Accelerating Digital Transformation during the COVID-19 Pandemic: A Model Design for Indonesian MSMEs

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ABSTRACT

The acceleration of digital transformation and business model innovations fundamentally improves business growth and performance. However, the occurrence of the COVID-19 pandemic has a significant influence on the insecurity of many business actors, especially Micro Small Medium Enterprises (MSMEs). There are many efforts to recover the national economy by accelerating digital transformation for MSMEs programs by the government of the Republic of Indonesia. However, the problem arises when the process of accelerating digital transformation in Indonesian MSMEs is considered slow to encourage Indonesia's National Economic Recovery (PEN as shortened in Indonesian) during the COVID-19 pandemic. The research aimed to present a design model for accelerating digital transformation during the COVID-19 pandemic for Indonesian MSMEs. The research applied a descriptive-analytic approach with a qualitative method. Then, the analysis reviewed the content analysis of previous research. The two research models were analyzed. One was from Indonesia, while another one was from outside Indonesia. The results of the model design reveal that the acceleration of digital transformation is influenced by business driving factors and impacts the gaining value from business model innovations. The model of accelerating digital transformation for MSMEs is expected to contribute significantly to supporting government programs and strengthening National Economic Recovery policies during the COVID-19 pandemic.

Keywords: digital transformation, model design, Indonesian MSMEs, COVID-19 pandemic

INTRODUCTION

The COVID-19 pandemic has a global impact with a high rate of spread. It affects various aspects of people's lives, including business, banking, and finance sectors, and many other essential industries (Qarnain, Muthuvel, & Bathrinath, 2021). Moreover, the economy of many countries has been disturbed by unpredictable economic conditions since the pandemic (Chakraborty & Maity, 2020). However, the COVID-19 Pandemic can be the momentum to accelerate digital transformation for Micro, Small and Medium Enterprises (MSMEs) in Indonesia (Kementerian Keuangan Republik Indonesia, 2021).

The acceleration of digital transformation is the answer to ensuring the movement of productive economic sectors during the COVID-19 pandemic (Kudyba, 2020). Digital technology, through digital transformation, plays a significant role in the future success of various industries, especially the management of MSMEs (Rupeika-Apoga, Bule, & Petrovska, 2022). Moreover, MSMEs with the ability to adapt to their environment will have dynamic capabilities. A dynamic business environment, consumers' preferences, and people's rapidly changing lifestyles create a dynamic market that requires MSMEs as business players to have dynamic capabilities to survive in an ever-changing market situation (Liliani & Wiliana, 2018). Dynamic capabilities are appropriate and the most important

in this turbulent environment during the COVID-19 pandemic.

MSMEs have proven to be one of the business sectors with resilience to the economic crisis during the COVID-19 pandemic, which is why MSMEs must accelerate the digital transformation process. Since the COVID-19 pandemic, the government of the Republic of Indonesia has taken several steps to strengthen the resilience of MSMEs. One of them is the National Economic Recovery (PEN as shortened in Indonesian) program aims to protect, maintain, and strengthen entrepreneurs' abilities to manage their businesses (Abidin, 2021). In Indonesia, relating to the digital economy, the government tries to encourage the recovery of the national economy (Legowo, Sorongan, & Subanidja, 2021). According to Kementerian Keuangan Republik Indonesia (2021), the funds allocated for the scheme amount to 123,46 trillion Rupiah, but the realization is 91,84 trillion Rupiah or around 74,39%.

Increasing financial inclusion is one way to encourage the performance of MSMEs in the recovery of the national economy. MSMEs are very important for the economic progress of developing countries, such as Indonesia. It is stated that MSMEs have become the backbone of the Indonesian and ASEAN economies (Jauhari & Periansya, 2021). Financial inclusion is a strategy for assuring easy access to financial services while allowing the general people to participate in long-term economic growth. Financial inclusion is one of the influential external factors in realizing digitalization in the business world, especially for MSMEs. According to Otoritas Jasa Keuangan (2020), In 2019, the financial literacy index reached 38,03%, and the financial inclusion index reached 76,19%. It is said to be an increase compared to the results of the 2016 OJK survey, namely the financial literacy index of 29,7% and the financial inclusion index of 67,8%. Furthermore, this trend is projected to continue to increase in the coming years.

Then, there is also a program called MSMEs Go-Digital. It is a program of the Indonesian government that is needed for the real change of MSMEs in doing business. The government has a target of around two million of Go-Digital MSME players. However, it cannot be done alone by the Indonesian government. It needs synergy with the business world (CNN Indonesia, 2021).

Based on Rêgo et al. (2021), the dominating paradigm that is evolving is digital transformation. It is thought to ensure the organization's survival and prosperity in the new technological era. The digital transformation process applies digital technology phases and digital transformation strategies (Kaur & Bath, 2019). According to Verhoef et al. (2021), digital transformation is divided into three phases: digitization, digitalization, and digital transformation. Meanwhile, external driving factors influence this digital transformation phase and impact the strategic imperative of digital transformation. Similarly, based on Holtström (2022), the transformation strategy is a driver for business model innovation.

MSMEs' digital transformation acceleration, which includes the digitalization program, is marked by creating, changing, and refining new business models and obtaining new business value for their businesses. External and internal business drivers influence the acceleration of digital transformation. External business drivers are the main factors to drive business activities from external that impact a company's operational and financial performance. Bank, financial services regulators, and FinTech companies are significant entities in accelerating digital transformation for MSMEs. For example, banks, as financial intermediaries, guarantee that resources are allocated efficiently in the economy. Otoritas Jasa Keuangan (OJK) 'Financial Services Authority' acts as a regulator in financial services by issuing policies, legislation, and regulations. Then, FinTech is developed by various startups as a technology service and digitalization support for their business (Legowo, Subanidja, & Sorongan, 2020)

An internal business driver is a driving factor in an organization and something that a company must manage. According to Verhoef et al. (2021), firms seeking to shift digitally must purchase or build talents as internal business drivers in addition to digital assets. MSMEs, especially amid the COVID-19 pandemic, must have dynamic capabilities to adapt to an uncertain business environment. Understanding the dynamic capability is the best way to explain the phenomenon of MSMEs businesses, which is especially crucial in today's uncertain environment (Legowo, Indiarto, & Prayitno, 2021a). Dynamic capability is an organizational capability that allows for changing capabilities, especially in an unsteady business environment (in this case, the COVID-19 pandemic) (Vu, 2020). The dynamic capability has several dimensions (Cao, Duan, & El Banna, 2019). First, sensing capabilities are necessary to discover the advantages and disadvantages of an enterprise model. Second, seizing capabilities is something to complement and take advantage of opportunities through business models. Third, reconfiguration capabilities are to reorganize and adapt an organization's structure and operations and reflect the resources used to adopt a new business model. The development of several key dynamic capabilities within SMEs to implement business model innovation is an applicable approach to handle during the COVID-19 and post-COVID-19 pandemic management (Ibarra, Bigdeli, Igartua, & Ganzarain, 2020).

Next, a business model is a company's way of creating, changing, and improving business value (Teece, 2018). Business organizations will achieve value creation, proposition, and capture when they innovate in their business models (Sjödin, Parida, Jovanovic, & Visnjic, 2020). Strategic imperatives are defined as part of the organization's priority program to support business objectives (Kotsenas et al., 2018). According to Verhoef et al. (2021), digital resources, management structure, intensive growth strategies,

measurement, and goals are indicators of the strategic imperatives in digital transformation. Business model innovation is a strategic imperative that business organizations use to gain a competitive advantage. It addresses changing business conditions and strategic transformation (Holtström, 2022). It also refers to the internal processes of business organizations, such as MSMEs related to external driving entities. Then, it is related to developing and acquiring a business value by MSMEs. According to Ibarra et al. (2020), it is stated that managers in SMEs need to consider their management approach toward implementing business model innovations actively.

The problem of the slow process in accelerating the digital transformation and the issue of business drivers factors in the MSMEs are considerations to encourage Indonesia's National Economic Recovery in the COVID-19 pandemic. In carrying out the acceleration of digital transformation, many MSMEs continue to disregard the impact of external business drivers and their dynamic capacities as internal drivers. In addition, the lack of understanding of digital transformation impacts the lack of development of MSMEs' business model innovations.

Several researchers have previously investigated the digital transformation acceleration model. These studies are used as references and analyzed in the research. Verhoef et al. (2021) aimed to identify and describe growth strategies for companies with the assets and capability to accelerate digital transformation. The external drivers of digital transformation influenced digital transformation and impacted the digital transformation's strategic imperatives. Moreover, Widnyani, Astitiani, and Putri (2021) applied a qualitative research with content analysis to build a predictive model for digital transformation for SMEs in Denpasar, Bali. The results revealed that the main driver of digital transformation acceleration for SMEs was external drivers. The findings also showed that SMEs' digital transformation had become a strategic imperative for their decision to implement digital transformation.

In the research, the digital transformation acceleration model for MSMEs refers to the efforts made by the government through the launched program. These efforts to improve the target of the MSME digitalization program increase the level of financial inclusion for National Economic Recovery and MSMEs' resilience during the COVID-19 pandemic.

State of the art refers to a novelty required in research endeavors that are not duplicated or replicated. It is shown in Figure 1. The involvement of business driving factors (external and internal) will affect the acceleration of digital transformation for MSMEs. Then, it will impact business model innovation as a strategic imperative in the research. As a result, the research aims to present a design model for accelerating digital transformation during the COVID-19 pandemic for Indonesian MSMEs. This model of accelerating digital transformation for MSMEs is expected to contribute significantly to supporting government programs and strengthening National Economic Recovery policies during the COVID-19 pandemic.

METHODS

A descriptive-qualitative research method seeks to develop a theoretical model design. The analysis in the research reviews the content analysis of previous research. It consists of scanning the literature in detail on the subject to identify the core problems and understand the model developed (Widnyani et al., 2021).

A qualitative method is the right approach to exploring and understanding phenomena (Creswell, 2017). Furthermore, the research answers problems related to research on digital transformation acceleration. Selecting a case study to explore is an appropriate way for the method. The results are achieved by analyzing and reviewing several previous study models (Yin, 2014). Furthermore, the analysis
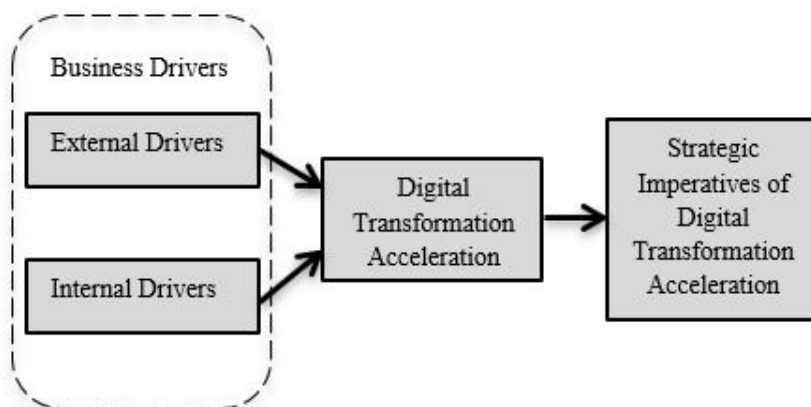

Figure 1 State of the Arts
(Source: Researchers, 2022)

will be the basis for designing the proposed model to support government programs.

In conducting a literature review of research, the researchers determine the research topic that will be suitable for the research objectives. Then, the researchers analyze the developed research model by knowing the advantages and disadvantages of the model. Finally, the researchers use the appropriate variables to build the research model and the proposed research hypothesis. The research analyzes the two research models from previous studies that are from easily accessible journals. Both have topics related to the acceleration of digital transformation from outside Indonesia (Verhoef et al., 2021) and from Indonesia (Widnyani et al., 2021).

RESULTS AND DISCUSSIONS

The research findings are presented in the form of a digital transformation model analysis from previous studies and the design of a digital transformation acceleration model for Indonesian MSMEs. The model refers to the government efforts and programs for National Economic Recovery in the COVID-19 pandemic. The first result is an analysis of the two previous research models by analyzing the digital transformation acceleration model from Verhoef et al. (2021) and Widnyani et al. (2021).

It starts by analyzing the digital transformation model from Verhoef et al. (2021). This model development aims to reflect on the phenomenon to aid in understanding the digital transformation by providing strategic imperatives (Verhoef et al., 2021). This model has three specific goals. First, it identifies what external factors can strengthen the need for digital transformation. Second, it talks about the strategic imperatives that have arisen in digital transformation, such as the requirement for digital resources and a hierarchical organization, a strategy for growth, and the need for measurement metrics. Third, it generally represents the research agenda future of digital transformation. Figure 2 illustrates the developed model.

This model has discrepancies and weaknesses in becoming the digital transformation acceleration model for MSMEs during the COVID-19 pandemic. First, this model does not aim to accelerate digital transformation, especially for MSMEs. Second, the developed model is unrelated to the economic recovery factor and the COVID-19 pandemic.

Next is the analysis of the digital transformation acceleration model from Widnyani et al. (2021). It aims to understand the importance of a digital transformation model for every SME business in Denpasar, Bali. In particular, it takes advantage of the accelerated momentum due to the social restriction policies imposed during the COVID-19 pandemic.
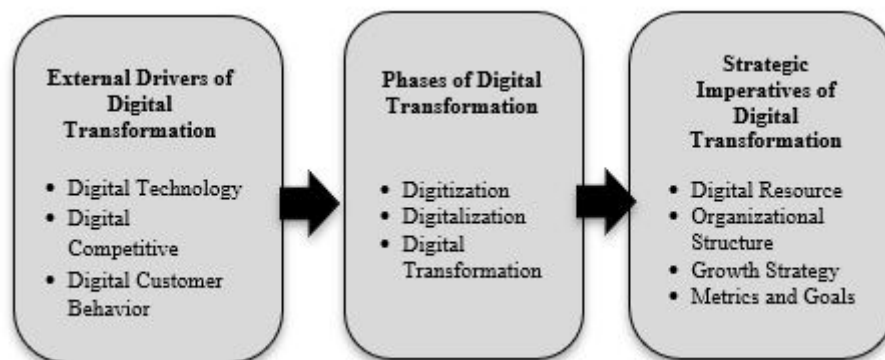

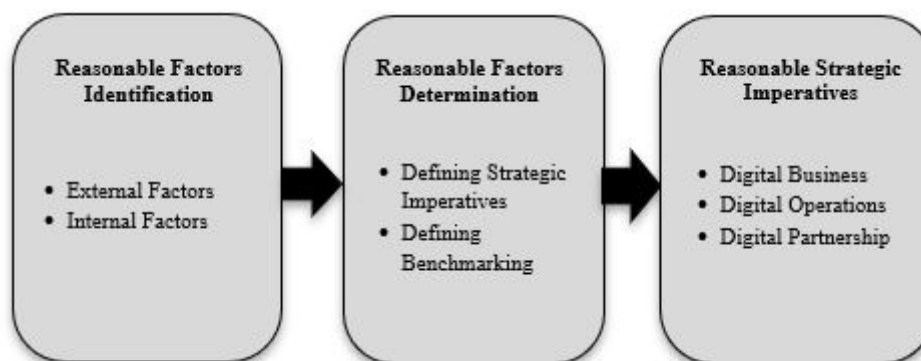Figure 2 The Model of Digital Tranformation by Verhoef et al. (2021)

Figure 3 The Model of Digital Transformation by Widnyani et al. (2021)

This model is also known as Reasonable-Digital Transformation (R-DT Model). Then, the outcomes of this development model state that the primary driver for SMEs to adopt digital transformation (external and internal drivers) have not been found, especially in the COVID-19 pandemic. Then, the digital transformation of SMEs has established a strategic imperative to carry out digital transformation. Moreover, some of the company's operations are converted to digital through digital transformation. Figure 3 depicts the developed model.

There are several weaknesses in this model. First, this model is developed for the regional scope (Denpasar, Bali), not Indonesian SMEs as a whole. Second, the lack of impact of internal driver factors relates to MSMEs' low resilience during the COVID-19 pandemic. Third, this model is not directly related to the efforts and programs of the Indonesian government to encourage economic recovery during the COVID-19 pandemic.

The second result of the research is the design of the digital transformation acceleration model. The design of the digital transformation acceleration model is developed based on the analysis and study of various models from previous studies. The digital transformation acceleration model for Indonesian MSMEs, especially during the current COVID-19 pandemic, is one of the efforts to encourage National Economic Recovery. This model reveals the impact of external business forces on the accelerating digital transformation, such as banks as financial intermediaries providing MSME financing support, regulations from financial regulators (OJK and Bank Indonesia as a central bank), and FinTech industry support for MSMEs. If it continues, it will encourage the programs to increase financial inclusion (Legowo, Prayitno, & Indiarto, 2021). Second, MSMEs' resilience as internal business drivers is very influential in the implementation of the acceleration of digital transformation in the COVID-19 pandemic (Legowo, Indiarto, & Prayitno, 2021b). Third, acceleration of digital transformation or digitization of MSMEs affects creating, changing, and improving values by developing business model innovations (Legowo, Indiarto, & Prayitno, 2021a). If the acceleration of the digital transformation of MSMEs goes fast, the achievement of the target for the MSMEs' digitalization program in Indonesia will be even better. Figure 4 depicts the proposed digital transformation acceleration model.

The proposed digital transformation acceleration model has four variables. The external business driver (X1) consists of three indicators: financial intermediary, financial regulators, and financial technology. Then, the dynamic capability (X2) as an internal driver also has three indicators: sensing, seizing, and reconfiguring. Meanwhile, the digital transformation acceleration (Z) as an intervening variable has three indications: create, change, and improve for business innovation. Finally, the business model innovation (Y) consists of three indicators: value creation, value proposition, and value capture.

This model shows a significant contribution to Indonesia's National Economic Recovery in the COVID-19 pandemic. This innovation strategy is now urgently needed by MSMEs to encourage the achievement of the target of the MSME Go Digital program from the Indonesian government. Furthermore, based on the presented model, the following hypotheses are developed (see Figure 5).
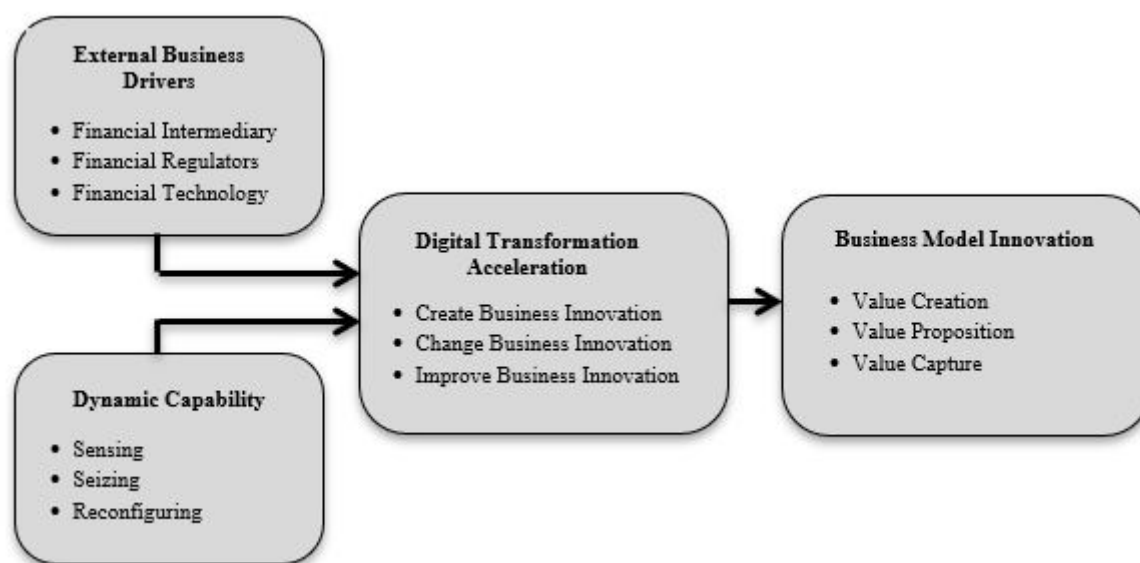

Figure 4 Model of Digital Transformation Acceleration for Indonesia MSMEs during COVID-19 Pandemic
(Source: Researchers, 2022)

Regulatory changes and digital shifts in the industry are external drivers that have implications for an organization's digital transformation (Osmundsen, Iden, & Bygstad, 2018). So, the first hypothesis (H_1) is that external business drivers impact the acceleration of digital transformation. Then, there is a relationship between dynamic capability as an internal driver and aspects of digital transformation (De Mendonca & De Andrade, 2018). Hence, the second hypothesis (H_2) is that internal business drivers impact the acceleration of digital transformation.

According to Pucihar, Lenart, Borštnar, Vidmar, and Marolt (2019), the external drivers influence business model innovation. So, the third hypothesis (H_3) is external business drivers' impact on business model innovation. Then, based on Rachinger, Rauter, Müller, Vorraber, and Schirgi (2019), dynamic capabilities as an internal driver impact business model innovation. Hence, the fourth hypothesis (H_4) is that internal business drivers impact business model innovation. Next, there is a significant effect of digitalization on the innovation of the SME business model (Bouwman, Nikou, Molina-Castillo, & De Reuver, 2018). Therefore, the fifth hypothesis (H_5) is that acceleration of digital transformation impacts business model innovation.

Moreover, digitalization has a role in mediating the influence of external business factors on the application of business model innovations (Legowo, Sorongan, Subanidja, 2021). So, the sixth hypothesis (H_6) is that external business drivers influence business model innovation mediated by accelerating digital transformation. Last, the influence of internal business drivers on the implementation of business model innovation can be mediated by the role of digitalization (Legowo, Indiarto, & Prayitno, 2021a). Hence, the seventh hypothesis (H_7) is that internal business drivers influence business model innovation mediated by accelerating digital transformation. In testing the hypothesis later, empirical findings of H_6 and H_7 will be interesting to discuss and can be a novelty in future research.

The research of Verhoef et al. (2021) aims to identify and describe growth strategies for companies with the assets and capability to accelerate digital transformation. The external drivers of digital transformation influence digital transformation and strategic imperatives of digital transformation. Meanwhile, the research of Widnyani et al. (2021) is qualitative, using content analysis to build a predictive model for digital transformation for SMEs in Denpasar, Bali.

The research refers to the two previous related studies to develop a digital transformation acceleration model during the COVID-19 pandemic for MSMEs in Indonesia. However, the analysis results of these two studies cannot be used as a reference because it has advantages and disadvantages. In the research of Verhoef et al. (2021), the advantage is that it discusses the external drivers of digital transformation that can influence the phases of digital transformation, which then impact the strategic imperatives of digital transformation. Meanwhile, the disadvantages of this model are that it is specifically not applied to MSMEs. The research is not located in Indonesia and does not discuss the COVID-19 pandemic. Meanwhile, the research of Widnyani et al. (2021) has advantages in its research model, which discusses the application of digital transformation to SMEs during the COVID-19 pandemic in Denpasar, Bali, Indonesia. However, the model has shortcomings in discussing the acceleration of digital transformation, and the internal driving factors are lacking in detail. Although the research has been conducted in Indonesia, it does not have anything to support the government program during the COVID-19 pandemic.

Another discussion in the research is related to the design results of the digital transformation acceleration model developed. The main part of the discussion that focuses on developing the research model is business model innovation driven by external and internal business drivers through accelerating digital transformation for MSMEs in Indonesia. The
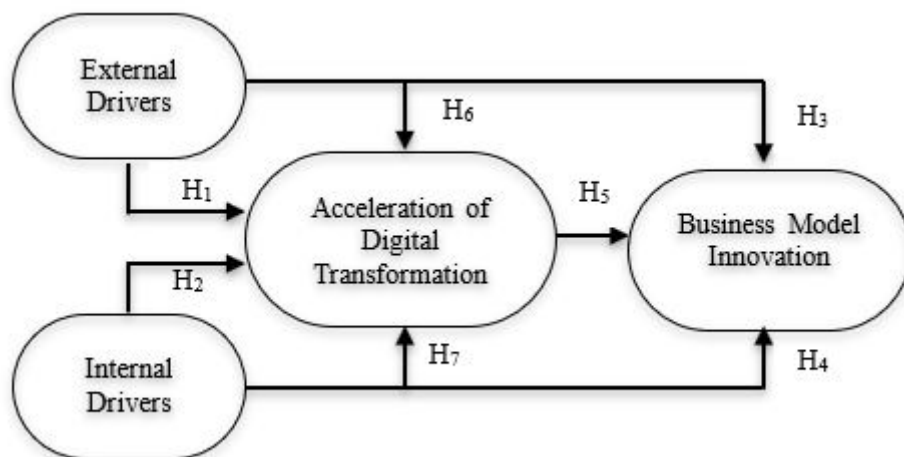

Figure 5 Research Model and Hypotheses Development
(Source: Researchers, 2022)

model building is also based on several previous studies and supports programs from the government. This model clearly represents that the acceleration of digital transformation influenced by business drivers (both external and internal) impacts business model innovation as strategic imperatives. Thus, the influence of external business drivers on the acceleration of digital transformation is indicated to encourage programs to increase financial inclusion (Legowo, Prayitno, & Indiarto, 2021).

According to Otoritas Jasa Keuangan (2020), the index of financial inclusion in Indonesia has risen from 67,8 % in 2016 to 76,3% in 2019. With the application of the research model, it is expected that the financial inclusion index will increase this year. Internal business drivers (dynamic capability in the research) are very influential in the implementation of accelerating digital transformation through the MSMEs' resilience program coordinated by the Ministry of Cooperatives and Small and Medium Enterprises of the Republic of Indonesia, especially during the COVID-19 pandemic. The acceleration of digital transformation, also known as SME digitalization, has an impact on the creation, changes, and improvement of value from the development of business model innovations. It is hoped that the model from the research can be applied to improve the "SME-Go Digital" program by the Indonesian government. It supports the achievement of the government program, which targets around two million MSME players to have implemented the Go-Digital program (CNN Indonesia, 2021). Overall, it can be stated that this digital transformation acceleration model tries to encourage the National Economic Recovery program. It is hoped that the absorption of allocated funds will be increased.

For the research results of developing hypotheses in the future, the test of empirical studies must carry out. In testing the hypothesis later, empirical findings of H_6 and H_7 can be a novelty in future research. These results try to prove whether the acceleration of transformation has a role in mediating the influence of external/internal business drivers on the business model innovation of MSMEs. The empirical results confirm that the research model follows the current phenomenon in Indonesia and supports government programs.

CONCLUSIONS

In conclusion, the results mainly present a development of a digital transformation acceleration model for Indonesian MSMEs during the COVID-19 pandemic. The research focuses on developing the research model. It is a business model innovation driven by external and internal business drivers through accelerating digital transformation for MSMEs in Indonesia. However, the analysis of the previous research model developed by several researchers is not suitable for accelerating digital transformation

for MSMEs in Indonesia. The internal business driver does not influence digital transformation too much. Then, the impact is less meaningful for the imperative strategy, which is less significant for MSMEs during the COVID-19 pandemic.

The results of the digital transformation acceleration model design for MSMEs are developed to support government programs and strengthen national economic recovery policies during the COVID-19 pandemic. The impact of external business drivers on the accelerating digital transformation will encourage government programs to increase the financial inclusion indexes. Meanwhile, the internal business drivers are very influential in the implementation of accelerating digital transformation through the MSME resilience program coordinated by the Ministry of Cooperatives and Small and Medium Enterprises of the Republic of Indonesia, especially during the COVID-19 pandemic. The acceleration of digital transformation, or the digitization of MSMEs, impacts creating, changing, and increasing value from the development of business model innovations. It explains that the effort to achieve the target of the MSME digitization program from the Indonesian government, referred to as the "SME-Go Digital" program, will be achieved more quickly.

The research provides theoretical and practical implications. Theoretically, the model developed from the research has implications for the MSMEs in terms of developing business model innovations. It is the development of innovation theory using digital technology. Theoretically, business model innovation is also a digital transformation's strategic imperative and has implications for the theoretical concept in the current business research.

Meanwhile, the digital transformation acceleration model has practical implications for MSME actors with dynamic capabilities for digitalization applications through government assistance. Moreover, if this model is applied, it will also have implications for financial ecosystem actors in Indonesia, such as the banking sector, MSMEs, or financial regulators (OJK and Bank Indonesia) in making policies related to the digitization of MSMEs.

Despite its essential theoretical and practical implications, the research has various limitations that future researchers can explore to gain more useful insights. The limitation of the digital transformation acceleration model developed is that it only applies to Indonesian MSMEs, especially during the COVID-19 pandemic. The model is material for study and analysis. Another limitation is related to the scope of the analysis study in the digital transformation acceleration model, which suggests that readers should interpret the analysis results with caution when extending it to the wider SME context. For further research, empirical research is very much needed to test the model for accelerating the digital transformation of MSMEs. The development of models that support the Indonesian government program for national economic recovery is also needed.

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