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Improving Business Perfomance Based on Marketing Technology 5.0 And Dynamic Capability Through E-Commerce Strategy (Case Of West Java Sme Businesses)

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Abstract

This study aims to analyze the influence of digital marketing and dynamic capabilities on e-commerce strategy and its impact on business performance in an effort to increase competitiveness in the era of digital transformation. This study uses a quantitative approach with a survey method on a number of business actors who have implemented e-commerce strategies in various SME industry sectors in West Java, Indonesia. Data were analyzed using structural equation modeling (SEM) to test the relationship between marketing technology 5.0 variables, dynamic capabilities, e-commerce strategy, and business performance. The results of the study indicate that the implementation of marketing technology 5.0 and dynamic capabilities significantly have a positive effect on business performance, both directly and through the mediation of e-commerce strategy. These findings provide practical implications for business actors in designing effective technology-based marketing strategies. In addition, this study also contributes theoretically by strengthening the concept of technology integration and dynamic capabilities in the context of e-commerce. This study suggests that companies continue to innovate and optimize marketing technology to stay relevant to the dynamics of the digital market.

Keyword: Digital Marketing 5.0, Dynamic Capabilities, E-Commerce Strategy, Business Performance

1. INTRODUCTION

During the rapidly developing digital era, technology comes as the main pillar in determining success in business (Sondari et al. 2024; Ahmad et al. 2023; Wang et al. 2023). The implementation of Marketing Technology 5.0, which combines artificial intelligence, data analysis, and marketing automation, is increasingly playing an important role in helping businesses achieve optimal performance (Ahmad et al. 2023). According to Aziz et al. (2022), the implementation of *marketing 5.0* allows businesses to collect and analyze consumer data in real-time, which provides deep insights into customer preferences, behaviors, and needs. Therefore, the presence of this

technology not only allows companies to understand consumers more intensely, but also allows businesses to respond to market needs in real-time, so that it can lead to sustainable business performance (Rizaldi & Madany, 2021; Valdez-Juárez & Castillo-Vergara, 2021).

According to Phan (2021), the role of e-commerce has a significant influence in improving business performance, especially in improving market access, operational efficiency, and customer experience. The presence of e-commerce has been proven to expand market reach geographically without requiring expensive physical infrastructure (Geng et al. 2020; Wang et al. 2022). Additionally, a well-integrated e-commerce system allows automation of sales processes, inventory management, and order management, which drastically improves operational efficiency and reduces transaction costs (Agus, 2021; Salah, 2024). However, existing studies have differences based on business scale such as SMEs versus large companies (Lari et al. 2022; Rizaldi & Madany, 2021). Trading through e-commerce has become one of the main drivers in improving business performance. Ease of access and wide coverage, allows companies to reach consumers without geographical and time constraints (Attar et al. 2022). Thus, current technological developments have been proven to be able to increase sales volume and strengthen company competitiveness.

Azzery (2022) mentioned that in a competitive environment, organizations must be able to update, reconfigure, and reinvent their dynamic capabilities to face intense competition and secure their position in the market. Dynamic capabilities, defined as the ability to integrate, build, and reconfigure internal and external competencies to deal with a changing environment, have gained great relevance and are also an important tool (Darawong, 2018; Nasution et al. 2021). Goel (2019) stated that the ability to adapt and allocate resources effectively allows companies to remain competitive amid market uncertainty. Thus, dynamic capability can provide high flexibility and responsiveness in adjusting organizational strategies.

Currently, the development of e-commerce has become one of the important strategies that integrate *Marketing Technology 5.0* and dynamic capabilities. Through the implementation of e-commerce, businesses can expand their market reach globally, improve operational efficiency, and can utilize technology to analyze consumer data to increase customer engagement and satisfaction. With the combination of e-commerce strategies, *Marketing Technology 5.0*, and dynamic capabilities, businesses have a great opportunity to improve performance, both in terms of increasing sales, cost efficiency, and customer loyalty. Although *Marketing Technology 5.0* offers sophisticated tools for data-driven marketing and personalization, its implementation often requires large investments and technical expertise.

Many businesses, especially smaller ones, may struggle to adopt these technologies due to limited resources or internal capabilities. In addition, for dynamic capabilities to be effective, companies must continually develop adaptive and innovative capabilities. However, in practice, many businesses may lack the structure, culture, or systems to support rapid change, so that e-commerce and marketing technology strategies do not have the maximum impact on business performance. Thus, this study aims to explore how digital marketing 5.0 and dynamic capabilities influence business performance with e-commerce strategy as a mediating variable.

2. LITERATURE REVIEW

2.1 Digital Marketing and E-Commerce Strategy

In increasing competitiveness, expanding market reach, and creating closer relationships with customers, the role of digital marketing becomes important. Nguyen (2011) stated that digital marketing not only offers a way to reach consumers more widely, but also an efficient and measurable marketing solution. According to Wang et al. (2023) digital marketing refers to a marketing approach that uses digital technology and the internet to promote a product or service to consumers. Various digital platforms such as social media, search engines, email, and websites have been widely used by companies both large and small, allowing them to reach consumers more widely and in a more personal way (Lari et al. 2022; Attar et al. 2022; Wang et al. 2023). This enables organizations to develop stronger customer relationships and optimize their shopping experience. Thus, digital marketing not only supports e-commerce growth but also provides significant competitive value.

H1. Digital marketing has a positive impact on e-commerce strategy

2.2 Dynamic Capabilities and E-Commerce Strategies

According to Cevallos & Sánchez (2024) implemented that competitive advantage can be obtained through the acquisition and ownership of valuable, rare, inimitable, and non-substitutable resources. The dynamic capability approach is a concept that emphasizes an organization's ability to quickly adapt and reconfigure its internal and external resources in response to changes in the business environment (Elia et al. 2021). The ability of an organization to update its competencies and achieve environmental fit is a factor that needs full attention, especially in the fast-paced digital era. In this context, organizations must have the capability to adapt and improve competencies to meet the demands of ever-evolving technology and dynamic changes in consumer preferences (Cevallos & Sánchez, 2024; Wu & Hisa, 2008). Previous studies have found that there is a correlation between dynamic capabilities and e-commerce implementation strategies, particularly in the context of the SME sector (Wu & Hisa, 2008). Amidst increasingly tight competition and rapid technological developments, SMEs are faced with the challenge of remaining relevant and competitive. In this context, dynamic capabilities become an important strategy that can be used to encourage the adoption and successful implementation of e-commerce.

H2. Dynamic capabilities have a positive impact on e-commerce strategy

2.3 Digital Marketing and Business Performance

Nuseir & Aljumah (2020) conveyed that marketing strategy is the use of digital technology and the internet to reach consumers more effectively and widely. According to Nuseir & Refae (2022) media such as websites, social media, email, and search engines, companies can interact directly with audiences in real-time, allowing them to build more personal and interactive relationships with consumers. Nuseir & Aljumah (2020) comprhended that the implementation of digital marketing can provide an opportunity for organizations to conduct in-depth analysis to help them understand consumer trends. Based on previous studies, the implementation of digital

marketing can have a significant impact on business performance (Omar et al. 2020). An effective digital marketing strategy allows businesses to reach a wider range of consumers and engage more closely with consumers. With the use of digital technology, organizations can obtain more accurate data on consumer preferences, which can then be used to develop more targeted and efficient marketing strategies (Chakravarthy et al. 2022; Hachimi et al. 2021).

H3. *Digital marketing affects business performance*

2.4 Dynamic Capabilities and Business Performance

Qiu et al. (2020) said that dynamic capability is the ability of an organization to adaptively change, update, and utilize internal resources and competencies to respond to rapid and dynamic environmental changes. This concept refers to the company's skills in innovating and transforming, so as to remain competitive amid market uncertainty and technological developments. Dynamic capability becomes very important by involving the reconfiguration of company resources through the process of copying, transferring, and combining existing resources, especially those based on knowledge. Chatterjee (2023) identified three micro foundations that form dynamic capabilities, namely improvement capabilities: adaptive capabilities, absorptive capabilities, and innovation capabilities. With these capabilities, companies are able to respond to rapid environmental changes and manage market uncertainty more adaptively (Saeed, 2023). The ability to detect opportunities, capture them, and transform internal resources enables companies to be more innovative and responsive to evolving consumer needs. This in turn increases competitiveness and contributes to achieving more optimal business performance. Dynamic capabilities help companies maintain relevance in competitive markets, support long-term growth, and create sustainable added value.

H4. *Dynamic capabilities have a positive impact on business performance*

2.5 E-Commerce Strategy and Business Performance

According to Lari et al. (2022) e-commerce strategy is a plan or approach designed to achieve goals through online sales and marketing. This strategy includes various aspects such as platform selection, developing an attractive and easy-to-use website or application. Yuan et al. (2021) stated that e-commerce strategy also involved management planning to ensure a satisfying experience. His previous studies have shown that e-commerce strategy has an impact on business performance. This shows that proper e-commerce implementation allows businesses to expand market reach, improve operational efficiency, and increase customer interaction (Wang et al. 2023). An effective e-commerce strategy may increase customer satisfaction and loyalty, thus having a positive impact on increasing sales and profitability. With the increasing development of digital technology, the implementation of an integrated and innovative e-commerce strategy is one of the determining factors for business success in this digital era.

H5. *E-commerce strategy affects business performance*

2.6 The Mediating Role of E-Commerce Strategy

As said by Wang et al. (2023), the implementation of digital marketing 5.0, supported by advanced technologies such as artificial intelligence, big data analytics, and automation, allows

businesses to develop more personalized, interactive, and relevant strategies. Several studies have found that the effectiveness of digital marketing implementation directly affects business performance, especially in terms of increasing sales, brand awareness, and customer loyalty (Attar et al. 2022). This effectiveness is also determined by how well the company can adjust its digital strategy to market needs and the latest technology trends, so that business performance can be achieved through relevant and adaptive digital marketing innovations. E-commerce strategy plays an important role as one of the factors that can improve business performance. As stated by Bawack et al. (2022) that the implementation of digital marketing provides a means for organizations to attract consumers more widely and personally through various digital platforms, but e-commerce strategies enable these interactions to be translated into real transactions.

H6. *E-commerce strategy mediates the relationship between digital marketing 5.0 and business performance.*

According to Gao (2023) The goal of an e-commerce strategy is to create a purchasing process that is easy for consumers and convenient, thereby increasing sales conversions and customer loyalty. In addition, an e-commerce strategy also involves data analysis to understand consumer behavior, ad targeting, and personalized offers. With the right strategy, businesses can reach a wider market, strengthen customer relationships, and ensure product availability across multiple digital platforms, which overall has a positive impact on business performance and company competitiveness in the digital era (Ogunmola & Kumar, 2023). Wang et al. (2023) declared that e-commerce strategy allows companies to leverage their dynamic capabilities in delivering more relevant and responsive experiences to customers. This strategy not only supports operational flexibility, but also strengthens the sales process and increases customer satisfaction. Thus, dynamic capabilities, through the mediating role of e-commerce strategy, can be more optimal in driving overall business performance, ensuring that companies remain competitive and adaptive in the ever-evolving digital market. Thus the final hypothesis is proposed as follows:

H7. *E-commerce strategy mediates the relationship between digital marketing 5.0 and business performance.*

3. METHODOLOGY

This study implemeted descriptive and verification methods. The descriptive method purposed to explain the observed phenomena using statistical measures such as average, standard deviation, and data distribution. While the verification method aims to test and analyze the relationship between research variables using more complex statistical techniques, such as Structural Equation Modeling (SEM). With the combination of these two methods, this study not only provided a clear picture of the characteristics of the variables studied, but also tested the validity of the relationship between these variables.

3.1 Population and Sample

The population in this study is all MSMEs in West Java. The sampling technique used in this study is simple random sampling with Slovin formulation. Based on the results of the sample calculation, the sample collected in this study reached 105 respondents.

3.2 Measurement Instruments

There are four variables measured in this study, which will be explained further in the operationalization of the variables below:

Variable	Indicator	Scale
Marketing Tech 5.0	5	Interval
Dynamic dysnamics	10	Interval
E-commerce strategy	9	Interval
Business Performance	6	Interval

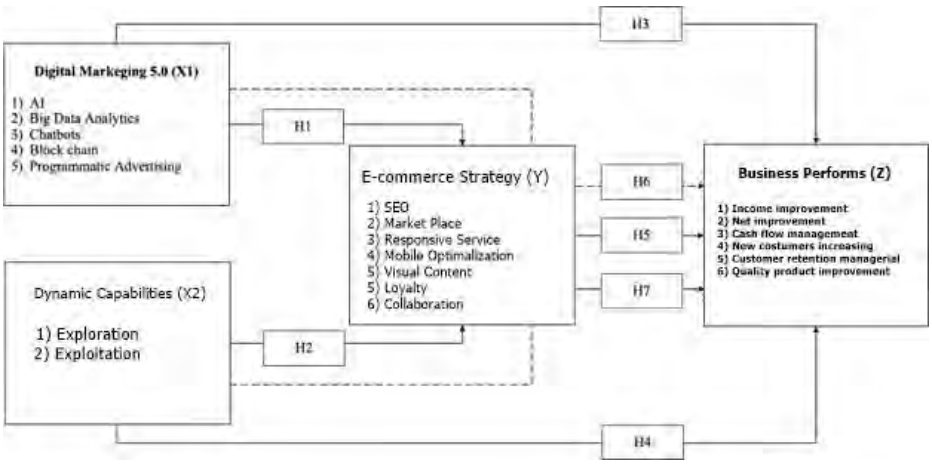

Figure 1. Conceptual Framework

3.3 Statistical Method

This study uses Structural Equation Modeling (SEM) technique to analyze the impact of service quality and product quality on price and its effect on customer satisfaction. The SEM framework consists of two main components: measurement model and structural model. The measurement model describes the relationship between observed variables and their latent constructs, distinguishing between reflective and formative models. A structural model describes the relationships between constructs, which can include dependent (endogenous) or independent (exogenous) variables.

3.4 Model Fit Evaluation

To evaluate the fit of the estimated model using structural equation modeling (SEM), it is essential to consider several model fit criteria. Key indicators include the Root Mean Square Error of

Approximation (RMSEA), where a value below 0.08 is considered acceptable. In addition, the Comparative Fit Index (CFI) and the Tucker–Lewis Index (TLI) are used, with expected values exceeding 0.90 for the model to be considered to have a good fit.

4. RESULTS

4.1 Respondents' Characteristics

Table 1. Respondent's demography

Demography	Frequency	(%)
Education		
Bachelor (S1)	46	43.81
Master degree (S2)	32	30.48
Doctoral degree (S3)	14	13.33
Others	13	12.38
Position		
Office workers	23	21.90
Professional (expert)	23	21.90
Senior Manager	4	3.81
Manager	15	14.29
General Manager	7	6.67
Owner	33	31.43
Working unit (area)		
Bandung	72	68.57
Bekasi	1	0.95
Bogor	1	0.95
Ciamis	1	0.95
Cimahi	2	1.90
Jakarta	18	17.14
Jayapura	1	0.95
Karawang	1	0.95
Purwakarta	2	1.90
Solo	1	0.95
Subang	4	3.81
Tangerang	1	0.95
Total	105	100

The total respondents in this study were 105 people, with 42.81% of them having a bachelor's degree, while the rest were postgraduate graduates and others. The majority of respondents areMSME owners in West Java (31.4%). The job position ranging from employees, professionals, senior managers, managers, and general managers. In terms of the location of the work unit, the MSMEs that were respondents in this study were mostly located in the Bandung area, which reached 68.57%.

4.2 Structural Equation Modeling

Structural Equation Modeling (SEM) modeling is carried out to test the proposed research hypothesis. SEM modeling consists of two main components: a measurement model and a structural model, which are shown in Figure 1. Before continuing the analysis of the two models,

the first step is to conduct a model fit analysis with the data, which is summarized in Table 1. This model fit analysis is important to ensure that the SEM model fits the existing data before proceeding to a more in-depth evaluation of the relationships between variables in the model.

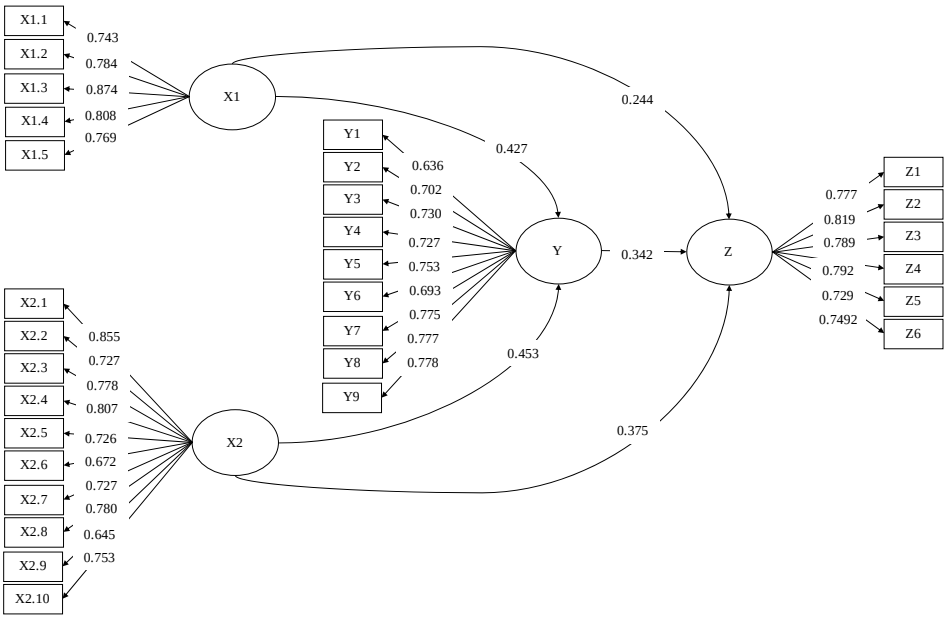

Figure 2. Modeling Results in SEM

Table 2. Model Fit Summary

Fit index	Perfect fit	Acceptable fit	Result	Verification
Absolute fit measure				
CMN/df	< 3	< 5	1.339	Acceptable fit
RMSEA	0 < RMSEA <0.05	0.05 < RMSEA <0.10	0.049	Acceptable fit
Incremental fit measure				
CFI	0.95 < CFI < 1.00	0.90 < CFI < 0.95	0.945	Acceptable fit
TLI	0.95 < TLI < 1.00	0.90 < TLI < 0.95	0.936	Acceptable fit

Based on the results of the model fit analysis involving several indicators, such as the ratio between the chi-square value and degrees of freedom (df), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and Tucker-Lewis Index (TLI), it shows that the model has a good fit with the data. The ratio of chi-square to df, RMSEA, CFI, and TLI show values that are in accordance with the generally accepted model fit criteria, indicating that the SEM model used can describe the data well and can be used to test further research hypotheses.

4.2.1 Measurement Model Evaluation

The results of the validity and reliability tests for the research variables presented in Table 3 indicate that all items used in the measurement model are generally valid and reliable. The analysis was conducted using Confirmatory Factor Analysis (CFA), with each item showing loading factor values greater than the recommended threshold of 0.50, indicating strong construct validity. The Average Variance Extracted (AVE) values for all constructs exceeded 0.50, while Composite Reliability (CR) values were above 0.70, ensuring overall reliability of the constructs.

Table 3. Results of Validity and Reliability Test

Variable	Item	Loading Factor	R Square	AVE	Composite Reliability
Marketing Technology 5.0	MT1	0.74	0.552	0.635	0.897
	MT2	0.78	0.615		
	MT3	0.87	0.764		
	MT4	0.81	0.653		
	MT5	0.77	0.591		
Dynamic Capability	DC1	0.86	0.731	0.561	0.927
	DC2	0.73	0.529		
	DC3	0.78	0.605		
	DC4	0.81	0.651		
	DC5	0.73	0.527		
	DC6	0.67	0.452		
	DC7	0.73	0.529		
	DC8	0.78	0.608		
	DC9	0.65	0.416		
	DC10	0.75	0.567		
E-Commerce Strategy	EC1	0.64	0.404	0.535	0.912
	EC2	0.70	0.493		
	EC3	0.73	0.533		
	EC4	0,73	0.529		
	EC5	0.75	0.567		
	EC6	0.60	0.480		
	EC7	0.78	0.601		
	EC8	0.78	0.604		
	EC9	0.78	0.605		
Business Performance	BP1	0.78	0.604	0.550	0.877
	BP2	0.82	0.671		
	BP3	0.79	0.623		
	BP4	0.79	0.627		
	BP5	0.73	0.531		
	BP6	0.49	0.242		

*) significant on level 5%

In addition, discriminant validity was confirmed using the Fornell-Larcker criterion, which verified that each construct was distinct from the others. Although one item in the business performance variable had a loading factor slightly below 0.50, it was retained due to its statistical

significance in explaining the construct. Overall, the results support the conclusion that the measurement model is both valid and reliable for capturing the intended variables.

Table 4. Discriminant V Using Fornell-Larcker criteria

	Technology	Capability	Strategy	Performance
Technology	1.000	0.598	0.385	0.467
Capability	0.598	1.000	0.438	0.508
Strategy	0.385	0.438	1.000	0.469
Performance	0.467	0.508	0.469	1.000
$\sqrt{\text{AVE}}$	0.797	0.749	0.731	0.741

The results of the analysis for discriminant validity found that all constructs had discriminant validity where the correlation value between constructs was smaller than the square root of the Average Variance Extracted (AVE).

4.2.2 Structural Model Evaluation

The Structural Equation Modeling (SEM) analysis results indicate that marketing technology 5.0 and dynamic capabilities have a significant positive impact on e-commerce strategy and business performance among MSMEs in West Java. Marketing technology 5.0 has a direct positive effect of 0.427 standard deviations on e-commerce strategy, and dynamic capabilities have a slightly greater direct influence of 0.453 standard deviations. Both influences are statistically significant, supporting the notion that improved use of marketing technology and dynamic capabilities leads to a more effective e-commerce strategy.

Additionally, both marketing technology 5.0 and dynamic capabilities positively impact business performance, with influences of 0.244 and 0.375 standard deviations, respectively. E-commerce strategy also shows a positive effect on business performance, acting as a mediating variable for both marketing technology and dynamic capabilities. The indirect effects highlight that both variables contribute significantly to business performance through e-commerce strategy, with dynamic capabilities having a greater total influence (0.529 standard deviations) compared to marketing technology 5.0 (0.390 standard deviations). Overall, these results emphasize the importance of both marketing technology and dynamic capabilities in enhancing e-commerce strategy and improving the overall business performance of MSMEs. Effective management of these two aspects can significantly contribute to the success of MSMEs in West Java.

Table 5. Summary of Results of Direct and Indirect Influence

Effect	Estimate	t-value	P(>|t|)	Decision
Technology→ Strategy	0.427	3.552	0.000	H1 Accepted
Capability→ Strategy	0.453	3.936	0.000	H2 Accepted
R^2-Strategy e-Commerce	38.7%			

Technology→ Performance	0.244	2.458	0.014	H3 Accepted
Capability→ Performance	0.375	2.746	0.006	H4 Accepted
Strategy →Performance	0.342	1.903	0.057	H5 Accepted
R^2-Performa Bisnis	50.4%			
Technology→ Strategy→Performance	0.146	1.664	0.096	H6 Accepted
Capability → Strategy→Performance	0.155	1.998	0.046	H7 Accepted
Total Effect of Technology	0.390	3.294	0.001	
Total Effect of Capability	0.529	4.649	0.000	

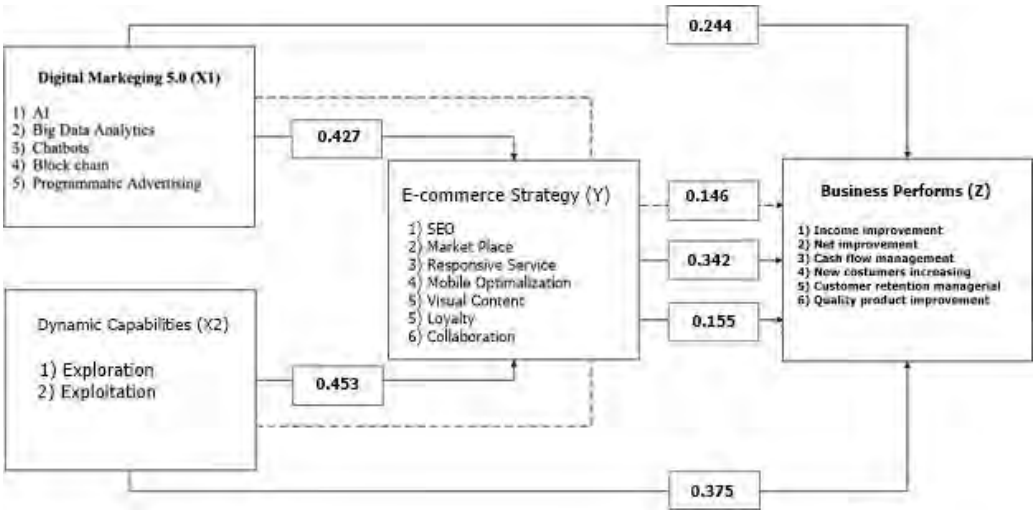

Figure 3. Summary of Results of Direct and Indirect Influence

Next, the results of the Importance and Performance Analysis (IPA) analysis are displayed to identify which items are the focus of improvement based on their average values and factor loadings. This analysis helps determine improvement priorities by comparing the importance of each item with its current performance, making it easier to formulate effective improvement strategies.

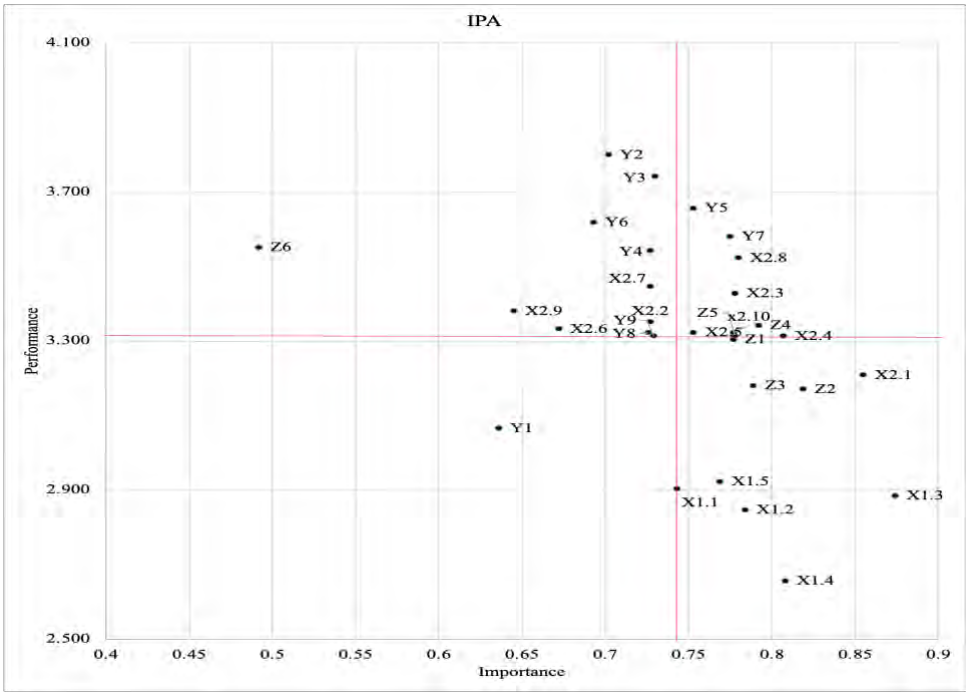

Figure 4. IPA

The results of the IPA analysis show that almost all items in the digital marketing technology 5.0 variable obtained an average lower than the combined average and were also in a position with a high level of importance based on their factor loadings. This indicates that improvements in items X1.1 to X1.5 will have a major impact on the performance of MSME businesses in West Java. In other words, focusing on improving the quality of these items can make a significant contribution to improving the performance of MSME businesses in the region.

5. DISCUSSION and CONCLUSION

In the era of digitalization of technology 5.0, improving business performance in all lines, especially MSMEs, must be based on marketing technology 5.0 and dynamic capabilities through e-commerce strategies. The results of the analysis using surveys and Structural Equation Modeling (SEM) analysis techniques show that the variables of marketing technology 5.0 and dynamic capabilities statistically have a significant effect on e-commerce strategies, and have a direct and indirect impact on business performance. The analysis also found that dynamic capabilities have a greater influence on e-commerce strategies and business performance, both directly and indirectly, compared to marketing technology 5.0. Based on descriptive analysis, the business performance of MSMEs in the current digital era is included in the good category.

The findings underscore the significant role of both marketing technology 5.0 and dynamic capabilities in enhancing the e-commerce strategies and overall business performance of MSMEs in West Java. These factors contribute to more effective e-commerce strategies, which in turn improve business performance. The study highlights that dynamic capabilities, in particular, have a stronger impact, demonstrating their crucial role in driving business success in the region.

Furthermore, the analysis reveals key areas for improvement within the digital marketing technology 5.0 variables. It shows that enhancing specific items—particularly those that are of

high importance but currently underperforming—can lead to considerable improvements in MSME performance. This suggests that MSMEs should prioritize these areas to optimize their use of marketing technology and, ultimately, strengthen their e-commerce strategies and business outcomes.

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