Digital business transformation: Building COVID-19 resilience in Indonesian SMEs
Authors:
Dr Heather Stewart, The University of Queensland, Brisbane
Dr Sarah Jane Kelly, The University of Queensland
Dr Belinda Wade, The University of Queensland
Dr Liz Ferrier, The University of Queensland
Dr Andre Pekerti, The University of Queensland
Dr Tengku Ezni Balqiah, Universitas Indonesia, Depok
Dr Imam Salehuddin, Universitas Indonesia
Ms Riani Rachmawati, Universitas Indonesia

Editors:
Dr Eugene Sebastian, Executive Director, AIC
Helen Brown, Lead, Communications and Outreach, AIC
Mary Downes, Editor, MediaXpress
David Sexton, Digital Communications Coordinator, AIC

Report translated by:
Uswatul Chabibah

Designed by:
Rita Terunawidjaja

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I am delighted to share our findings from the Partnership for Australia-Indonesia Research (PAIR) COVID-19 Rapid Research Series.

As the COVID-19 pandemic spreads, it continues to disrupt economies, jobs, education, and health systems worldwide. To address the pressing challenges in Indonesia, we have brought together teams of interdisciplinary researchers from both countries to explore COVID-19’s impact on people. We focus on three areas: health, connectivity and economic recovery.

The report provides the policy community with timely access to the best available evidence. It also responds to the Australian government’s Partnerships for Recovery strategy. The strategy aims to understand and support Indonesia as it deals with and recovers from the pandemic.

Warm regards,

Dr Eugene Sebastian
PAIR Program Director
The Australia-Indonesia Centre
Indonesia’s daily economic life is underpinned by millions of small and medium enterprises that are found in the laneways, roadsides and retail streets of this busy nation. They account for 97 percent of the domestic workforce and 60 percent of national economic growth.

It is no surprise that COVID-19 has had an impact on business as strict lockdowns and restrictions on mobility have reduced the customer base and interrupted supply chains. And while the pandemic has resulted in the closing of many of these businesses, it has also pushed many others to adopt digital solutions and proved their capacity to be resilient and change.

The research has revealed that business owners and workers are highly innovative and have been spurred to self-directed learning, using online tips and guides to master digital transformation skills. Many of these small and medium enterprises (SMEs) have dealt with broken supply chains, fragmented internet connections and limited financial capacity, and still found a way to make a digital pivot.

Meanwhile, new start-ups have also emerged, using digital transformation and e-commerce platforms to operate in the COVID-19 landscape. This makes sense in a country where some of Southeast Asia’s biggest e-commerce platforms have come to the fore, and 99 percent of Indonesians receive their marketing information from videos on social media.

The importance of digital integration for SMEs was recognised before 2020 by national and provincial governments in policy positions, including the need to improve internet connectivity, regulations and skills training. Yet the research has found that the policies introduced last year to address the impact of COVID-19 barely mention digital transformation.

This research analysed the effectiveness of the national and Jakarta city government policies in supporting SMEs to digitally transform. Interviews were conducted with 11 business owners, and a survey was sent to 9147 participants in the city of Jakarta’s entrepreneur program (Jakpreneur). The research team also met with national and provincial government policy officials.

The report concludes that while SMEs have been independently proactive in adopting digital solutions to remain viable, government policy is critical to helping them take advantage of opportunities and secure their futures. This includes financially supporting businesses to enable them to set up digital systems and learn new skills.

This report delves into the barriers hindering digital transformation during the pandemic and provides five recommendations to help industry and policymakers provide targeted support to business owners at this trying time.
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**Recommendations**

1. Provide digital training for SME owners and workers to help them digitally transform their businesses and assist in website creation, data analytics, cyber security competency, business planning and social media.

2. Create a digital community of practice for SMEs to provide a peer learning and mentoring environment. This could link to Jakpreneur and other SME support organisations. It could include export awards and incentives, and encourage pursuit of sustainability and social impact, in addition to economic goals.

3. Establish transparent and sustainable SME funding schemes that include rebates on business start-up fees, tax incentives/relief, access to capital and interest-free loans, and assist in the transition to e-commerce operations.

4. Provide incentives for SMEs to employ minority workers via a digital traineeship and/or training stream that funds the apprentices, trainees and interns while they are working and learning about digital transformation.

5. Enhance government standards, delivery and evaluation to ensure there is clear communication of government support and access to it, and adherence to best practice governance principles.
1.0. INTRODUCTION

COVID-19’s impact is far worse than other health crises experienced in Indonesia due to strict travel restrictions that have adversely affected SMES (which are mostly still conducting their business offline). Studies on the effects of COVID-19 on Indonesian SMEs have not focused on digital adoption and transformation, instead concentrating on the economic impact. In 2020, a survey of 5,800 Indonesian small business members of Alignable (a network of 4.6 million small enterprises) found 43 percent of businesses had temporarily closed and nearly all these closures were due to COVID-19 (Bartik, 2020). A United Nations Industrial Development Organisation (UNIDO) study of 147 small Indonesian businesses concluded that most were at risk of shutting down in six months due to the pandemic (UNIDO, 2020). While such businesses are folding, the number with an online presence has increased. According to Universitas Indonesia’s Institute for Economic and Community Research, the number of micro to small and medium enterprises (MSMEs) making transactions on Indonesia’s largest e-commerce platform, Tokopedia, increased by 81.1 percent between January and August 2020.

Our study fills an important research gap by examining the impact of COVID-19 on SMEs’ digital transformation. Using SMEs in the Jakarta region as an example, we show, through empirical evidence, how companies are adopting digital strategies to remain viable. Before the pandemic, digital integration was indeed a policy priority and an acknowledged solution for boosting SME productivity. Since the onset of the pandemic, government policies have not directly addressed this issue.

Jakpreneur is the provincial government of DKI Jakarta’s platform, which supports the development of MSMEs through an entrepreneurial ecosystem, including start-ups, education, and financial institutions. In 2019, there were 67,523 reported SMEs in the Jakarta area and by September 2020, this had dropped to 54,287 – a decrease of 13,236 SMEs or 20 percent (Jakpreneur, 2020). According to Jakpreneur, most (66 percent) of these SMEs operate in the food and beverage sector, followed by food stalls (7 percent), fashion (6.65 percent) and souvenirs (4.72 percent).

In October 2020, we conducted an online survey of members via the Jakpreneur website and 9,147 SMEs responded.

This research has three goals:
• Examine the impact of COVID-19 on SMEs.
• Identify the digital transformation adopted by SMEs and the barriers to this.
• Provide an evidence-based framework to help policymakers support SMEs in digital transformation.

The SME sector is Indonesia’s largest employer and a substantial contributor to its economy. But many SMEs are not competitive on the global market. Previous studies have shown this is largely due to wide-ranging barriers including financial access, price of energy, technology, inefficient production costs, economic factors, management skills, processes, limitation of sales, and issues with raw materials (Irjyanti & Aziz, 2012). Changing regulations were also leading to policy uncertainty.

Even before COVID-19 and despite having the world’s fourth-largest working population, Indonesia already needed to address several key economic challenges. Nationally, the upper to midstream industries are underdeveloped and the geographic potential is underleveraged. Additionally, there is inadequate digital infrastructure, overcomplicated regulation and policy roadblocks, an absence of innovation centres and a lack of trained workers (World Economic Forum & Kearney, 2018).

Indonesia’s national and provincial government plans and policies before COVID-19 included the recognition of the importance of digital transformation and the acknowledgment of inadequate internet and digital platforms, policies and regulations, skills, and technology investment for SMEs.

Indonesian President Joko Widodo started to refer to the “Fourth Industrial Revolution” and “Industry 4.0” to promote the digitalisation of businesses. The government announced its Making Indonesia 4.0 roadmap prioritising five sectors – food and beverage, textile and apparel, automotive, electronics, and chemical. This policy move emphasised the need to harmonise regulations to boost production. The government also identified 10 national priorities to help the manufacturing sector reap the benefits of Industry 4.0 (ADB-Bappenas, 2019, p. 114). The intent to build revolutionary technologies into Indonesia’s SME operations was evident in 2019 in the details of the report entitled Policies to Support the Development of Indonesia’s Manufacturing Sector during 2020-2024 (Asia Development Bank, 2019). But this gesture was quickly abandoned in the COVID-19 environment and as a result, progress on digital solutions stalled.

The University of Indonesia’s SME Centre reported that only 16 percent of SMEs, at most, used e-commerce for their trade transactions (Universitas Indonesia SME Centre, 2020).
A Mandiri Institute study report released in July 2020 noted businesses with an online presence were more likely to survive the impact of COVID-19. Also, SMEs operating online were “more resilient to economic shock” and “tended to dismiss fewer workers” (Mandiri Institute, 2020). In June of last year, the Indonesian Minister of Cooperatives and SMEs, Teten Masduki, said digital platform usage had increased rapidly due to the pandemic.

“The number of small businesses on digital platforms had reached 9 million (14 per cent), and 1 million new enterprises had gone digital during the pandemic. Some digital platforms [companies] told me they had never seen such rapid growth in only a few months. This is because the situation forces people to sell online,” Teten said (The Jakarta Post, June 2020).

Studies investigating the growth of social media marketing in Indonesia indicate an acceleration of use in 2020 and into 2021 with Facebook platform usage now at 64 percent. Around 99 percent of Indonesians watch videos on social media, with these platforms also cited as the preferred source of product information (Asia Pacific Foundation of Canada, 2021).

This was accelerated by the speedy growth of new start-up digital businesses or planned transitions of their business practices online (statistica.com). The Indonesian branch of Shopee ranked first among the most clicked e-commerce sites in Indonesia, followed by Tokopedia and Bukalapak in the fourth quarter of 2020, according to statistica.com.

E-commerce has provided a way for some to supply goods and services normally constrained by logistics (eg, traffic congestion). Customers can also be reached through a phone application, rather than needing internet access (eg, Bukalapak). And the e-commerce sites are forming partnerships with retail shops that enable the SMEs to reach more potential customers.

**Summary of government response**

A collaborative approach was adopted with ministries including the Communications and Information Ministry, the Trade Ministry, and the Ministry of Cooperatives and Small and Medium Enterprises with e-commerce companies and tech firms to provide training for SMEs, to boost digital inclusion among small businesses and to improve their skills amid the COVID-19 crisis (Budiarso, 2020).

The Indonesian government recognised the importance of SMEs being present in the digital ecosystem to survive the effects of the pandemic and identified three main factors encouraging MSMEs to go digital, including: (i) business capacity (producing on a large scale and economically); (ii) producing quality (product quality to compete with big business products on the market), and (iii) digital literacy (the ability of “digitallyiterate” MSMEs to use technologies such as operating devices, applications or digital platforms.

“Digital transformation in MSMEs has become a necessity, a must,” said a senior ministry official.

“To fully expedite digital transformation of MSMEs, business actors need to go through a process of increasing human resource capacity, in the form of digital literacy training so appropriate technology solutions can be adopted in accordance with the business model being undertaken.”

In 2021, the Ministry of Cooperatives and Small and Medium Enterprises called for better distribution of funding to improve digital literacy, including in supply chain management. The ministry has set up a marketing services agency (SMESCO) as a centre of excellence for SMEs and to help them develop solutions, including those in digital form (Antara News, 2021).

There is a significant lack of understanding about the benefits of digital technology, including how to use it in supply chain networks, and there are opportunities for Australia and Indonesia to collaborate in sharing expertise and knowledge in this area.

**Jakarta government**

The Jakarta government (DKJ) has introduced a series of incentives enabling SMEs “to go digital”:

1. Improving the ease of doing business, including streamlining and simplifying business procedures using an online single submission (OSS) system.
2. Enabling SMEs to “go digital” by improving connectivity.
3. Reduction of the final income tax rate to 0.5 percent for taxpayers with a gross circulation of not more than 4.8 billion rupiah a year.
4. Relaxation of import facility for export purpose (KITE) for small and medium industries.
5. Improving MSMEs’ access to financing through government microcredit schemes such as the Kredit Usaha Rakyat (KUR) and Ultra Micro Financing (UMi) programs.
6. Improving MSMEs’ access to financing through revolving micro financing (UMi) programs.
funds managed by various public service agencies (BLU).

7. Expanding market access for MSMEs, both domestically and globally.

8. Providing coaching and mentoring for MSMEs (Budiarso, 2020).

9. Acknowledging the need for intergovernmental, sectorial, industry and bilateral cohesion, clear and transparent policy and regular communication as critical components that need to be addressed for any policy, funding or training initiative to be effective in helping SMEs despite COVID-19.

The role of governance in digital development

Effective governance is critically important to economic growth in emerging nations, particularly in fostering financial security and establishment of a reliable economic system that aligns with local requirements (Zhao, 2016). Indonesia is classified as an emerging nation by the International Monetary Fund, as the economy is characterised by rapid growth and personal, institutional and multinational investment. Over the past decade, more research attention has been directed towards discerning the differences in governance and regulation in emerging economies and mature markets, especially given the growing importance of emerging economies in the global context (Mishra, 2019).

In contrast to mature markets, the most critical corporate governance-related issues in emerging markets are the concentrated ownership structure (often with a state-owned shareholder), institutional shareholder corporate ownership, access to finance and underdeveloped financial markets (Pargendler, 2014).

Given the increasing pace of innovation and the post-COVID-19 economic recovery needed in Indonesia, new and agile processes of governance are required. With rapid changes experienced in the face of digital transformation and global change, it is timely to assess current and new governance mechanisms designed to support agility, social equity, sustainable economic growth and collective input at national, organisational, investor and individual levels (World Economic Forum, 2020).

The COVID-19 pandemic has presented severe challenges for emerging markets, as governments have less fiscal policy leverage at their disposal despite heightened need for funding stimulus relief, which inevitably risks a downgrade in credit ratings. However, the pandemic also represents an opportunity for international investors and the development of government-private corporate partnerships to invest in critical infrastructure and align investment direction with institutional funds (World Economic Forum, 2020).

“Given the increasing pace of innovation and the post-COVID-19 economic recovery needed in Indonesia, new and agile processes of governance are required.”

The importance of effective multi-level governance and regulation

Research demonstrates a link between effective corporate governance and economic development (Maher & Buhmann, 2019). Governance refers to “all processes of governing, whether undertaken by a government, market or network, whether over a family, tribe, formal or informal organization or territory and whether through the laws, norms, power or language” (Bevir, 2013, p.1).

While emerging economies, including Indonesia, are swiftly developing corporate governance and regulation at national and company levels, the quality of governance across the economy requires monitoring. At national level, legal frameworks, institutional strength and the rule of law are critical. Meanwhile, at business level, concentrated ownership structures pose risks to minority shareholders and can trigger adverse impacts associated with tenured management (Mishra, 2019). Macro country level governance risks include corruption, bureaucracy, political risk, lack of transparency and weak rule of law.

Most major emerging market economies (including Indonesia) have demonstrated a focus on governance strategy by updating their codes in recent years. Indonesia introduced its Code of Good Corporate Compliance in 2006.
“While emerging economies, including Indonesia, are swiftly developing corporate governance and regulation at national and company levels, the quality of governance across the economy requires monitoring.”
The SME owners in the JAKpreneur program needed and wanted training and accreditation in digital transformation. They each taught themselves how to build a website, use digital applications, trade through e-commerce and social media, and were able to quickly adapt to digital platforms to operate their businesses. However, their actions risked being hit and miss due to a lack of knowledge and skills. Their efforts were also potentially costly if the advertising dollars were misdirected. The business owners specifically asked for:

- ‘how to’ resources to set up for digital transformation
- videos and worksheets to be made available via the JAKpreneur website and social media
- accreditation in the form of certificates of attainment of digital skills for business owners and employees from the government or an accredited provider, which the business could then promote on digital platforms.

They noted that while JAKpreneur offers free training to members, the online learning was problematic due to some of the factors outlined above. They were also keen to attend training in person (when possible) as it helped provide a network.

Digital business transformation needs to be accessed and used equitably, so SMEs can contribute to their communities while remaining sustainable.

2.0. METHODOLOGY

The participants of this study represent SME owners who are members of JAKpreneur. Their livelihoods have been hindered by COVID-19 social distancing measures as their creative work depends on physical and on-site activities (non-digital). We conducted a survey in October 2020 and recorded 11 video call interviews with SME owners. Care was taken to select SMEs across different sectors with equal distribution across genders. It was a requirement that participants be business owners.

As a second step, we interviewed two policymakers from the Indonesian and Jakarta governments. We then asked for details about the policies, grants and loans put in place to assist SMEs in 2020.

Third, we collated media coverage relating to SMEs and COVID-19 impacts. We also conducted a literature review and audit of government media statements in 2020.

It must be noted that the results of this study are skewed towards businesses that were able to use the internet to complete the survey after learning about it online via the JAKpreneur website.

In summary, the small and medium enterprises said they most needed financial assistance and incentives, as well as training and mentoring.

* For more background on the analysis and results, please see the appendix attached.
SME PROFILES – JAKPRENEUR PROGRAM – JAKARTA

Kios Balm (bird products)

Participant 2 experienced a sharp decline in sales of her live birds and products when COVID-19 social distancing restrictions meant customers stopped coming to her shop. She moved sales online to social media and since then the live birds have been collected or delivered. However her customer base is limited to Jakarta, as she’s traumatised after losing birds when she entrusted others with the transportation of the live animals outside her area and they died in transit.

Her husband keeps the bird kiosk open, but to increase income Participant 2 opened another business from her home, selling phone sim cards and prepaid data top-ups.

“I want the government to give aid in the form of a cash incentive. I have not received government aid. I tried applying but I was overwhelmed by the procedure.”

She is a new member to Jakpreneur so has not yet experienced the value of a supportive network with some insight into digital skills, and she hopes the pandemic will pass soon so life can return to normal.
Mayra (craft)

Participant 3 usually sells her handicrafts at bazaars and events. The restrictions imposed because of COVID-19 mean she now only displays her products through social media platforms. Unfortunately, her efforts have had little success.

She is a veteran member of Jakpreneur and has undertaken training through their programs. However this has not included guidance about e-commerce or online marketing, aside from showcasing her products on social media. She also received a $A240 government cash incentive and spent it on materials to create her products, but due to the lack of marketing success some of those goods are now sitting in inventory.

“I want to learn more about online selling but unfortunately due to the pandemic, all the training went online. I prefer hands-on training offline where I can interact with the instructor and fellow trainees.”

She looks forward to the day she can concentrate on creating her craftworks again.
Betta fish (aquarium fish)

Participant 4 does not have a physical store and is a seasoned user of social media platforms to sell her fish and related products. For instance, she sells about 35 fish a month through a Facebook business group. She only serves customers local to Jakarta due to the challenges of transporting live fish, and she says digital technology is an important tool for SMEs as more people stay at home.

“I heard of the Indonesian grant, but I did not receive the funds as the quota was filled. There is a new batch of grants, but I cannot access this due to the lack of a permit … I am a new member of Jakpreneur and still do not have my permit.”

She would like to attend training but is unsure if she is registered.

“There is no registration fee but there are uncertainties. There are some difficulties in saving the data I gave to register, difficulties in inputting my data. I messaged the licensed officer, local government, but did not receive any replies. I am uncertain whether I am a member or not or whether my application has been processed.”

She would like to receive training from the government to improve her business, with financial support in the form of a grant as opposed to a loan.
4.0. RECOMMENDATIONS

We have made recommendations that enable policy intervention at different levels – industry, provincial and national government.

1. Provide digital training for SME owners and workers to help them digitally transform their businesses and assist in website creation, data analytics, cyber security competency, business planning and social media. A training program could also include change management guidance on sustainability practices and human resources development.

2. Create a digital community of practice for SMEs to provide a peer learning and mentoring environment. This could link to jakpreneur and other SME support organisations and could include export awards and incentives, and encourage concepts such as sustainability. Networks that provide targeted, sector-specific information directly to the small business owner have been found to be particularly meaningful (Lawrence et al, 2006).

3. Establish transparent and sustainable SME funding schemes that include rebates on business start-up fees, and assist in the transition to e-commerce operations. If loans are an option, then provide a flexible repayment scheme in alignment with SME profits.

4. Provide incentives for SMEs to employ minority workers (people with a disability, homeless, women) via a digital traineeship and/or training stream that funds the apprentices, trainees and interns while they are working and learning about digital transformation. This would also assist those who are from the lower socio-economic strata who are less likely to have a say in determining their future during the COVID-19 era and beyond (World Bank, Jiao & Sihombing, 2021).

5. Enhance government standards, delivery and evaluation relating to grants and support for SMEs to ensure there is clear communication of government support and access to it, and adherence to governance principles. This could be a way to foster trust in institutional support and develop stronger stakeholder relationships.
5.0. REFERENCES


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Analysis and results

In this section we provide details about the business structure and activities of the respondents. This section also identifies any barriers to digital transformation and determines the effectiveness of government policy in terms of equity, accessibility and suitability supporting SME digital transformation.

A survey was conducted in October 2020 and 11 video call interviews were recorded with SME owners. Care was taken to select SMEs across different sectors with equal distribution across genders. It was a requirement that participants be business owners.

As a second step, we interviewed two policymakers from the governments of Indonesia and Jakarta. We then asked for details about the policies, grants and loans put in place in 2020 to assist SMEs.

Third, we collated media coverage relating to SMEs and COVID-19 impacts. We also conducted a literature review and audit of government media statements in 2020.

We approached the participants for interviews via WhatsApp after sending an initial email to the address they supplied in the survey response. They were provided details about the study and a consent form. The interviews were conducted in a semi-structured way via Zoom to allow the participants to feel comfortable and share their stories.

As noted by the Mandiri Institute SME study (2020), only 4 percent of respondents had adopted an online strategy. Our study’s survey was syndicated via the Jakpreneur website and unless the SMEs had capacity to be online, they might have been unaware of this research. The limitation, therefore, is that members of Jakpreneur needed to be online to participate. Therefore, the results of this study are skewed towards businesses that were able to use the internet to complete the survey after finding out about it online via the Jakpreneur website.

In summary, the small and medium enterprises said they most needed financial assistance and incentives, as well as training and mentoring.

About the businesses – what we learned

Most of the SMEs included in the survey (82.5 percent) commenced operations before 1 March 2020, which was established as the starting point of COVID-19 for economic ramifications. Only 17.5 percent of SMEs commenced operation during COVID-19.

Only 33 percent of respondents indicated their annual turnover and of those who declared, 96 percent were from the micro business sector. Of this 33 percent, most respondents (96.15 percent) indicated they generated an annual turnover of up to 300 million rupiah in revenue per annum.

Respondents were mostly from the food and drink suppliers (62.92 percent), food stalls (6.51 percent), fashion (4.48 percent), pulse (2.5 percent), crafts and souvenirs (2.2 percent), sewing and embroidery (1.6 percent), bridal makeup and salon (1.1 percent) and aquaculture (1 percent).

Respondents’ business type

In managing business operations, 57.89 percent experienced a decreased turnover, 44.30 percent experienced economic loss or difficulty, 28.82 percent experienced restrictions on customer access, 25.37 percent experienced supply failure, 23.05 percent changed operational practices, 18.65 percent experienced loss of workforce and 17.58 percent indicated COVID-19 restrictions compromised their ability to switch to digital operation.

Twenty percent were new businesses starting as a direct result of losing paid employment.

Thirty percent ran a second SME business to prop up loss of income from their main SME business.

Gender ownership

Most of the SMEs (68.2 percent) of the respondents indicated that there was 50-100 percent business ownership by women during COVID-19.
One of the most noticeable impacts was an overall decrease in the number of female employees after 1 March 2020 because of the COVID-19 pandemic, with 23.51 percent of respondents indicating there were fewer females employed in their business than before COVID-19. Only 15.17 percent indicated they had employed more female employees. There was a decline in female workers overall, but the SMEs who increased female worker numbers were more proportionally 50-100 percent female owners hiring female workers.

It is recommended future funding initiatives target SMEs with at least 50-100 percent female ownership to further increase employment of females.

**Digital transformation**

More than half of the respondents (55 percent) adopted a combination of face-to-face and digital business with their customers (face-to-face 33 percent and digital 12 percent) in October 2020.

**Moving the business online**

The largest change reported was 25.7 percent of SMEs moving the business online, followed by 24.3 percent reducing labor and working hours and 9.4 percent changing to temporary labor. Only 2.4 percent carried out organisational restructuring. Remobilising existing capital occurred at 21.6 percent. Only 11.4 percent adopted a digital business approach, but 15.2 percent stopped operations and 10.5 percent pivoted to a new business. Skills upgrading was undertaken by 14.3 percent and training by 9.5 percent.

**Managing financial issues**

In managing financial issues (meeting operating costs, paying wages and suppliers, support of community activities), the interference with the payment of operational costs (46.73 percent), interference with payment of wages (31.67 percent), interruption of payments to suppliers (26.85 percent), and interference with future investment (24.08 percent) had the greatest impact. Other impacts noted included interference with maintenance costs (18.62 percent), difficulty paying for community activities (16.04 percent), and difficulty paying digital transformation fees (4.18 percent). There were no financial issues noted by 4.23 percent.

Business owners indicated they would prefer a grant to a government loan because they did not think they could repay it and keep up with the interest payments. Some government funding was accessed by 20 percent for jakpreneur but their application had not been processed. The payment of digital transformation fees needs further investigation, in considering government subsidies that encourage businesses to embrace e-commerce, social media and other digital solutions.

**Barriers to digital transformation**

The main barriers to digital transformation included finance (41.2 percent), having a reliable Internet connection (35.0 percent) and skills (30.5 percent). Accessing government assistance was a barrier for 27.1 percent, while lack of computer equipment and programs impacted 25.5 percent. There were also issues with risk and governance (19.5 percent), lacking change management skills (12.2 percent) and lacking security and privacy (11.2 percent).

**Government support access**

Only 4,902 out of 9,147 respondents answered the question about access to Indonesian government support for businesses during COVID-19 (after 1 March 2020). Of these respondents 52 percent answered ‘no’ to accessing government support and 48 percent answered ‘yes. A slim majority of respondents (51.10 percent) was unable to access any government support, while 2,503 respondents accessed government support. Of those who accessed support, 59.48 percent accessed Jakarta government assistance. Most were neutral about the effectiveness of Jakarta government policy. With the mean and median close together, we can see that the data is normally distributed amongst the respondents.

The conclusion from the descriptive statistics appears to be that the response taken by the Jakarta government was neither effective nor ineffective.
This means the respondents thought the government response was adequate. For the national government response, it was considered slightly less effective than the Jakarta response, because the mean average for Jakarta was 54.62 percent for approval while the national response was only 48.09 percent. The SMEs were asked to identify areas where they would see the most value in government support should it be offered indicating (59.29 percent) wanted financial support, (35.41 percent) financial incentives, (31.71 percent) training, (25.21 percent) providing digital tools, (18.18 percent) mentoring and (5.25 percent) for digital transformation staffing.  

Priority support areas

The SME owners ranked marketing (sales and advertising) cooperative agreements as a priority followed by accessing raw materials and supplies, supply chain and distribution channels, and human resources data management.

Managing emissions in a COVID-19 environment

Respondents were asked how COVID-19 impacted the SMEs’ ability to manage production of greenhouse gas emissions with 47.89 percent indicating there was a pollution reduction, 35.04 percent indicating there was no pollution impact and a small percentage 7.14 percent reported an increase in emissions. Further research is required to understand which areas of their operation changed contributing to the pollution reduction during COVID-19 lockdowns.

What kind of digital transformation is required?

A majority (43.2 percent) still needed to adopt social media, and 40.6 percent identified they needed innovative digital tactics to optimise business processes relevant to the SME. Other requirements are:

- Facilitating data governance through aggregating, processing, analysing, and acting on the ever-evolving volume, variation, and rate of data (25.0 percent).
- Planning, implementing evaluation of the digital transformation roadmap for success (20.7 percent).
- Website optimisation (14.1 percent).

Digital transformation tools

Social media platforms were an essential tool used by SMEs in their digital business practice, with 48.5 percent indicating these were tools required for their business’s digital transformation. Using a smartphone application (28.9 percent), a virtual payment system (19.5 percent), and online communications including video calls, zoom and Google Meet (18.5 percent) were also needed. Other tools included a company website page (20.8 percent), data management (9.6 percent), production automation (8.2 percent), artificial intelligence including machine learning (6.1 percent), an implementation and monitoring system (5.4 percent) and drone technology (1.9 percent) were also important tools.

Training

Social media training (43 percent) and innovative digital tactics for optimizing business processes relevant to the SME (40 percent) were identified as training priorities. Marketing (sales and advertising) (27.7 percent), supply chain (raw materials and supplies) (23 percent), human resources (training and development) (16.8 percent), website optimisation (14 percent), internet provider choices (14 percent), data management (7.4 percent) and web hosting (3.6 percent) were also identified as key training needs. Specifically, within each of these training requirements, the SMEs also identified that 45.6 percent needed training on how to manage a website and / or conduct social media analytics, 22.3 percent on how to reduce manual reliance on accessibility and build data expertise, 22.3 percent on how to build governance in data solution management, 19.9 percent on how to integrate data from multiple management functions, 17.9 percent on how to optimise decision making with data and information, 15.5 percent on how to identify and deal with overlapping data solutions and 14.9 percent on how to conduct cloud-based data management.

Using the methods listed above, this report has been able to paint a picture of digital operations within SMEs during the pandemic and their resilience or otherwise. The experiences of different business types have been identified including the factors that have contributed to progress or regression. Important insights were also included in such areas as gender ownership, moving businesses online and greenhouse gas emissions. The methodology also allows for production of a document useful for policymakers at both national and regional levels in Indonesia, notably in terms of skills and training and where to focus additional funding and expenditure.
Program Management Team:
Dr Eugene Sebastian,
PAIR Program Director
Helen Fletcher-Kennedy,
AIC Chief Operating Officer
Dr Leonardo Pegoraro,
PAIR Program Manager
Dr Hasnawati Saleh,
PAIR Research Coordinator
Dr Martijn van der Kamp,
PAIR Team Capability Coordinator
Marlene Millot,
PAIR Program Officer
Fadhilah Trya Wulandari,
PAIR Program Office

Research Advisory Panel:
Profesor Budu,
the South Sulawesi Provincial Government’s Development Acceleration Team (TGUPP)
Bronwyn Robbins,
Australian Consul General in Makassar
Dr Elan Satriawan,
Chief of Policy Working Group, National Team for the Acceleration of Poverty Reduction (TNP2K)
Dr(HC) Erna Witoelar,
Former UN Special Ambassador for Millennium Development Goals (MDGs) in the Asia Pacific
Dr Eugene Sebastian,
Executive Director, The Australia-Indonesia Centre
Dr Hasnawati Saleh,
PAIR Research Coordinator, The Australia-Indonesia Centre
Dr Ishak Salim,
Co-Founder Indonesian Diffable Movement for Equality
Profesor Jamauluddin Jompa,
Advisor for Marine Ecology at the RI Ministry of Maritime Affairs and Fisheries
Jana Hertz,
Team Leader at the Knowledge Sector Initiative
Muhammad Sani Azis,
Regional Coordinator (South Sulawesi), Indonesian Seaweed Association (ARLI)
Dr Musdalifah Machmud,
Deputy Minister for Food and Agriculture, RI Coordinating Ministry for Economic Affairs
Prakosa Hadi Takariyanto,
Technical Director PT Pelabuhan Indonesia IV (Persero)
Pratiwi Hamdhana,
Founder and Managing Director, Tenoon, Driver Engagement, Gojek Makassar
Tim Stapleton,
Minister-Counsellor (Economic, Investment, and Infrastructure), Australian Embassy, Jakarta.
Profesor Wihana Kirana Jaya,
Special Staff to the RI Minister for Economic Affairs and Transportation Investment, Ministry of Transportation

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