Increasing the Competitiveness of MSMEs in Depok City Through Digital Marketing, Financial Technology, and Artificial Intelligence

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ARTICLES INFORMATION	*ABSTRACT*
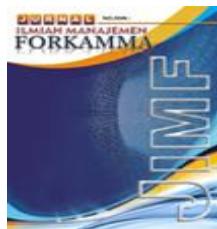
JURNAL ILMIAH MANAJEMEN FORKAMMA

Abstract: *The purpose of this study is to determine the partial and simultaneous effects of the variables digital marketing, financial technology and artificial intelligence on improving the competitiveness of MSMEs in Depok City. This study employs a quantitative approach. The object of analysis consists of 190 MSME actors in Depok City. Data were collected through questionnaires. The analysis method uses SEM, and the analytical tool is LISREL version 8.80. The results indicate that, partially, the digital marketing variable does not have a positive and significant effect on improving the competitiveness of MSMEs in Depok City, and the same applies to the financial technology variable. However, artificial intelligence has a positive and significant effect on the competitiveness of MSMEs in Depok City. Simultaneously, digital marketing, financial technology and artificial intelligence have a positive and significant influence on increasing the competitiveness of MSMEs in the city of Depok.*

A. INTRODUCTION

Digital marketing allows MSMEs to reach a wider range of customers at a more efficient cost. Meanwhile, fintech provides better access to financing sources and facilitates transactions. On the other hand, artificial intelligence can help MSMEs in data analysis, service personalization, and business process optimization.

By integrating these three elements, it is hoped that MSMEs in Depok City can not only survive, but also develop and compete effectively in the local and global markets. Through this research, the implementation strategy and impact of the use of digital marketing, fintech, and artificial intelligence on increasing the competitiveness of MSMEs in Depok City will be discussed

According to the central statistics agency of the city of Depok in 2023, the number of age residents of Depok city who are entrepreneurs is 19.66% divided by the total number of productive ages of Depok City in 2023 of 2,145,400 people, which is as many as or 421,785 people. This shows an achievement rate of 37%. (Hidayat, 2023).

Berdasarkan badan data statistik kota Depok bahwa jumlah UMKM dikota Depok terus meningkat dari tahun 2021 sampai tahun 2023, yaitu sebagai berikut :

Table 1. Number of MSMEs in Depok City 2021-2023

Year	2021	2022	2023
MSMEs	13.916	11.429	15.180

source: Depok city statistics https://jabar.bps.go.id/id/statistics-table/2/NzUyIzI

From Depok city statistics, the number of MSMEs in the city of Depok has fluctuated from 2021 to 13,916 MSMEs, decreasing in 2022, which is to 11,429 MSMEs but in 2023 it will increase to 15,180 MSMEs.

MSMEs have been proven to make a significant contribution to a nation's economy (Widyastuti & Parianom, 2022). Although it is expected to be able to improve the local economy, MSMEs in their operational activities are always faced with classic problems, including those related to human resources, marketing, production and finance. It is said to be classic, because these problems always exist from time to time, and occur in almost all MSMEs, both those that have been operating for a long time and those that are new. Among these classic problems, the problems that are often obstacles are marketing and financial problems (Sunardi et al., 2021). The financial aspect is absolutely necessary to determine the investment plan through the calculation of the expected costs and benefits. This financial problem occurs due to several fund management errors made by MSME actors.

Technological advances have an impact on human behavior, so many innovations have been produced in the past few years whose benefits have been felt by most people, such as Febriyantoro & Arisandi, (2018) in (Khamidah, Astuti, & Safitri, 2023) stating that social media or social networking is the most commonly used platform by people with various purposes. Indonesia is one of the countries with the largest internet users, with a population of 277.7 million and the number of internet users is approximately 77 percent of the total population of Indonesia. This means that as many as 213.8 million people have used the internet, this number has increased by 1.03% compared to 2021 and has increased quite rapidly in the last five years of 2018, which is only 50 percent of the total population at that time (Annur, 2022) in (Khamidah, Astuti, & Safitri, 2023).

The high potential for e-commerce growth in Indonesia presents a wider opportunity for MSME players to enter the digital platform ecosystem. By being part of the digital economy, MSME actors can take advantage and maximize the use of technology to develop their businesses. The positive impact of MSME participation in the digital economy provides great potential for the development of MSMEs in Indonesia.

Digital marketing, which involves digital technology to form online channels, helps in building and developing relationships with customers as well as providing benefits for companies (Juliana et al., 2022) in (Marlina, Aisyah, & Mundzir, 2024). The implementation of digital marketing allows MSMEs to remain competitive in the digital era, reach more potential customers,

and effectively expand market coverage (Teguh Saputra et al., 2023) in (Marlina, Aisyah, & Mundzir, 2024). In addition, digital marketing allows for direct interaction with customers through social media, allowing companies to continue to develop adaptive and innovative strategies, in order to maintain and increase competitiveness (Wardhana, 2022) in (Marlina, Aisyah, & Mundzir, 2024). More than just selling products, digital marketing also builds strong and sustainable relationships with customers, which ultimately increases the company's competitive advantage. Through digital marketing, communication and transactions can be carried out in real-time and on a global scale (Pradiani, 2017) in (Marlina, Aisyah, & Mundzir, 2024).

Fintech is a technology that produces services, business models and technologies that have an impact on monetary stability, financial stability, efficiency, security and reliability in the payment system (Eltin, 2019) (Ferliansyah & Wijaya, 2024). With this fintech, buyers do not need to meet or face to face with the seller to make payments. Payments can be made anywhere and anytime so there is no need to carry cash and can make payments even at home. That way transactions made in E-commerce are also supported and easy. Fintech can also help MSMEs in borrowing capital so that they can develop their businesses. Businesses also increase their goods and services, resulting in an increase in revenue.

The use of AI technology by MSME businesses can provide various benefits and advantages, ranging from marketing benefits to increasing productivity and business efficiency that have an impact on revenue. Irzan shared his opinion regarding the benefits of using AI technology in MSME businesses.

"AI can help MSMEs in terms of marketing by beautifying sales images, creating attractive captions or product descriptions, and even creating marketing visual assets using Generative AI tools. AI can also help MSMEs in increasing productivity and business efficiency, which of course can have an impact on increasing revenue and profits." Irzan explained.

In addition, AI can assist MSMEs in improving their operational efficiency and business productivity. "According to McKinsey research, the use of Generative AI tools can increase the productivity of a division in an organization by 35-55%." Irzan added.

By utilizing AI for work automation, the time and resources you have can be allocated to other more strategic activities. Apart from what has already been mentioned, AI technology can also help business people in making the right business decisions and planning better business strategies.

B. LITERATURE REVIEW

Digital marketing

According to Chaffey and Chadwick (2016:11) in (Arjaya, 2023) "Digital marketing is the application of the internet and related digital technologies in conjunction with traditional communications to achieve marketing objectives.". This means that Digital Marketing is an application from the internet and is related to digital technology where it is related to traditional communication to achieve marketing goals. This can be achieved to increase consumer knowledge such as profiles, behaviors, values, and loyalty levels, then integrate targeted communication and online services according to the needs of each individual. There are 6 indicators in the implementation of digital marketing, including: Accessibility, Interactivity, Entertainment, Credibility, Irritation, Informativeness According to (Iqbal, 2021; Latif et al., 2022) in (Santosa & Vanel, 2022).

Financial Technology

According to Pribadiono (2016) in (Yuniarti & Dinihayati, 2019), Financial Technology (Fintech) is a combination of technology and financial features, besides that it can also be interpreted as innovation in the financial sector with a touch of modern technology. Based on Dorfeitner, Hornuf, Schmitt, & Webber (2017) in (Yuniarti & Dinihayati, 2019). Fintech is a fast-moving and dynamic industry where there are many different business models. Hsueh (2017) in (Yuniarti & Dinihayati, 2019) also explained that financial technology is a new financial service model developed through technological innovation.

Bank Indonesia (2017) in (Altin, Wahyudin, & Vebstasvili, 2023) through BI Regulation Number: 19/12/PBI/2017 explained that financial technology is the use of financial system technology that produces new products, services, technologies, and/or business models and can have an impact on monetary stability, financial system stability, efficiency, smoothness, security, and reliability of the payment system. The development of financial technology has caused creative disruption for the Indonesian people who are not ready to accept changes in economic activities. On the other hand, financial technology provides new opportunities for economies to increase their economic activities more efficiently and effectively (Rahardjo et al. 2019) in (Altin, Wahyudin, & Vebstasvili, 2023).

According to (Sabila, 2021) in (Wirananda & Harahap, 2022), the indicators of Financial Technology are: Fast, Efficient and Easily Accessible

Artificial Intelligence

Artificial Intelligence (AI) is one of the information technology concepts from the branch of computer science in imitating human intelligence. The purpose of AI is to process information, learn from experience, adapt to change, and perform certain tasks independently. AI has approaches in various fields of science, both from machine learning, deep learning, natural language processing, computer vision, big data, and various other fields (Dewi, 2020) (Sampetoding, Sarundaitan, Ardhana, & Talua, 2022) to (Pongtambing & Pitrianti, 2023).

Artificial Intelligence (AI) is a field of computer science devoted to solving cognitive problems commonly related to human intelligence, such as learning, creation, and image recognition. Modern organizations collect large amounts of data from diverse sources, such as smart sensors, man-made content, monitoring tools, and system logs. The goal of using AI is to create a self-learning system that derives meaning from data. Then, AI can apply that knowledge to solve new problems in the same way humans do. For example, AI technology can respond meaningfully to human conversations, create original images and text, and make decisions based on real-time data input. Your organization can integrate AI capabilities within your applications to optimize business processes, improve customer experience, and accelerate innovation.

According to (Naury & al, 2024) AI has several indicators namely:1. Algorithm 2. Machine Learning 3. Chatbot 4 automation 5. Natural Language Processing 6. Access Tools.

Competitiveness

According to Saturn (2010) in (Eskak, 2020) competitiveness is a competitive force because it has facilities such as wealth, productivity, culture, education, technology, innovation, and creativity. Competitiveness can also be understood as the ability to achieve better and faster results, by utilizing existing resources. These abilities are in the form of: the ability to show healthy organizational performance and produce optimally, the ability to maintain and expand its market share, the ability to collaborate and synergize with partners and competitors, the ability to continuously improve in quantity and quality, the ability to maintain and increase profit/net profit, and the ability to be a socio-cultural and environmentally friendly industry.

According to the Organisation for Economic Co-operation and Development (OECD) in (Sedyastuti, 2018) it is stated that competitiveness is the ability of companies, industries, regions, countries, or between regions to produce relatively high and sustainable income factors and employment factors to face international competition. Because industrial competitiveness is a phenomenon at the micro level of companies, national industrial development policies are preceded by examining the industrial sector as a whole as the basis for measurement. .

According to Russell and Millar (2014) in (Basuki & R.T., 2023), to be able to produce competitive MSMEs, there are five competitive priority components that must be met, namely Cost, Quality, Flexibility, Delivery and Innovation.

Framework of Thinking

The Influence of Digital Marketing on Increasing the Competitiveness of MSMEs in Depok City, according to research (Marlina, Aisyah, & Mundzir, 2024) there is a positive and significant influence between digital marketing on increasing competitiveness

The Influence of Technology Finance on Increasing the Competitiveness of MSMEs in Depok City, according to research (Altin, Wahyudin, & Vebstasvili, 2023) technology finance has a positive and significant effect on increasing competitiveness

The Influence of Artificial Intelligence on Increasing the Competitiveness of MSMEs in Depok City, according to (Pongtambing & Pitrianti, 2023) artificial intelligence is able to increase the competitiveness of MSMEs

The Influence of Digital Marketing, Financial Technology, and Artificial Intelligence on Increasing the Competitiveness of MSMEs in Depok City, according to (Yasir, Ilham, & Padli, 2022) capital, digitization of information, and creativity simultaneously have a significant effect on competitiveness
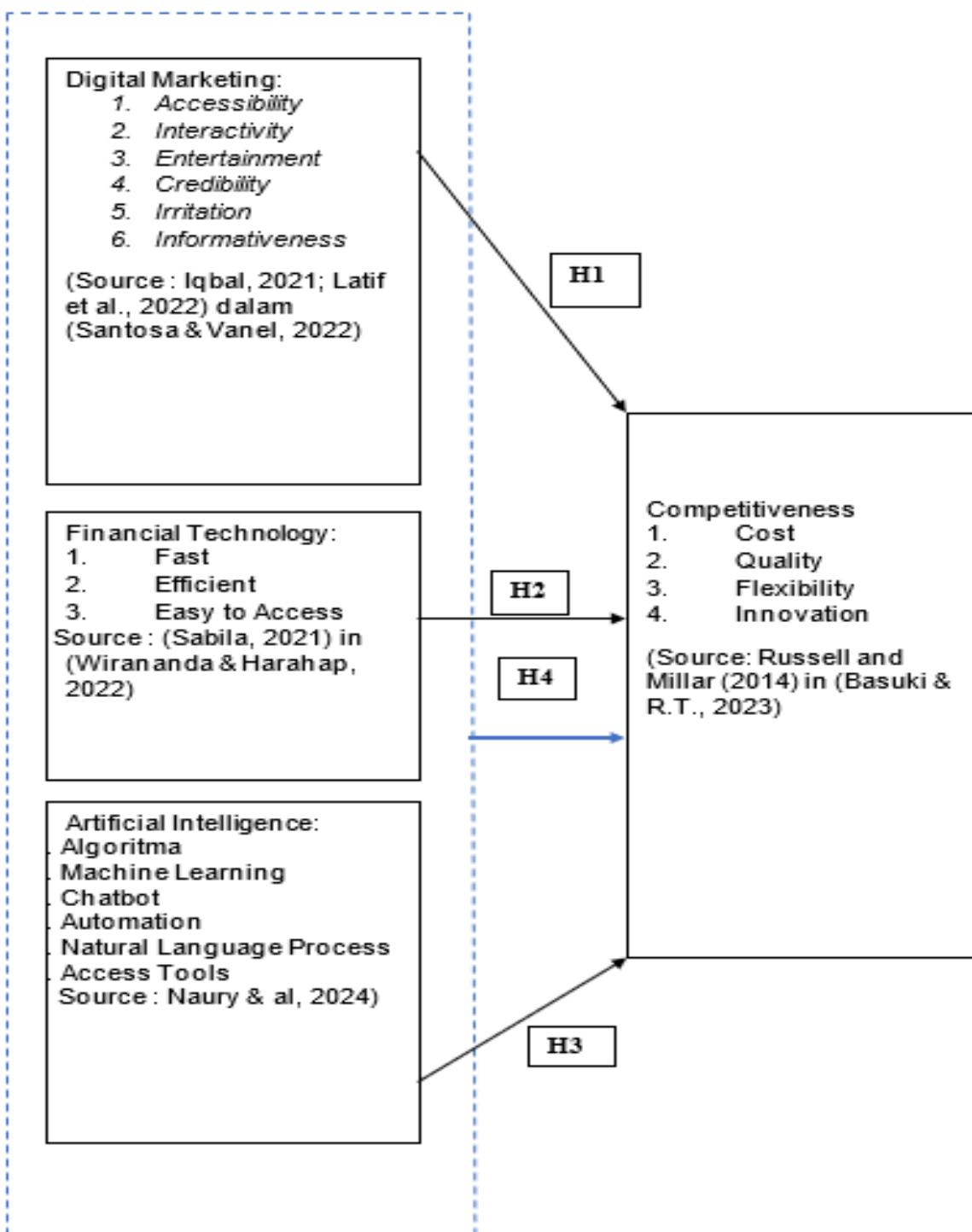

Figure 1 Framework of Thinking

C. RESEARCH METHOD

This study employs a quantitative approach. The object of analysis consists of 190 MSME actors in Depok City. Data were collected through questionnaires. The analysis method uses SEM, and the analytical tool is LISREL version 8.80

The population or unit of analysis in this study is 15,180 MSMEs in the city of Depok in 2023. Sampling in this study is used purposive sampling, which is a sampling technique by determining certain criteria (Supriyadi, 2014). The sample size in this study was based on a variety of considerations. First, population numbers are dynamic; second, because this study uses the Maximum Likelihood (ML) estimation model, this estimate requires a large sample size of at least 100 to 200. However, if the sample size is even larger (between 400 to 500), the sensitivity of this model in detecting differences between data will be higher, resulting in poor goodness-of-fit (Supriyadi, 2014). The sample was selected from the data of students of the management study program at Pamulang University who are entrepreneurs or have businesses. Determination of sample size The determination of sample size in this study uses the general reference of SEM samples, which is 5 - 10 times the number of indicators according to Hair in (Supriyadi, 2014): N = 10 x 19 (number of indicators). N = 190

D. RESULT AND DISCUSSION

Table 2 AVE and CR Value

No	Variabel	AVE	Cut Off	CR	Cut Off	Result
1	Digital Marketing	0.5	AVE ≥ 0,30	0.9	CR ≥ 0,70	Valid and Reliable
2	Financial Technology	0.5		0.9		Valid and Reliable
3	Artificial Intelligence	0.5		0.87		Valid and Reliable
4	Competitiveness	0.6		0.9		Valid and Reliable

source: lisrel 8.80, 2025

Based on the table above, it can be stated that the three variables have an Average Variance Extract (AVE) value of > 0.30 and a Construct Reliability (CR) value of > 0.70, so it can be concluded that the four variables are Valid and Reliable.

Goodness of Fit

Table 3. *Goodness of Fit*

No	Goodness-of-Fit	Cutt-off-Value	Result	Remarks
1	GFI	≥ 0,90	0,93	*Good Fit*
2	RMSEA	≤ 0,08	0,12	*Marginal Fit*
3	AGFI	≥ 0,90	0,86	*Marginal Fit*
4	NFI	≥ 0,90	0,92	*Good Fit*
5	CFI	≥ 0,90	0,92	*Good Fit*
6	IFI	≥ 0,90	0,92	*Good Fit*
7	RFI	≥ 0,90	0,94	*Good Fit*
8	PGFI	≥ 0,60	0.87	Good Fit

source: Lisrel, 8,80. 2025

Confirmatory Factor Analysis on the measurement model in this study showed a good model, where the GFI value was higher than the recommended level, which was ≥ 0.9; TLI and

CFI values are higher than the recommended level of ≥ 0.95; The same goes for the other criteria.

Model Persamaan Struktural (SEM)

Chi-Square=2021.40, df=554, P-value=0.00000, RMSEA=0.118
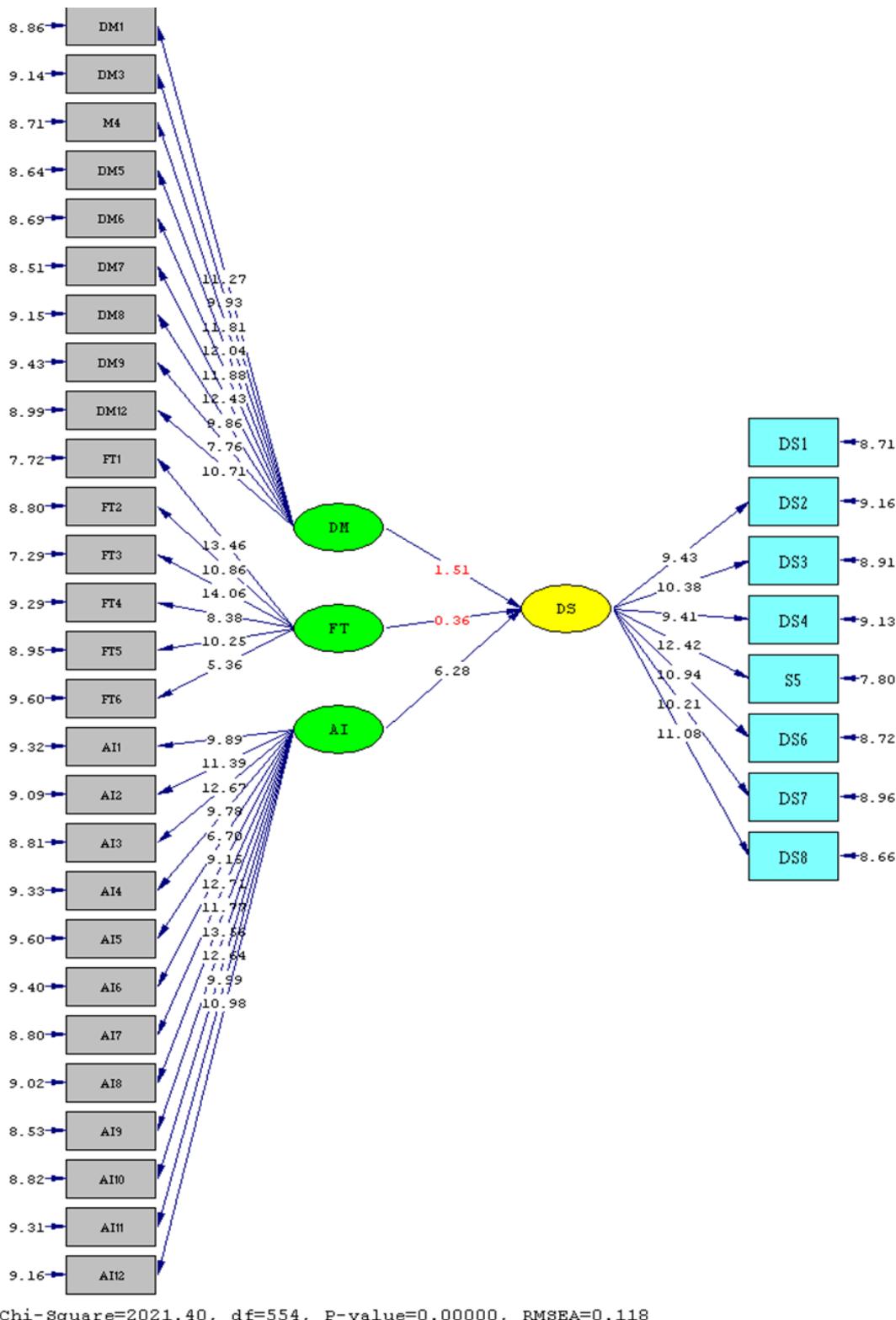
Figure 2. SEM standardized model

Hypothesis Test Result

Table 4 Hypothesis Test Result

Regression Weight	Standardised Estimate	Critical Value	Result
Competitiveness <--- Digital marketing	1,51	1,96	Not Significant
Competitiveness <--- Financial Technology	0,36	1,96	Not Significant
Competitiveness <--- Artificial Intelligence	6,28	1.96	Signifikant
Competitiveness <--- Digital Marketing, Financial Technology, Artificial Intelligence	125	1,96	Signifikant

source: Lisrel, 8,80. 2025

Based on the table of Regression Weight test results above, there are 2 hypotheses that have a positive and significant effect while the other 2 hypotheses have no significant effect.

Discussion

The results of the above research are further stated the meaning of this finding on the object of research, so as to give rise to clear problems and solutions. The following is an explanation of the results of the research below.

The Influence of Digital Marketing on Competitiveness (H1)

The results of the SEM analysis showed that Digital Marketing had no significant effect on Competitiveness with a regression coefficient of 1.51 < 1.96, the conclusion was rejected by Ha. This shows that Digital Marketing has no effect on the Competitiveness of MSMEs in the city of Depok, in other words even though MSMEs in the city of Depok have adopted Digital Marketing in their marketing but do not increase the competitiveness of MSMEs.

The Financial Impact of Technology on Competitiveness (H2)

The results of the SEM test showed that Finnish Technology had no effect on increasing competitiveness with a regression coefficient of 0.36 > 1.96, the conclusion was rejected by Ha. This shows that the Financial Technology adopted has not been able to increase the competitiveness of MSMEs in the city of Depok.

The Influence of Artificial Intelligence on Competitiveness (H3)

The results of the SEM analysis showed that artificial intelligence had a significant effect on competitiveness with a regression coefficient of 6.28 < 1.96, the conclusion was accepted This shows that the artificial intelligence adopted is able to increase the competitiveness of MSMEs in the city of Depok

The Simultaneous Influence of Digital Marketing, Financial, Technology, and Artificial Intelligence on Competitiveness (H4)

The results of the simultaneous F hypothesis test analysis showed that Digital Marketing, Financial Technology and Artificial Intelligence simultaneously had a positive and significant effect on Competitiveness with a regression coefficient of 125 < 1.96, the conclusion was accepted This shows that the artificial intelligence adopted is able to increase the competitiveness of MSMEs in the city of Depok

E. CONCLUSION

There is no positive and significant influence of Digital Marketing on Competitiveness. This shows that Digital Marketing adopted by MSMEs in the city of Depok does not increase competitiveness.

There is no positive and significant influence between Financial Technology on increasing the competitiveness of MSMEs in the city of Depok, This shows that the Financial Technology adopted has not been able to increase the competitiveness of MSMEs in the city of Depok.

Artificial intelligence has a significant effect on the competitiveness of MSMEs in the city of Depok. This shows that the artificial intelligence adopted is able to increase the competitiveness of MSMEs in the city of Depok

Simultaneously, it shows that Digital Marketing, Financial Technology and Artificial Intelligence have a positive and significant effect on Competitiveness. This shows that the artificial intelligence adopted is able to increase the competitiveness of MSMEs in the city of Depok

Suggestions

For the next researcher to choose other variables in increasing the competitiveness of MSMEs in the city of Depok because the Digital marketing variable and the Financial Technology variable do not have a positive and significant influence on the competitiveness of MSMEs in the city of Depok.

To increase the competitiveness of MSMEs in the city of Depok, it is hoped that the company will continue to make maximum use of Artificial Intelligence to increase the competitiveness of MSMEs in the city of Depok.

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