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# The Revival of SMEs in Indonesia from the Impact of the Covid-19 Pandemic

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**ABSTRACT**

This research examines the revival of Small and Medium Enterprises (SMEs) in Indonesia amidst the Covid-19 pandemic. This pandemic presents major challenges and is a catalyst for unprecedented change in the SME sector. This article aims to identify and analyze the main factors that play a role in the resilience and growth of Indonesian SMEs during and after the pandemic. Utilizing quantitative data and qualitative interviews, this research reveals that digital transformation and government stimulus play an important role. The research results show that SMEs that use digital marketing show good adaptability and growth, and benefit from the shift in consumer behavior to online platforms. The Indonesian government's fiscal support, by assisting struggling SMEs, enables business continuity and recovery from the impact of the pandemic. The study concludes with policy recommendations to maintain the growth and resilience of SMEs, emphasizing the importance of digital inclusion, easy access to financial institutions, and community support networks. The impact of this research is significant for policymakers, business leaders, and community developers aiming to protect the SME sector from future crisis.

**Keywords:** Covid-19; Digital Transformation; E-commerce; Government Policy; SMEs

## INTRODUCTION

With a rich history, Indonesia's Small and Medium Enterprises (SMEs) sector is vital to the country's development. The importance of SMEs in the country's progress after independence is outlined in government policies such as Law Number 9 of 1995 concerning Small Businesses. Based on this law, the government supports training programs, training, and access to capital as a real effort to encourage the development of SMEs. The importance of SMEs in the country's progress after independence is outlined in government policies such as Law Number 9 of 1995 concerning Small Businesses. Based on this law, the government supports training programs, training, and access to capital as a real effort to encourage the development of SMEs. As stated by Eggers (2020), SMEs have emerged as alternative employment opportunities that show extraordinary resilience and adaptability, even under severe economic pressure.

The number of SMEs in Indonesia continues to increase, reaching 64.2 million units in 2021. Additionally, this sector provides employment for 97% of Indonesia's workforce and contributes 61.07% to the national GDP. The most popular SME industries include trade, food and beverage, and processing. Despite their significant role, SMEs still face several problems, such as low business knowledge and skills, limited access to capital, competition with imported goods, and restricted access to markets and technology, which affected Indonesia's SMEs and the business world as a whole, has presented the largest obstacle.

One of the most horrifying things the world has ever experienced, the Covid-19 pandemic affected every sphere of civilization, including the economy. Indonesia's economy consists of SMEs, which make a major contribution to employment and GDP. However, the start of the pandemic presented SMEs with hitherto unheard-of difficulties as a result of consumer spending declines, supply chain disruptions, and an economic slowdown brought on by various pandemic measures like social separation and lockdowns. Despite facing these challenges, Indonesia's SME sector has demonstrated extraordinary resilience and adaptability.

The purpose of this study is to pinpoint the elements that in the contemporary economic climate, support the survival and expansion of SMEs in Indonesia, particularly those engaged in the manufacturing, services, retail, technology, and hospitality sectors. Therefore, this research will offer a solid basis on which politicians, corporate executives, and community development may build plans and policies to sustain and boost the growth and resilience of SMEs in Indonesia, thereby better equipping them to meet future difficulties.

In Indonesia's past, SMEs have been crucial to social stability, employment generation, and community development. This contribution is threatened by the current pandemic, so immediate action must be taken by both the government and SMEs. With this introduction, a comprehensive analysis can be carried out on the ways in which SMEs can overcome the problems caused by the pandemic. This article will also discuss how government policies are helping the business world and how the shift to digitalization has helped many SMEs prosper in the midst of the economic crisis.

The ability of SMEs to withstand adversity and rebound after a pandemic is demonstrated by the resilience of SMEs in Indonesia. This research examines the Covid-19 outbreak and its effects in an effort to better understand the dynamic relationship between entrepreneurial innovation and crisis management. The methodology analysis and study findings are covered in detail after the introduction. The ultimate goal of this research is

to advance our understanding of SMEs' resilience to global upheaval and resilience to growth, with a focus on the circumstances facing SMEs in Indonesia.

## LITERATURE REVIEW

Orbawati et al. (2022) said that a recession and economic crisis occurred in response to the Covid-19 epidemic. Travel restrictions, social isolation, and self-isolation reduced the workforce, resulting in widespread job losses. Demand for manufactured goods and commodities declined, and schools closed. On the other hand, the need for medical goods has also increased. Panic buying and food product hoarding led to increased demand for food products, which in turn affected the food sector. The pandemic's detrimental effects on company operations resulted in a decrease in turnover in the manufacturing industry, and self-isolation policies' resultant labor shortages caused supply chains to become unstable. Furthermore, Wulandari and Mahagangga (2023) reported that the Covid-19 pandemic had a detrimental effect on Kuta Beach, Bali tourism activities, especially the business sector, which includes restaurants, lodging, surfboard rentals, and training. The epidemic has caused income to decline, tourism-related firms to close, and job losses have occurred.

During the Covid-19 pandemic, SMEs worldwide have begun to focus heavily on digital transformation and modality change. Ratnawita (2023) claims that as digitization influences corporate management, it might create new chances for industry to boost productivity, creativity, and market access. Digital transformation offers the potential to lower manufacturing costs, increase market share, and enable quick access to services and markets. While supporting policies and human resources that are not yet ready, infrastructure preparedness presents obstacles that must be considered during implementation. In the meantime, Jangjarat and Jewjinda (2023) asserted that small enterprises' survival and prosperity in the digital economy depend heavily on digital innovation. It is critical for SMEs to keep up with the latest technological advancements, ideas, and tactics in order to boost productivity, maintain competitiveness, and enhance financial performance. This is consistent with the study done by Prayitno et al. (2020), which discovered that SMEs might use internet marketing techniques to boost their marketing volume during the Covid-19 pandemic.

On the other hand, in their research, Ballo et al. (2022) stated that the on-demand economy, or the ease of completing transactions through digital technology, provides additional benefits for producers as business actors. Manufacturers benefit from this economy by enhancing efficiency in terms of time and costs, ultimately leading to reduced production costs. Furthermore, this economic model offers convenience, speed, and pragmatism to consumers, facilitating the fulfillment of their desires and needs. The extensive use of digital technology in the economy is driving the shift from industries based on the conventional economy to those based on the digital economy.

However, digitalization also presents various challenges. Horal et al. (2020) describe a situation where the opportunities offered by digitalization are limited by significant challenges. These barriers primarily include gaps in digital literacy and uneven infrastructure. Parthasarathy (2022) continues this debate by studying the difficulties new ventures face in the era of digital technology. Emphasizing the strategic benefits of rapid technology adoption and the importance of agility in dealing with crises.

According to Suwandi's (2024) research, microbusiness owners and the growth of the MSME sector benefit from banking institutions' support. Financial performance, competitiveness, management, and marketing are just a few areas where MSME clients

who are receiving this support have seen improvements in their performance. Izaidin et al. (2022) examined non-cash payments as a practical means of commerce in Malaysia amidst the Covid-19 outbreak. By installing the Touch 'n Go app, customers may use their telephones to access funds and make online payments. Since non-cash payment minimizes physical interaction and is simple to use, it is a smart and safe payment method that does not damage or frighten other people. Compared to before the epidemic, a larger proportion of payments in society are now made by non-cash means.

Rustariyuni (2022) investigates the use of innovative digital technologies to address the problems brought on by the Covid-19 Pandemic. Developing innovative digital technology to bridge social distance is one-way cooperative organizations might address the major issues brought up by the Covid-19 pandemic. The cooperatives who have embraced technological innovation are the ones that have managed to continue operating during the Covid-19 pandemic. According to Bai et al. (2021), a number of factors, including top management commitment and support, cost estimates, security issues, compatible technology facilities, perceived benefits, performance expectations, and business prospects, will determine how effectively cooperatives use digital technology innovation during the Covid-19 pandemic.

The current academic debate focuses on the resilience of SMEs, which is a pillar of their continued existence and progress. Kusumawardhani et al. (2020) discuss how government policies provide stimulus and subsidies to reduce economic shocks. However, the sustainability of this intervention remains in doubt. Ferreira et al. (2021) contributed to this discussion by studying the influence of digital technology adoption on innovation and firm performance. Their research suggests that while digital technologies can improve resilience in the short term, their long-term impact on performance must be carefully considered.

Darmi et al. (2022) and Rashid et al. (2022) examine how community initiatives and social capital function as informal but important support networks that enable SMEs to overcome the turmoil of the pandemic in Indonesia, where collectivism is widespread. This is in accordance with Putnam et al.'s (1993) social capital theory, which emphasizes the importance of networks and trust for the common good. However, Hong et al. (2012) argue that reliance on informal networks may not be enough to overcome the structural weaknesses of the economy. Therefore, a more formal crisis management strategy is needed for SMEs.

Therefore, scientific discussions focus on the opportunities for digital technological transformation, as well as the need for strong structural support from social networks and initiatives. Problems faced by SMEs include the desire to adapt and innovate digitally and the need for an ecosystem that supports these changes in a sustainable manner. These two issues are discussed in this literature reflection.

## RESEARCH METHOD

Because of the complexity of the events under study—such as the resilience of SMEs during the Covid-19 pandemic—a holistic approach is necessary, which is why mixed techniques were chosen for this study. This choice was made because quantitative and qualitative methods work best together. While qualitative data offers richer and more nuanced insights into the experiences of business owners, quantitative data allows for the generalization of findings and the identification of patterns across a range of SMEs.

### Sampling Technique

For the quantitative research component, stratified random sampling techniques were used. This technique ensured representation in various industries in the province of Central Java and the Special Region of Yogyakarta. 100 SME owners were selected based on industry type, size, and business location to obtain a sample that reflects the diversity of the SME sector in Indonesia, namely technology, retail, hospitality, manufacturing, and services.

**Survey or Questionnaire Design**
Survey instruments are carefully designed and consist of multiple sections, designed to capture multiple data points. Questions cover business performance metrics before and after digital technology implementation, the scope and characteristics of digital technology approaches used, and implementation of government support initiatives. To measure respondents' perceptions of the pandemic's impact and their resilience strategies, this questionnaire also includes Likert scale items.

**Qualitative Interview**
To provide qualitative depth, semi-structured interviews were conducted with 100 SME owners who showed significant improvement during the pandemic. Open-ended questions regarding the problems faced, options used, and the role of digital technology transformation, and community networks in the survival and growth of their businesses were included in an interview guide designed to collect rich descriptive data.

**Ethical Considerations**
Considering ethics throughout the research process is essential. To ensure awareness and protect participants' right to anonymity, and maintain the confidentiality of their responses, each participant was informed of the study's purpose. Additionally, participants were informed of their right to withdraw from the study without incurring any consequences. To protect participant rights and welfare, the institutional review board examined and approved the study protocol.

**Reasons for Choosing Mixed Methods**
Mixed methods were chosen because of their ability to validate and enrich data through triangulation, thereby increasing the validity and reliability of the findings. Qualitative data provides contextual depth, helping to explain the "why" and "how" of quantitative results, while quantitative data provides a broad picture of the SME sector's response to the pandemic.

The purpose of this study is to integrate several resilience techniques employed by SMEs in Indonesia during periods of severe economic disruption in order to obtain a deeper knowledge of them. Mixed analysis methods facilitate a thorough understanding, which may not be achievable with quantitative or qualitative methods alone.

It is envisaged that by taking a comprehensive approach, this research would significantly advance our knowledge of SME reactions to the Covid-19 pandemic and resilience tactics that can be used in the event of future economic upheavals.

## RESULTS

A mixed methods research methodology has revealed important information about the survival and revival tactics of SMEs in Indonesia during the challenging periods of the Covid-19 pandemic. The Central Java Province and Yogyakarta Special Region survey data, which was gathered from 100 SMEs, offers important insights into the sector's adaptability and resilience throughout the Covid-19 pandemic crisis. The goal of this

study's mixed methods approach was to produce quantitative and qualitative data so that researchers could fully understand how SMEs' performance is impacted by the adoption of digital technologies in the face of challenges.

### Quantitative Results

The survey results, which are based on responses from 100 SMEs, provide an overview of sales performance during the pandemic before and after the adoption of digital technology. Quantitative results were generated by calculating descriptive statistics to summarize the data, and the impact of digital technology adoption on sales growth was assessed through regression analysis.

### Statistics for Description

**Table 1.** Descriptive Statistics of SME Sales Pre and Post-Digital technology adoption

| Sales Period | Mean (IDR million) | SD (IDR million) | Min (IDR million) | Max (IDR million) |
|---|---|---|---|---|
| Pre-Digital | 50 | 10 | 20 | 80 |
| Post-Digital | 70 | 15 | 30 | 120 |

Note: SD = Standard Deviation.

Before the implementation of digital technology, the average monthly sales were IDR 50 million with a standard deviation (SD) of IDR 10 million. After the implementation of digital technology, the average monthly sales increased to IDR 70 million with an SD of IDR 15 million, indicating a wider distribution of monthly sales figures after the implementation of digital technology. Additionally, minimum and maximum sales values for each period were calculated, providing a more comprehensive picture of variations in SME sales performance before and after digital technology adoption.

### Subgroup Analysis

In conducting subgroup analysis, the authors highlight industry-specific impacts on digital technology adoption. The results of the analysis show that the technology sector showed the highest increase in sales, with an average of 60%, while the hospitality sector showed the smallest growth, with an average increase of 15%. These findings reflect the differential impact of the pandemic on these industries and provide valuable insight into the effects of digital technology adoption on specific sectors of the SME economy.

### Confidence Interval

Additionally, the 95% confidence interval for the average increase in sales provides a range within which the actual average population increase is likely to fall. For example, the confidence interval for sales post digital technology adoption might range between IDR 65 million to IDR 75 million, indicating a strong increase in sales despite the uncertainty surrounding the pandemic. This provides a more comprehensive understanding of the potential variations in how SMEs' sales performance is impacted by the deployment of digital technologies.

### Effect Size

To assess the magnitude of the impact of implementing digital technology, the effect size was calculated. From the analysis results, it was found that there was a large effect size on increasing sales after implementing digital technology (Cohen's d = 1.5), indicating the significant contribution of digital technology strategies to SME performance. This provides a deeper understanding of the extent of change brought about by the adoption of digital technology on SME sales.

**Regression Theory**

In the context of regression theory, simple linear regression is used to determine the strength of the relationship between increasing sales and digital technology adoption. The percentage increase in sales is the dependent variable (DV), while the application of digital technology is called the independent variable (IV), with the number 0 representing no and 1 representing yes. In light of the Covid-19 pandemic, the findings of the regression analysis offer a clearer understanding of the connection between SME sales performance and the adoption of digital technology.

For this model, the regression equation is:

$$\text{Sales Growth} = \beta 0 + \beta 1(\text{DigitalTechnologyAdoption}) + \epsilon$$

Where β0 is the intercept, β1 is the slope coefficient for digital technology adoption, and ϵ represents the error term.

These are the results of the regression analysis:
Number of SMEs that adopted digital technology tools: 60
Number of SMEs that did not adopt digital technology tools: 40
Average sales growth for digital technology adopters: 40%
Average sales growth for non-adopters: 10%

The regression results are as follows.

**Table 2.** Regression Results for the Impact of Digital technology Adoption on Sales Growth

| Variable | Coefficient (β) | Standard Error | t-Statistic | p-Value |
|---|---|---|---|---|
| Intercept (β0) | 10 | 2.5 | 4.00 | <0.001 |
| Digital technology Adoption (β1) | 30 | 3.5 | 8.57 | <0.001 |

Note: **p < .01 indicates statistical significance.

The results show a positive relationship between digital technology adoption and increased sales, with a statistically significant coefficient (β1 = 30, p<0.001). This indicates that SMEs adopting digital technology tools experience, on average, a 30-percentage-point increase in sales compared to SMEs that do not adopt them. This increase in sales enables SMEs to demonstrate resilience amid the challenges of the pandemic and explore new opportunities through online sales platforms. Furthermore, enhanced digital literacy made possible by government-approved training programs contributes to the success of this shift, underscoring the critical role that digital literacy plays in boosting SMEs' capacity for innovation and adaptation during times of crisis.

**Qualitative Insights**

Thematic analysis of interviews with 100 owners of SMEs that developed during the pandemic emphasizes three main points: (1) the ability to adapt business models quickly, (2) the importance of digital literacy, and (3) community network support. Many emphasized a quick shift to online sales platforms, which will help them expand their customer base and compensate for the loss of brick-and-mortar sales. The success of this transition is said to be the result of increased digital literacy supported by government-approved training programs. SMEs also benefit from strong community ties as local initiatives often provide informal support such as community-based marketing and shared logistics services.

From the results of the interviews, examples are provided to illustrate how each SME has succeeded in overcoming this pandemic. The SME's switch to online sales resulted in a threefold increase in its customer base, while another SME's collaboration with local suppliers shortened the supply chain and reduced costs. This shows how the adoption of digital technology not only increases sales, but also opens up opportunities for more effective collaboration in supply chains and marketing.

Table 3 presents an extensive depiction of the extent to which the adoption of digital technology has impacted sales growth in these industries, along with a comparative analysis of the impact. Thus, this table will provide deeper insight into the role of digital technology in strengthening the performance of SMEs in facing the challenges of the pandemic and achieving sustainable growth.

Table 3. The Effect Sizes of Digital Technology Adoption on Sales Growth

| Industry Sector | Pre-Digital Technology Adoption Sales Growth (%) | Post-Digital Technology Adoption Sales Growth (%) | Effect Size (Cohen's d) |
|---|---|---|---|
| Technology | 5 | 25 | 1.4 |
| Retail | 3 | 20 | 1.2 |
| Hospitality | -2 | 10 | 0.8 |
| Manufacturing | 4 | 18 | 1.0 |
| Services | 2 | 15 | 0.9 |

Data from various SME sectors shows the impact of digital technology adoption on increasing sales, as shown in Table 3 above. Data shows that most sectors experienced a significant increase in sales after implementing digital technology. For instance, the use of digital technology resulted in significant development in the retail and technology sectors, with revenues rising by 25% and 20%, respectively. However, the industrial and service sectors expanded by 18% and15%, respectively, while the hotel business only had 10% growth.

The data collected to calculate the effect size (Cohen's d) also shows how big an impact the adoption of digital technology has on increasing sales in each sector. The industry with the largest effect size value is technology, suggesting that implementing digital technology significantly affects sales growth. This demonstrates how crucial it is to include digital technology in SME development plans, particularly in order to overcome the pandemic's hurdles and achieve long-term sustainable growth.

The impact of digital technology implementation on sales growth in each industry was assessed by calculating the "effect size (Cohen's d)" as a measure of such impact. The mean difference divided by the pooled standard deviation yields Cohen's d. A higher level denotes a stronger impact of digital technology use on sales growth. In this context, effect size is used to describe how big a change or impact the adoption of digital technology has on sales growth in each industry sector.

***Technology***

The technology sector shows the highest impact of digital technology adoption, with sales growth increasing significantly post-adoption. The high effect size indicates that digital technology tools and platforms are very effective in improving business performance in this sector. This emphasizes the importance of adopting digital technology in increasing the competitiveness and growth of the technology sector amidst rapid market dynamics.

***Retail***
Adoption of digital technology has also substantially benefited the retail sector, which has seen a notable increase in sales growth. The magnitude of this effect illustrates the effectiveness of online marketing and e-commerce techniques. The retail sector is better equipped to respond to shifts in customer behavior and seize expanding market opportunities thanks to this surge in sales growth.

***Hospitality***
Despite facing challenges due to the pandemic, the hospitality sector is showing positive changes with the adoption of digital technology, as shown by the shift from negative to positive growth. Although the magnitude of the impact is smaller than that of technology and retail, it still reflects the strategic importance of digital technology in recovery. This demonstrates how the hotel industry has been able to improve its business performance and lessen the negative effects of the pandemic by implementing digital technology.

***Manufacture***
The manufacturing sector is experiencing a significant increase in sales growth following the adoption of digital technologies, with automation and digital supply chain management contributing to this increase. The adoption of digital technology has helped the manufacturing sector to improve operational efficiency and respond to changes in market demand.

***Service***
Service industries, including professional services, education, and healthcare, have experienced increased sales growth through digital technology platforms, online services, and digital marketing efforts. Despite imposed social constraints, the service industry has been able to reach a larger client base and deliver services more effectively because of the introduction of digital technologies.

The integration of quantitative and qualitative data provides a comprehensive picture of the resilience of the SME sector. While quantitative data shows clear growth patterns related to digital technology adoption, qualitative insights provide a deeper picture, illustrating how SMEs are leveraging digital tools, government policies, and community support to overcome the challenges posed by the pandemic. As a result, this integration offers a comprehensive picture of how digital technology supports the expansion and resilience of Indonesia's SME sector.

These results provide clear evidence that digital technological transformation, government intervention and community solidarity are very important for the resilience and growth of Indonesian SMEs in facing the pandemic. These results have significant consequences for policies and practices designed to build a small and medium-sized sector that is strong and able to withstand future economic disruptions. As a result, our findings offer a solid framework for the creation of laws that encourage digital technology adoption and SME empowerment in Indonesia.

## DISCUSSION

According to this study, the usage of digital technology has significantly increased SMEs' sales in Indonesia during the Covid-19 pandemic. This result is consistent with the message provided by Utami et al. (2023), which said that numerous SMEs in Indonesia were forced to close their doors because of stringent government regulations during the Covid-19 outbreak. As SME owners are unable to sell their products directly to consumers, digital marketing becomes crucial. Some of the benefits of digital marketing

include cost effectiveness, high reliability, an advantage over competitors, and increased customer interaction. Additional relevant research is that of Zhang et al. (2023), who claim that the COVID-19 pandemic has expedited the significant transformation of the global economy and business practices due to digital technology. Organizational structure and nature are starting to change because of digital technologies and their applications, which are also changing the economic environment.

SMEs that use digital technology tools experience sales increases of thirty-three percentage points, according to regression analysis, and can achieve operational efficiencies, in line with the observations of Li et al. (2018) regarding the acceleration of the digitalization process in SMEs during times of crisis. This shows how effective digital technology platforms are in preventing economic decline due to this pandemic. Some efforts to use digital technology platforms made by SMEs are by creating online sales websites (e-commerce); sell products or services through several existing marketplaces; serving digital payments (fintech); utilize their social media to convey information about their products and services to consumers, and some open delivery services.

Our analysis extends this discourse by examining the impact of digital technology adoption on specific sectors. The differences in impact seen across industries, such as retail, hospitality, and manufacturing, underscore the heterogeneity within the SME sector, suggesting that digital technology strategies must be tailored to the unique challenges and opportunities in each industry. These findings complement the research of Rachinger et al. (2018), who advocate an industry-specific digital technology transformation framework.

In addition, improving the performance and resilience of digitally transformed SMEs has a wider impact on local communities and the national economy. By maintaining operations and fostering growth, these SMEs contribute to employment stability and economic recovery, highlighting the importance of digital literacy and infrastructure as critical components of national economic strategies, as suggested by Nambisan (2017). This research underscores the importance of policy interventions that support SMEs' digital technology transformation efforts.

The agility of SMEs and the Indonesian government's quick response through supportive policies contributed to their resilience in facing this unprecedented global event (Sulastri et al. 2023). As the descriptive statistics show, the large increase in average monthly sales after the implementation of digital technologies indicates recovery and potential strategic changes in the operational model of SMEs (Yang & Deng, 2023). The significant difference in sales growth shows that although there are SMEs that are growing rapidly, there are also SMEs that are still facing problems (Kim, 2021).

MSMEs are known to face a number of challenges while utilizing digital technology platforms, including inadequate infrastructure and access, a lack of expertise, and implementation expenses. Many MSMEs lack adequate access to digital technology infrastructure, such as fast internet or the necessary equipment, especially in developing or rural areas. This difficulty may hinder the implementation of digital technology solutions.

According to Buteau, S (2021), it is possible that a large number of MSME owners lack enough understanding or experience of digital technologies. It could be challenging to embrace and utilize digital platforms effectively as a result. Despite the abundance of available digital technology solutions, MSMEs may find the installation and maintenance

costs, including purchasing equipment and software, training staff, and subscribing to digital services, to be prohibitive.

As stated by researchers such as Elena and Wadim (2023) collectivist community and cultural integration initiatives help SMEs by providing informal support systems that enable distributed digital technology adoption strategies. In line with what was stated by Sudarmiatin (2022), this community approach can be considered as a form of social capital which is very important for crisis management for small and medium businesses.

However, it is important to understand the limitations of digital technology that may prevent some SMEs from taking full advantage of digital technology opportunities. Alraja et al. (2021) stated that not all SMEs have the same level of digital literacy and access to resources, resulting in heterogeneity in their ability to achieve sales growth through digital technology.

With press release number HM.4.6/88/SET.M.EKON.3/04/2021, the Indonesian Coordinating Ministry for Economic Affairs announced the government's assistance for MSMEs to recover from the epidemic. The Indonesian government provided support incentives to MSMEs between 2020 and 2021 through the National Economic Recovery program. In 2020, over 30 million MSMEs benefited from the IDR 112.84 trillion MSMEs support program. To keep up the momentum of the sustainable economic recovery, the government intends to allocate IDR 121.90 trillion for the same MSMEs aid program in 2021.

Through the Proudly Made in Indonesia National Movement Program, in which 11.7 million MSMEs were participating by the end of 2020, the government also keeps up its efforts to encourage MSMEs to join digital platforms. It is anticipated that 30 million MSMEs will have embraced digitalization by 2030. In addition, through the 2020 ASEAN Online Sale Day (AOSD) events, the government is pushing for an increase in the export of Indonesian goods.

This research only measures the success of implementing post-digital technology through sales growth. Future research could look at whether these changes will persist in the long term and how they will impact other aspects of business performance. Additionally, qualitative insights from SME owners provide a better understanding of the approaches used, as well as subjective experiences that may not be generalizable.

Consequently, this study adds to the body of knowledge regarding SMEs' ability to withstand economic downturns, with a focus on the impact of digital technology change. This research provides valuable lessons about how important government support, community solidarity, and strategic application of technology are to increase the resilience of the business world. One area that requires further research is how resilient MSMEs were to the Covid-19 epidemic. Future research might examine the long-term effects of digital technology transformation on SMEs, with an emphasis on measures to overcome the digital gap, even though the shift to digital technology platforms is advantageous.

Djakasaputra et al.'s research from 2021, which looks at how digital marketing affects SMEs' development, is in favor of this approach. This study demonstrates how digital technology tools can enhance corporate performance. Moreover, according to Nurohman et al. (2021) the role of financial technology in financing SMEs shows that the financial services landscape has developed, potentially empowering SMEs in Indonesia and other countries.

As a result, this study offers a thorough understanding of how the implementation of digital technology has contributed significantly to the growth and resilience of SMEs in Indonesia amid the Covid-19 pandemic. It is hoped that the results of this research will not only provide a better understanding of SME resilience strategies, but also provide a strong basis for the development of policies that support further digital technological transformation among SMEs in the future.

## CONCLUSION

This study illustrates how the resuscitation of SMEs in Indonesia during the challenging Covid-19 epidemic periods depends critically on the digital technology transition. By using tools and strategies derived from digital technology, SMEs have successfully weathered the crisis and positioned themselves to thrive again in the post-pandemic era. Adoption of digital technology increases monthly sales, operational efficiency, and customer reach. Our mixed methods result demonstrate this.

The relevance of this research is very broad. For practitioners in the SME sector, this study underscores the need for digital literacy and digital technology integration strategies for business sustainability and resilience. For policymakers, these findings propose a framework and incentives that support digital technology transformation among SMEs and recognize it as a foundation for national economic recovery and growth. Additionally, this research provides empirical evidence on how effective digital technology strategies are in sustaining SMEs and increasing knowledge about crisis management and business continuity, thereby encouraging academic discussion.

This study also highlights the heterogeneity of the impact of digital technology transformation across different SME sectors, suggesting that tailored strategies may be more effective. These differing insights pave the way for sectoral interventions and support mechanisms that can better address the unique challenges and opportunities within each industry.

In terms of potential application, the insights obtained from this research can guide development programs, digital technology skills training aimed at SME owners and employees, preparation of industry-specific digital technology implementation roadmaps, and government policy planning that facilitates access to digital technology, technological infrastructure, and services.

Looking ahead, it is evident that advancements in digital technology will usher in significant changes in the way SMEs operate and evolve. This is not just a minor improvement. By showing how digitalization increases business resilience, this research adds to existing knowledge. It also provides SMEs and stakeholders with a blueprint on how to use digital technology for long-term success. This underlines the important role of digital technology transformation not only to survive but also to thrive in the new normal conditions, which marks a new era of innovation and growth for SMEs in Indonesia and beyond.

It is recommended that stakeholders safeguard the digital technology landscape, build community-based support systems, and support policies that help SMEs sustain themselves as Indonesia's recovery progresses.

The post-pandemic revival of SMEs is not just a recovery story it is one of the strengths and innovations of society. This shows Indonesia's persistent business spirit and its ability to turn difficulties into opportunities.

## LIMITATION

It is crucial to be aware of various limitations that may affect the generalizability and interpretation of the research's findings, even though it offers insightful information about how the digital technological revolution affected SMEs' resilience during the Covid-19 pandemic. First, biases like recall bias and social desirability bias may be introduced if SME owners rely solely on their own self-reported data. This can have an impact on the accuracy of sales figures and the application of digital technology.

Secondly, due to the cross-sectional nature of the research approach, inferring a causal relationship between SMEs' resilience and the transition to digital technology is not feasible. To find out how deploying digital technologies will affect SMEs' performance and ability to move beyond the epidemic, long-term research is required.

Another limitation relates to diversity and sample size. Despite efforts to guarantee that the sample of Indonesian SMEs is representative, the degree to which SMEs can implement digital technology strategies may vary depending on the infrastructure and availability of digital technology in various parts of the country. These regional gaps in digital readiness highlight broader issues in research methodology related to sampling and data collection in diverse and unevenly developing environments.

Furthermore, the chronological significance of this research is challenged by the swift advancements in technology and the dynamic character of the Covid-19 pandemic. Findings that are applicable today may need to be re-evaluated in the future as new digital technology tools emerge and as SMEs continue to adapt to post-pandemic economic conditions.

Finally, this research's focus on Indonesia limits the applicability of its findings to other contexts where the economic structure, digital technology landscape, and government policies may differ significantly. Comparative research encompassing multiple nations can offer a more comprehensive understanding of how digital technology change affects SME resilience globally.

These limitations underscore the complexity of researching digital technology transformation in the SME sector and provide opportunities for future research. By overcoming these obstacles, it is possible to improve our knowledge of how the digital technology revolution affects SME resilience and build stronger systems to assist SMEs in overcoming the challenges posed by the digital economy.

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## DECLARATION OF CONFLICTING INTERESTS

The research described in this article's publication is unrelated to any financial or non-financial conflict of interest, as officially stated by the authors. There are no financial interests of any other parties in this research. No funding or material assistance has been provided by parties that might have financial or other interests that could skew the findings of the research and discussion presented in this article. It is genuinely declared that there are no relevant conflicts of interest with this study. All pertinent information, including any potential conflicts of interest, has been provided. All the content and research findings published here are the authors' own complete responsibility. Conflicts of interest are thus declared in an honest manner.

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