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# BUILDING MSME COMPETITIVENESS ADVANTAGES THROUGH CAPACITY BUILDING OF BUSINESS MODEL INNOVATION

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**Abstract**

Business model innovation is one of the main activities that need to be continuously carried out in companies to maintain competitiveness in today's digital economy. Although research on business models has increased since the 1990s, little is still known about the practice of business model innovation in Small Micro and Medium Enterprises (MSMEs) in Indonesia. This study addresses these research gaps and focuses on investigating the triggers and outcomes of business model innovation in MSMEs. The partial least squares path modeling (PLS-PM) method was used to empirically test the model using data collected in 2021 from 75 MSMEs in Indonesia. The results show that the level of innovation of MSMEs has a positive impact on business model innovation. Incontrast, the business environment and information technology do not have a direct effect on the level of business model innovation. In addition, the results show that the Level of Business Model Innovation has a positive influence on the Business Model Innovation Results and subsequently on the overall business Performance. The results of this study contribute to knowledge in the field of MSME business model innovation and offer useful insights for MSMEs who intend to innovate on their business models.

**Abstrak**

*Inovasi model bisnis merupakan salah satu kegiatan utama yang perlu terus dilakukan di perusahaan untuk mempertahankan daya saing dalam ekonomi digital saat ini. Walaupun penelitian pada model bisnis telah meningkat sejak tahun 1990-an, masih sedikit yang diketahui tentang praktik Inovasi model bisnis di Usaha Kecil Mikro dan Menengah (UMKM) di Indonesia. Penelitian ini membahas kesenjangan penelitian tersebut dan berfokus pada investigasi pemicu dan hasil Inovasi model bisnis di UMKM. Metode partial least squares path modeling (PLS-PM) digunakan untuk menguji model secara empiris menggunakan data yang dikumpulkan pada tahun 2021 dari 75 UMKM di Indonesia. Hasil menunjukkan bahwa Tingkat inovasi UMKM memiliki dampak positif pada Inovasi model bisnis. Sebaliknya, Lingkungan bisnis dan Teknologi informasi tidak memiliki efek langsung terhadap Tingkatan inovasi model bisnis. Selain itu, hasil menunjukkan bahwa Tingkat Inovasi Model Bisnis memiliki pengaruh positif berdampak pada Hasil Inovasi Model Bisnis dan selanjutnya pada Performa bisnis secara keseluruhan. Hasil penelitian ini berkontribusi pada pengetahuan di bidang Inovasi model bisnis UMKM dan menawarkan wawasan yang berguna untuk UMKM yang berniat untuk berinovasi pada model bisnis mereka.*

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## INTRODUCTION

Business model innovation is one of the main activities that must continue to be carried out in every company to maintain competitiveness in today's digital economy. Although the topic of businessmodels has improved significantly since the late 1990s, not much is known about the practice of business model innovation in Micro, Small and Medium Enterprises (MSMEs) in the Indonesian market.

Business models and business model innovation are increasingly gaining attention both in entrepreneurial practice and in current research. In general, according to Osterwalder and Pigneur (2010), business models describe business logic and reflect howa company creates, delivers, and captures value. This implies that the most important management activity is to have a vision of the company's business model.

There are various triggers that can encourage companies to innovate their business models. For example, companies need to react to changing demand and business ecosystems, increasing cost pressures, threats of substitute products, and the needfor product differentiation, as expressed by Carayannis et al. (2015). Previous research in this area has mainly focused on the definition of the concepts of business models (Osterwalder et al., 2005) and business model innovation (Carayannis et al., 2015), antecedents and barriers to business model innovation (Hartmann et al., 2013), as well as internal and external factors of business model innovation success (Hartmann et al., 2013). However, most of these studies focus more on business model innovation in general in large companies and only a few studies focus on Micro, Small and Medium Enterprises (MSMEs). Given that MSMEs also represent the main driving force of the Indonesian economy, moreattention is needed in understanding the practices, innovations, and competitiveness of MSMEs in the Indonesian national market.

This study addresses the research gaps presented above and focuses on investigating the characteristics of business model innovation practices in MSMEs. Identification and understanding of business model innovation and its impact on business performance will contribute to the knowledge and conceptualization of business model innovation in the context of MSMEs in Indonesia. This research article will present the characteristics of MSMEs in Indonesia in several business sectors, followed by an explanation of the methodology, discussion of the results, limitations and future research directions.

### Literature Review and Hypothesis Formation

#### Definition of Micro, Small and Medium Enterprises (UMKM)

Law No. 20 of 2008 concerning Micro, Small and Medium Enterprises (MSMEs), define MSMEs based on several criteria, including the following:

a. Micro Business
   - Have a net worth of at most IDR 50 million excluding land and tiresfor business premises
   - Have annual sales of at most IDR 300 million.

b. Small Business
   - Have a net worth of more than IDR 50 million to a maximum of IDR 500 million excluding land and buildings for business premises.
   - Have annual sales of more than Rp300 million to a maximum of Rp2.5 billion.

c. Medium Enterprises
   - Have a net worth of more than Rp500 million to a maximum of Rp10 billion excluding land and buildings for business premises.
   - Has annual sales of more than Rp2.5 billion up to a maximum of Rp50 billion.

MSMEs as a contributor to the National Gross Domestic Product (GDP) have an important role for the Indonesian economy. Based on data from the Ministry of Cooperatives andSmall and Medium Enterprises (KemenkopUKM) in March 2021, the number of MSMEs reached 64.2 million with a contribution to GDP of 61.07 percent or worth IDR 8,573.89 trillion. MSMEs are also able to absorb 97 percent of the total workforce and can collectup to 60.42 percent of the total investment in Indonesia.

Currently, especially in the era of the Covid pandemic, MSMEs are experiencing various problems and are facing a decline in productivity which has an impact on a significant decrease in profits. To revive MSME business performance, solutions and recovery are needed. Short-term measures such as creating stimulus on the demand side and using online platforms. Another effort is through business model evaluation and the use of business model innovations that can support the improvement of quality and competitiveness of production, processing, marketing and others. Until now, there are still no reports related to business models and MSME business model innovation. In an effort to encourage innovation in MSMEs, researchers conducted this research to explore business models and business modinnovations for the development of MSMEs in Indonesia which are expected to become national development models.

#### Business Model Concepts and Business Performance in Research Models

Previous studies have revealed that many factorsinfluence business model innovation, both from internal and external factors. Fereira (2013) in his research states that external factors such as environmental changes and information technology can affect the level of innovation. In this study, researchers see that the business environment is an external factor that drives the level of business model innovation, which includes competition and market conditions. Based on the results of previous studies, the researchers hypothesized that:


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**Hypothesis 1 (H1). The business environment has a positive effect on the level of business model innovation.**

Previous research from Bouwman (2018) and Johnson et al., (2008) showed that information technology has a direct impact on business models. Technology has been recognizedas an important determinant of effective business, even becoming a major driver in creating business model design. Therefore, the researcher hypothesizes:

**Hypothesis 2 (H2). Information technology has a positive effect on the level of business model innovation.**

concept of business model innovation is based on the ability of companies to improve their internal capabilities and resources to innovate on the business model. Innovation in this study is seen as an internal driver and is defined asthe ability or capacity of a company to introduce new processes or new products / services in the company, as stated by Hult et al., (2004) in their research. Based on the above, the researcher hypothesizes that:

**Hypothesis 3 (H3). Innovation has a positive effect on the level of business model innovation.**

Previous research has shown that business model innovation activities are linked to business model innovation outcomes. Foss & Saebi (2017) in their research explainn dimensions of business model innovation in terms of "scope" and "novelty." The "scope" dimension relates to the number of architectural and modular changes in the business model, while the "novelty" dimension relates to whether innovations in the business model are new to the company, industry, or the world. Therefore, researchers hypothesize that:

**Hypothesis 4 (H4). The level of business model innovation has a positive effect on the results of business model innovation.**

Company performance is one of the important indicators for the evaluation ofbusiness results. The relationship between business model innovation and business performance has been confirmed by several previous studies, such as research from Zott & Amit (2007) and Aspara et al., (2010). Previous studies have shown that company performance can be measured by financial and non-financial indicators, or by combining the two, as revealed by Venkatraman & Ramanujam (1986). Therefore, researchers hypothesize that:

**Hypothesis 5 (H5). The results of business model innovation have anobjective effect on business performance.**

**Methodology**

Based on a literature review of business models, business model innovation, strategic management, and entrepreneurship, a comprehensive list of measurements will be generated. A questionnaire consisting of severalquestions about business models and practices Business model innovation, MSME performance, and company background characteristics will be distributed to MSMEs (owners and employees) online or through telephone interviews in the second semester ofFY. 2021.

The design of the questionnaire questions was obtained from several previous research sources and also referred to the article Pucihar et al., (2019) related to business model innovation. For the variables Business environment, a list of statements is taken from Jaworski &; Kohli (1993) and Johnson et al., (2008) and used in this study. For the construct of Information technology, the list of statements is adapted from Bouwman et al., (2018) and Marolt et al., (2016). For the construct of Innovation, a list of statements was adopted from researchers Hult et al., (2004), Subramanian (1996), Atuahene-Gima & Ko (2001), Calantone et al., (2002), and Naman &Slevin (1993). To measure the construct of the degree of business model innovation, a list of statements was adopted from Osterwalder et al., (2005) and Zott & Amit (2010). The list of statements from Ross et al., (2006) is used to measure the construct of business model innovation. For the business performance construct, the list of statements was adjusted from previous studies from Cucculelli &; Bettinelli (2015), Venkrataman &; Ramanjuma (1986), Guo et al., (2017), and Pati et., (2018).

**Figure 1 below presents a research model developed from a literature review.**

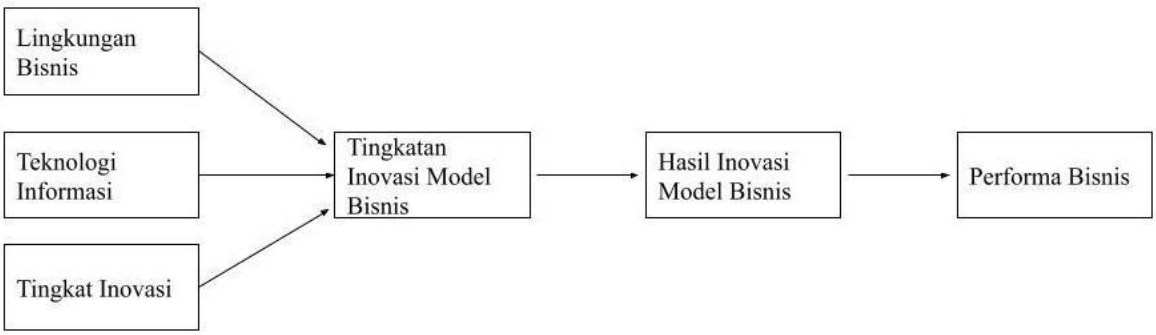


***Figure 1 Research Model***

**Source : Pucihar, A.; Lenart, G.; Kljajić Borštnar, M.; Vidmar, D.; Marolt, M.**

The collection of statements from each dimension of the study was measured using the Likert scale (1: Strongly Disagree – 4: Strongly Agree). Descriptive analysis was carried out usingSPSS software, then Partial Least Square Path Modeling analysis was carried out to test the research model used. A complete list of statements of each dimension can be seen in table 2.


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**Table 2 Research constructs and variables**

| Construct | Items | Source |
|---|---|---|
| Business Environment | A1. Our company is quick and responsive in seeing important changes in the industry<br>A2. Our company regularly reviews the effects arising from changes in the business environment on consumers<br>A3. It takes a fast time for companies to respond to price changes given by competitors<br>A4. Our company is quick to respond to significant changes to competitors' pricing structures<br>A5. If a major competitor were to launch acamp targeted at our company's customers, we would respond quickly<br>A6. Our company's competitors are fairly weak<br>A7. When our company learns that customers are unhappy with the quality of our service, wetake corrective action as soon as possible<br>A8. When our company learns that a customer wants us to modify a product or service, the divisions involved will try to do so<br>A9. On a regular basis, our company reviews productdevelopment activities to ensure the product is in accordance with what consumers / customers want | Jaworski &; Kohli (1993) ; Johnson et al., (2008) |
| Information Technology | B1. Rapid technological change spurred a change to the business model over the past 12 months<br>B2. The rapid development of technology has spurred a change to the business model over the past 12 months<br>B3. Within the company, we want tocreate several innovations every year<br>B4. Within the company, we introduce new innovations to the market<br>B5. Creating more than one innovation at the same time is a common practice | Bouwman et al., (2018) ; Marolt et al., (2016) ; Johnson et al.,(2008) |
| Level of Innovation | C1. Managers encourage employees to "think outside the box" / think creatively<br>C2. Our corporate culture focuses on continuous innovation<br>C3. Original ideas are highly valued in our company<br>C4. Our company is ready to take the risks needed in carrying out the process of developing new products (goods or services)<br>C5. Our company shows perseverance inturning ideas into reality<br>C6. Our company is able to identify new opportunities<br>C7. Our company is determined to create various innovations every year<br>C8. Our company introduces completely new innovations to the market<br>C9. Creating more than one innovative product at the same time is a common practice in our company<br>C10. Our company was one of the first to introduce new high value-added products<br>C11. Our company often waits a while before introducing innovations<br>C12. Our company only introduces innovations due to external impulses, such as customer, supplier and third-party factors<br>C13. Our company is oftenat the forefront of introducing innovations | Hult et al., (2004) ; Subramanian (1996) ; Atuahene-Gima &; Ko (2001) ; Calantone et al., (2002) ; Naman &; Slevin (1993) |


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| Construct | Items | Source |
|---|---|---|
| Business Model Innovation Tiers | D1. The change in our company's business model is anew thing in our industry<br>D2. Changes in our company's business model have never been implemented by competitors before<br>D3. Changes in our company's business model cannot be found in the general business model in our industry.<br>D4. Our company targets a new market segment<br>D5. Our company implements new ways to transact with consumers<br>D6. Our company implements new ways of managing relationships with consumers<br>D7. Changes in our company are created by the proposal of top management or leadership<br>D8. Changes in our company happen not because of what other companies do<br>D9. Changes in our company do not resemble existing businesses<br>D10-OST. The value of products (goods and services) offered (value propositions) by our company is in accordance with consumer needs<br>D11-OST. Our consumers feel very concerned about the valueof goods or services offered (value propositions) by the company<br>D12-OST. Our company has a clear market segmentation<br>D13-OST. On an ongoing basis, we have succeeded in acquiring new customers<br>D14-OST. Our consumers can easily know the distribution channels of our products<br>D15-OST. Our distribution channels are already firmly integrated<br>D16-OST. Our relationship with our customers is strong (good)<br>D17-OST. Our company brand or product brand is strong<br>D18-OST. The resources we haveat this time are difficult for competitors to replicate<br>D19-OST. The need for resources is predictable<br>D20-OST. The main activities of our business are difficult for competitors to replicate<br>D21-OST. We carry out the main activities of the business efficiently<br>D22-OST. When needed, wework with business partners seriously<br>D23-OST. Our relationship with business partners is good<br>D24-OST. We derive revenue from a number of revenue sources or channels<br>D25-OST. Our revenue sources are predictable<br>D26-OST. The costs ofour nis buses are predictable<br>D27-OST. The existing fee structure does not reflect our business model | Osterwalder et al., (2005) ; Zott & Amit (2008) |
| Results of Business Model Innovation | E1. Our company has one main business process<br>E2. Our company applies information technology<br>E3. Our company has internal controls to oversee existing processes<br>E4. Business processes in our company have standardization<br>E5. Business processes in our company are integrated<br>E6. The companyhas information and communication technology applications | Ross et al., (2006) |


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| Construct | Items | Source |
|---|---|---|
| | E7. Our company has adequate information and communication technology infrastructure<br>E8. Our company uses social media<br>E9. Our company has anorganized business/organization structure | |
| Business Performance | F1. Our company has high/stable sales growth<br>F2. Our company recorded high profits<br>F3. Our company has a large market share<br>F4. If our company wants to launch a new product, we can do it quickly (from idea development activities to selling it to consumers)<br>F5. Our company has a wide marketing area<br>F6. Our company has a high net income<br>F7. Our company has a high return on investment on capital owned<br>F8. Our company's consumer loyalty is high<br>F9. Our companyhas a high level of profit (net profit margins) | Cucculelli & Bettinelli (2015) ; Venkatraman &; Ramanujam (1986) ; Guo et al., (2017) ; Pati et al., (2018) |

**Source : Adaptation of various references**

**Research and Discussion Results**

**Sampling and Data Collection**

MSME data collection is carried out by looking at information from various sources such as the website of the Ministry of Cooperatives and MSMEs, reports from the Economic Census of the Central Statistics Agency, and the SME Center unit of the Faculty of Universities and Business ofthe University of Indonesia. The definition of MSMEs used refers to Law No. 20 of 2008 concerning Micro, Small and Medium Enterprises. Respondents from MSMEs were asked a series of questionnaire questions by research assistants through telephone contacts or online forms. As the final result, 75 MSMEs were sampled for analysis in this study, consisting of 65 MSME owners, 2 MSME managers, and 8 MSME employees.

**Table 2 Respondents' Position in MSMEs**

| Position | Percentage | Actual amount |
|---|---|---|
| Owner | 0,867 | 65 |
| Manager | 0,026 | 2 |
| Employee | 0,106 | 8 |
| Sum | 100% | 75 |

**Source: Researchers' preparations**

**Descriptive Statistics**

Table 3 below shows the composition of the non-agricultural MSME industry that is the research sample when compared with non-agricultural MSME data in Indonesia. This study used a classification published by the Economic Census of the Agencyfor Statistics. ( https://se2016.bps.go.id/umkumb/ )

**Table 3 Comparison of the number of SMEs based on industry composition with the research sample**

| Business Field | Number of MSMEs | Percentage of MSMEs by Business Field | Number of MSMEs in the Sample Based on Business Field | Percentage of MSMEs in the Sample Based on Business Field |
|---|---|---|---|---|
| Mining and Quarrying | 171.782 | 0,007 | 0 | 0 |
| Processing Industry | 4.383.622 | 0,166 | 11 | 0,15 |
| Procurement of Electricity, Gas/Steam, Hot Water and Cold Air | 31.220 | 0,001 | 0 | 0,00 |


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| | | | | |
|---|---|---|---|---|
| Water Management, Wastewater Management, Waste Management and Recycling, and Remediation Activities | 92.858 | 0,004 | 0 | 0,00 |
| Construction | 253.663 | 0,010 | 1 | 0,01 |
| Wholesale and Retail Trade, Repair and Maintenance of Automobiles and Motorcycles | 12.255.194 | 0,464 | 9 | 0,12 |
| Transportation and Warehousing | 1.302.455 | 0,049 | 0 | 0,00 |
| Provision of Accommodation and Provision of Food and Drink | 4.447.247 | 0,168 | 35 | 0,47 |
| Information and Communication | 633.905 | 0,024 | 1 | 0,01 |
| Financial and Insurance Activities | 114.645 | 0,004 | 0 | 0,00 |
| Real Estate | 392.000 | 0,015 | 0 | 0,00 |
| Company Services | 376.940 | 0,014 | 1 | 0,01 |
| Education | 598.785 | 0,023 | 2 | 0,03 |
| Human Health Activities and Social Activities | 212.829 | 0,008 | 2 | 0,03 |
| Other Services | 1.155.111 | 0,044 | 13 | 0,17 |
| **Jumlah** | 26.422.256 | 1 | 75 | 1 |

**Source: Processed by researchers**

Of the 75 SMEs sampled in the study, 68% were categorized as Micro Enterprises (businesses with a net worth of at most IDR 50 million excluding land and business buildings and a maximum annual sales of IDR 300 million); 24% are Small Enterprises (with a net worth of IDR 50 million – IDR 500 million and annual sales of IDR 300 million – IDR 2.5 billion), and 8% are Medium Enterprises (have a net worth between IDR 500 million – IDR 10 billion and annual sales of between IDR 2.5 billion – IDR 50 billion ). The classification of business division is based on Legislation No. 20 of 2008. MSMEs that were sampled from the research came from various industries. Most of these MSMEs carry out their activities in the fieldsof Accommodation Provision and Food and Drink Provision, Processing Industry, Car and Motorcycle Trading and Repair, and Education.

From 75 research samples, the age of operational years from MSMEs varies, ranging from 1 year, 2 years, to more than 10 yearsn. More than half of the MSME samples are new players, as shown in the following table.

**Table 4 Operational age of MSMEs**

| The operational age of MSMEs | Percentage | Actual amount |
|---|---|---|
| <1 year | 0,15 | 11 |
| 1 year | 0,32 | 24 |
| 2 years | 0,27 | 20 |
| 3 years | 0,09 | 7 |
| 4-10 years | 0,09 | 7 |
| >10 years | 0,08 | 6 |
| Sum | 100% | 75 |

**Source: Researchers' preparations**

Researchers conducted a *chi-square goodness-of-fit test* aimed at proving a significant difference in the MSME business field objects studied. Researchers decided to use only four business fields: Processing industry; Wholesale and Retail Trade; Car Repair and Maintenance and Sepeda Motor; and Other Services considering that only four of these business fields have samples > 5 so that they meet the requirements of the *chi-square goodness-of-fit test* (Yarnold, 1970). After calculation, the results showed that there was a significant difference in the number of SME business fields in the existing samples.


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**Validity and Reliability**

To analyze the data, researchers used Smart PLS. In the initial step, researchers tested the validity and reliability of the collected data using A*verage Variance Extracted (AVE), Composite Reliability (CR), the Convergent and Discriminant Validity, and* I*nternal Consistency* of all indicators used in the questionnaire. The researcher decided not to include all indicators because the value is lower than the *threshold value* of 0.6. Table 5 shows the results of measuring each indicator that is worth using.

**Table 5 Descriptive statistics, C*onvergent Validity*, and I*nternal Consistency* of the research model (N = 75)**

| Construct | Items | Factor Loadings | Average | Standard Deviation | rho_A | AVE | Composite Reliability |
|---|---|---|---|---|---|---|---|
| Business Environment | A2 | 0,601 | 3,29 | 0,65 | 0,746 | 0,554 | 0,830 |
| | A3 | 0,795 | 3,01 | 0,85 | | | |
| | A4 | 0,756 | 3,09 | 0,79 | | | |
| | A5 | 0,807 | 3,05 | 0,73 | | | |
| Information Technology | B1 | 0,801 | 2,00 | 0,97 | 0,765 | 0,515 | 0,840 |
| | B2 | 0,654 | 3,72 | 0,45 | | | |
| | B3 | 0,633 | 3,45 | 0,55 | | | |
| | B4 | 0,783 | 3,43 | 0,60 | | | |
| | B5 | 0,702 | 3,33 | 0,72 | | | |
| Level of Innovation | C2 | 0,697 | 3,29 | 0,75 | 0,906 | 0,557 | 0,881 |
| | C5 | 0,613 | 3,45 | 0,58 | | | |
| | C7 | 0,608 | 3,31 | 0,70 | | | |
| | C8 | 0,860 | 2,95 | 0,91 | | | |
| | C9 | 0,846 | 3,36 | 0,63 | | | |
| | C10 | 0,810 | 2,96 | 0,78 | | | |
| Business Model Innovation Tiers | D1 | 0,690 | 3,52 | 0,64 | 0,898 | 0,541 | 0,913 |
| | D2 | 0,804 | 3,39 | 0,75 | | | |
| | D3 | 0,858 | 3,48 | 0,58 | | | |
| | D4 | 0,739 | 3,45 | 0,64 | | | |
| | D8 | 0,671 | 3,32 | 0,68 | | | |
| | D9 | 0,729 | 2,92 | 0,90 | | | |
| | D18 | 0,769 | 2,84 | 0,90 | | | |
| | D20 | 0,728 | 2,65 | 0,91 | | | |
| | D24 | 0,612 | 3,03 | 0,73 | | | |
| Results of Business Model Innovation | E3 | 0,646 | 2,73 | 0,91 | 0,860 | 0,548 | 0,878 |
| | E4 | 0,843 | 2,59 | 0,87 | | | |
| | E5 | 0,778 | 2,76 | 0,84 | | | |
| | E6 | 0,633 | 2,40 | 0,84 | | | |
| | E7 | 0,772 | 2,44 | 0,89 | | | |
| | E9 | 0,747 | 2,71 | 0,90 | | | |
| Business Performance | F1 | 0,821 | 3,01 | 0,91 | 0,926 | 0,679 | 0,937 |
| | F2 | 0,864 | 3,16 | 0,79 | | | |
| | F3 | 0,756 | 3,20 | 0,74 | | | |


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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | F5 | 0,797 | 2,99 | 0,78 | | | |
| | F6 | 0,864 | 2,69 | 0,79 | | | |
| | F7 | 0,788 | 3,43 | 0,57 | | | |
| | F9 | 0,869 | 3,55 | 0,53 | | | |

**Source: Researchers' preparations**

From these data, it can be seen that all variables have shown rho_A values above 0.70 with AVE values above 0.50 so that they meet the requirements for a good threshold (Hair, 2018). This indicates that all variables contain *convergent validity* at their respective construct levels. Then, the researcher also examined *discriminant validity*, as can be seen in table 6.

**Table 6 Discriminant validity measurement model using Fornell-Larcker**

| | Results of Fashionl Business Innovation | Business Environment | Business Performance | Information Technology | Level of Innovation | Business Model Innovation Tiers |
|---|---|---|---|---|---|---|
| Results of Business Model Innovation | 0,740 | | | | | |
| Business Environment | 0,447 | 0,744 | | | | |
| Business Performance | 0,514 | 0,571 | 0,824 | | | |
| Information Technology | 0,453 | 0,382 | 0,413 | 0,718 | | |
| Level of Innovation | 0,553 | 0,566 | 0,536 | 0,694 | 0,746 | |
| Business Model Innovation Tiers | 0,625 | 0,447 | 0,563 | 0,542 | 0,649 | 0,735 |

**Source: Researchers' preparations**

From the table it can be seen that the *value of established discriminant validity* in each construct when connected to its own construct is higher than the correlation value with other variables. As a result, there were no problems with *discriminant validity* in the research model.

**Structural Model Analysis and Hypothesis Testing**

After testing validity and reliability, researchers then tested the structural model by examining the *coefficient of determination* ($R^2$), beta coefficient value , and level of significance in each variable. The value of $R^2$ on the variable Results of Business Model Innovation; Business Performance; and the Business Model Innovation Rate is 0.391; 0,264; and 0.448.

Figure 2 shows the results of statistical testing in this research model, in whichthree of the five hypotheses can be proven to be significant. Only the Innovation Level variable was proven to have a significant positive influence on the level of business model innovation in a case study of MSMEs in Indonesia where the statement can be seen from the *T-Statistics* value of 3.568 (>1.645) with a *P Values* of 0.000 (<0.005). Then, the level of business model innovation is proven to have a positive influence on the results of business model innovation, where the variable has been shown to be positively influenced by the variableInnovation Level. Finally, the results of business model innovation have also proven to have a significant positive effect on MSME business performance in Indonesia.


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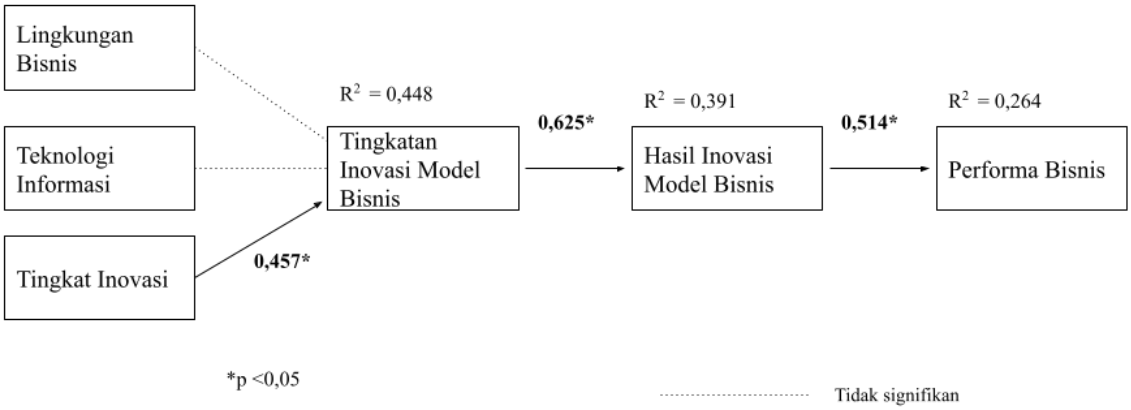


**Figure 2 Research model test results**
**Source: Researchers' preparations**

**Table 7. Direct, indirect, and total effect test results**

| Relationship | *Direct Effects* | *Indirect Effects* | *Total Effects* |
|---|---|---|---|
| Business environment → Results of business model innovation | 0,00 | 0,075 | 0,075 |
| Business environment → Business performance | 0,00 | 0,039 | 0,039 |
| Information technology → Results of business model innovation | 0,00 | 0,112 | 0,112 |
| Information technology → Business performance | 0,00 | 0,057 | 0,057 |
| Level of innovation → Level of business model innovation | 0,457 | 0,00 | 0,457 |
| Level of innovation → Results of business model innovation | 0,00 | 0,286 | 0,286 |
| Level of innovation → Business performance | 0,00 | 0,147 | 0,147 |
| Levels of business model innovation → Results of business model innovation | 0,625 | 0,00 | 0,625 |
| Levels of business model innovation → Business performance | 0,00 | 0,321 | 0,321 |
| Results of business model innovation → Business performance | 0,514 | 0,00 | 0,514 |

**Source: Researchers' preparations**

**Discussion**

The results showed that the business environment and information technology did not have a direct effect on the level of business model innovation. This finding contrasts with previous research from Foss et al and Bouwman et al which confirmed a positive relationship between the business environment and information technology on the level of business model innovation. Researchers suspect that these different results arise from the composition of MSMEs who are respondents, where 68% are micro enterprises and are industryin the provision of Accommodation and Food and Drink Provision, Processing Industry, Trade and Repair of Cars and Motorcycles. MSMEs engaged in this field have traditionally not depended on the use of information technology.

MSMEs in this study do not recognize information technology that has an impact on the level of business model innovation. Though information technology is often identified as a supporting factor in the realization of company strategies and goals. According to anOECD (Organization for Economic Cooperation and Development) report, lack of investment, personnel, knowledge, and skills, can hinder the adoption of information technology in MSMEs.

The results of other studies show that the Innovation Level as an internal factorshows a positive direct effect on the activities of the Business Model Innovation Level. The level of innovation is seen as the ability to introduce new processes or products/services in MSMEs. This finding is in line with the theoretical foundation of Zott & Amit (2: 008) which explains that the concept of business model innovation is based on the company's ability to be able to increase its internal capabilities and resources in order to innovate.


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The level of business model innovation can be explained through the novelty contained in the company's business model. The results of this study show the direct positive impact of the level of business model innovation and the results of business model innovation. This finding is in line with previous research from Bouwman et al., (2018)and Heikkilä et al., (2018) which showed that the activity of business model innovation will create business model innovation results that lead to higher business performance.

The results ofbusiness innovation are considered as things created due to changes in business models. As outlined in the hypothesis, the results of business model innovation have a direct positive impact on the company's overall business performance. This finding is in line with previous research that confirms the relationship between business model innovation and business performance, as revealed by Zott et al., (2007) and Aspara et al., (2010) In addition, the results of this study are consistent with research conducted by Giesen et al (2007) withtheories about how different types of business model changes can result in improved business performance.

From 75 MSME research samples, researchers found that MSMEs have challenges in adopting the use ofbusiness mods. Similar to the findings by Florén & Agostini (2015), many companies have difficulty in finding the right approaches, methods, and tools for their business model innovation. As a result, MSMEs do not have a general idea ofhow they create and provide value for internal parties and consumers. This can then lead to inefficient decision making and lower competitiveness. Therefore, if MSMEs want to succeed in business model innovation, they need to use available methods and tools more systematically and comprehensively.

To overcome these challenges, a better understanding of MSME awareness of the importance of business model innovation, methods and tools available is essential. Since MSMEs represent a large portion of the Indonesian economy, the government needs to provide environmental support for MSMEs to increase innovation potential. One of the steps that can be taken is to form an environmental ecosystem fromvarious stakeholders, such as universities, research institutions, and other MSME partners. Another way is to provide support to MSMEs in the form of tax breaks or alternative funding methods. In the end, the most important thing iscontinuous learning and digital skills development from MSMEs.

**Conclusion**

Overall, the results of hypothesis testing show that internal and external factors have a positive impact on MSMEs. However, the rapidly changing and evolving business environment and information technology were not found to have a direct impact on the level of business model innovation. In this study, it was found that the level of business model innovation has a positive impact on the results of business model innovation. Theresults of business model innovation have a positive impact on overall business performance. This shows the importance of continuous business model innovation activities for better business performance and competitiveness.

Although this research has focused on several MSME business model innovationproblems and explains the practice of MSME business model innovation in Indonesia, there are several limitations that can be an opportunity for further research. First, the research findings were only examined in 75 samples of MSMEs in Indonesia. A comparison of these findings with a larger number can provide further insight into differences in business model innovation factors and practices. In addition, this study offers onlya partial view of the broad areas of business model research and business model innovation. Therefore, further research can put more emphasis on other factors and other business model innovation practices. Finally, because of the complexity of business model concepts and business model innovation, researchers suggest a combined qualitative and quantitative method approach to gain insight and a deeper understanding of the phenomenon under investigation.

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