a cause and an effect of inequitable development. Thus, a more equitable development model is needed so that MSMEs can truly become the driving force behind the wheels of the Indonesian economy. The policy, regulatory, and governance framework regarding MSME development must be thoroughly integrated, including its relation to digital economic integration.

RECOMMENDATION

What can be done	Who can drive change
Political Will to Prioritise Equitable Digital Economy Policy • Earmarked budget for the digital fund, especially in the rural area • Acceleration of digital infrastructure development	**Governments**

evenly across all regions • Providing loan interest subsidies for MSMEs that wish to increase their business capacity	
Increasing the business capacity and human resources of MSMEs: • Provision of training to vulnerable communities to increase digital literacy. • Providing subsidies for upskilling MSME workers, especially digital skills • Creating forum to facilitate collaboration between smaller businesses and larger businesses, especially at the local level, to facilitate the supply chain distribution of goods and services	**Governments, E-Commerce Platforms**
Academic support for MSMEs development Making digital literacy and skills training a method of community service by academics • Provision of grants for research on the development of local MSMEs • Providing incentives to academics to become advisers for MSMEs in running their businesses	**Governments, Academia**
Data Governance Improvements: • Accelerate the passage of implementation rules from the Personal Data Protection Law[8] • Accelerate the creation of institutions that are mandated by the law on personal data protection • Fair and firm law enforcement for all parties who leak personal data	**Governments**
Collaboration to Increase Awareness of MSME Development:	**Governments, E-commerce platform,**

8 https://www.reuters.com/world/asia-pacific/indonesia-parliament-passes-long-awaited-data-protection-bill-2022-09-20/

• Collaboration, between government, acadamia, and private sector, for outreach to MSMEs regarding the latest digital developments from various perspectives • Periodic education for owners and workers in MSMEs • Providing assistance to MSMEs to develop in digital era	**Academia**
Cross-Ministry/Institution Government Program Synergy for MSME Empowerment: • Create an integrated MSME data between Ministries/Institutions • Creating a cross-Ministry/Institution MSME empowerment policy matrix so that the program can run with common goals that empower MSMEs • Preparation of a joint medium and long term plan across Ministries/Agencies to empower MSMEs	**Governments**
Special empowerment for women owners and workers of MSMEs: • Creating a community of women owners and workers of MSMEs with assistance from women who work in government, e-commerce platforms, and academia • Hold regular forums for women owners/workers of MSMEs to share and network with each other • Outreach and education about empowered women to families who own/work in MSMEs	**Governments, E-commerce platform, Academia**
Strengthen competitiveness and ease of doing business for MSMEs: • Minimize the administrative process for business	**Government**

licensing for MSME actors with digitization • Make it easier for MSMEs to get Business Identification Numbers • Actively promoting the export of MSME products carried out by Trade Attaches at each Indonesian Embassy in various countries of the world, especially strategic export destination partner countries	

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APPENDIX

Respondent Profiles

No	Name of MSMEs	Category	Size (Micro /Small /Medium)	Level of Digital Integration (Digital Infrastructure/Platform/Frontier Technologies)	Men/Women Led MSMEs	Export Status (Export/Domestic Oriented)	Scale of Sales/Services (Local/National/International)	Raw Materials/Intermediate/Final Products	Main Methods of Buying Products	Main Methods of Selling Products (e-commerce, social media, etc)
1	Sangreat	Agro-processing	Small	Using Platform	Men	Export	International	Final Products		e-commerce
2	Omocha Toys	Agro-processing	Small	Using Platform	Men	Export	International	Final Products	Offline	Website
3	The Soap Story	Agro-processing	Small	Using Platform	Women	Export	International	Final Products	Offline (Received from farmers)	e-commerce +Social media
4	Mekar Agro Sejahtera	Agro-processing	Small	Using Platform	Men	Export	International	Raw Materials	Offline (cooperated with farmers)	social media
5	Tante Sayur	Agro-processing	Medium	Using Platform	Men	Domestic	Local	Raw Materials	Offline	Social Media
6	Kampoeng Chicken	Agro-processing	Small	Using Platform	Men	Domestic	National	Intermediate & Final Products	offline	E-commerce + Social media
7	Dodol	Agro-	Small	Using Digital	Men	Domestic	Local	Final Products	Offline	Offline

	Nanas	processing		Infrastructure					(directly from farmer)	
8	Helvetea	Agro-processing	Medium	Using Platform	Women	Export	International	Final Products	Offline	e-commerce
9	Planteria.id	Agro-processing	Small	Using Platform	Men	Domestic	National	Raw Materials & Final Products		e-commerce
10	Ikan Abon Tongkol	Agro-processing	Micro	Using Digital Infrastructure	Women	Export	International	Final Products		Social Media
11	Jahe Instan Yuni	Agro-processing	Micro	Using Digital Infrastructure	Women	Domestic	National	Final Products	Offline	Social Media
12	101 Coffee Shop	Agro-processing	Small	Using Platform	Men	Export	International	Final Products	Offline (cooperation with farmers)	Social Media
13	Lurik Rahmad	Agro-processing	Medium	Using Platform	Women	Domestic	National	Final Products		Word of Mouth
14	Kopi Khentir	Agro-processing	Small	Using Digital Infrastructure	Men	Domestic	National	Final Products	Offline (cooperation with farmers)	Social Media + Offline
15	Rezupan Bakery	Agro-processing	Micro	Using Digital Infrastructure	Women	Domestic	Local	Final Products	Purchasing online is cheaper	Social Media
16	Juspita	Agro-processing	Micro	Using Digital Infrastructure	Men	Domestic	National	Final Products	Offline (directly	Social Media

									from farmers)	
17	Hidroponik	Agro-processing	Micro	Using Digital Infrastructure	Women	Domestic	Local	Raw Materials	Offline (self-product)	Offline
18	Kerupuk Basah	Agro-processing	Micro	Using Digital Infrastructure	Women	Domestic	Local	Final Products		Word of Mouth
19	Roemah Jamur Ikram	Agro-processing	Micro	Using Digital Infrastructure	Men	Domestic	Local	Raw Materials & Final Products		Offline
20	Bhumi Djamur	Agro-processing	Small	Using Digital Infrastructure	Men	Domestic	Local	Raw Materials		Offline
21	Anindhaloka	Tourism	Small	Using Digital Infrastructure	Men	Domestic	National	Final Products		Offline
22	Desa Wisata Putridalem	Tourism	Medium	Using Platform	Men	Domestic	International	Final Products		Social Media
23	Omah Minggir	Tourism	Micro	Using Platform	Men	Domestic	International	Final Products		Social Media
24	Omah Gerabah	Tourism	Micro	Using Platform	Women	Domestic	International	Final Products		E-commerce
25	Sukasantai Farmstay	Tourism	Medium	Using Digital Infrastructure	Men	Domestic	International	Final Products		Social Media
26	Omah Lampoe	Tourism	Micro	Using Digital Infrastructure	Women	Domestic	National	Final Products		Offline
27	Tabo	Tourism	Medium	Using Platform	Women	Domestic	International	Final Products		Social Media

	Cottage									
28	Kapal Mahakam Bahtera Jaya	Tourism	Small	Using Digital Infrastructure	Men	Domestic	International	Final Products		Social Media
29	Rental Mobil	Tourism	Micro	Using Platform	Men	Domestic	International	Final Products		Social Media
30	Solusi Rental Mobil	Tourism	Small	Using Platform	Men	Domestic	International	Final Products		Mix (Social Media + Platform)
31	Marvelindo T&T	Tourism	Micro	Using Digital Infrastructure	Women	Domestic	National	Final Products		Offline
32	Zig-Zag Travel	Tourism	Micro	Using Digital Infrastructure	Women	Domestic	National	Final Products		Offline
33	BSB Tour	Tourism	Micro	Using Digital Infrastructure	Women	Domestic	National	Final Products		Offline
34	Nadif Travel	Tourism	Micro	Using Digital Infrastructure	Men	Domestic	National	Final Products		Offline
35	Kencana Transportasi	Tourism	Micro	Using Digital Infrastructure	Women	Domestic	National	Final Products		Offline
36	I.D Project	Tourism	Medium	Using Digital Infrastructure	Men	Domestic	National	Final Products		Offline
37	Tour Travel	Tourism	Micro	Using Digital Infrastructure	Men	Domestic	National	Final Products		Offline
38	TRW Holiday	Tourism	Micro	Using Digital Infrastructure	Men	Domestic	National	Final Products		Social Media

39	Lambamba Tour&Travel	Tourism	Micro	Using Digital Infrastructure	Men	Domestic	National	Final Products		Offline (word of mouth)
40	Boom Management	Tourism	Micro	Using Digital Infrastructure	Men	Domestic	National	Final Products		Offline (word of mouth)

Appendix 2

Category	Total	Share	Company Name	Agro-sector		Tourism		Micro	Small	Medium	Women	Men
Using Digital Infrastructure	24	60%	1). Jahe Instan Yuni 2).Sukasantai Farmstay 3).Zig-Zag Travel, 4).Marvelindo T&T, 5). BSB Tour, 6). Bhumi Djamur, 7). Nadif Travel, 8). Kencana Transportasi, 9). I.D Project, 10). Tour Travel 11). Juspita, 12). Kerupuk Basah 13). Hidroponik 14). Kopi Khentir 15). Rezupan Bakery 16). TRW Holiday 17). Kapal Mahakam Bahtera Jaya 18). Omah Lampoe 19). Abon Ikan Tongkol 20). Anindhaloka 21). Labamba Tour & Travel 22). Boom Management 23). Roemah Jamur Ikram 24).Dodol Nanas	10	50,00%	14	70,00%	18	4	2	10	14
Using Platform	16	40%	1). Solusi Rental Mobil 2.)Planteria, 3). Omah Gerabah 4). Kampoeng Chicken 5). The	10	50,00%	6	30,00%	3	8	5	5	11

			Soap Story 6). Desa Wisata PutriDalem 7). Omah Minggir 8). Sangreat 9). Tabo Cottage 10). Rental Mobil 11). Lurik Rahmad, 12). Mekar Agro Sejahtera 13). Tante Sayur 14). 101 Coffee Shop 15). Omocha Toys 16). Haveltea									
Using Frontier Technologies					15,00%	0						
TOTAL	40	100%		20		20		21	12	7	15	25