

Business Performance of Tempe Chips SMEs in Sanan Village: Testing the Role of Digital Transformation, Marketing Strategy and Business Innovation

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Abstract. Business performance with adequate growth has always been the goal of implementing various business strategies, including SME group entrepreneurs. Not a few in this field, management tries to keep up with the development of its competitive challenges by adapting technology, as well as developing innovations in its business so that it can survive and even grow. This study aims to examine the effect of digital transformation on business performance through marketing strategy and business innovation as mediating variables. The research approach is quantitative causality and is expose facto explanatory, the research location is Kampung Sanan Malang City. extracting data using a closed questionnaire instrument using a 5-option Likert scale with observation. the object of this research is the perpetrators of SMEs Tempe chips Sanan Malang City. This SME was chosen with the consideration that the contribution of this business is very meaningful for the growth of the local economy, but in the last track record its performance is very fluctuating and even tends to fall. Data analysis using Structural Equation Modeling - Partial Least Squares (SEM-PLS 3).

The results showed that digital transformation affects business performance, marketing strategy and business innovation. In addition, marketing strategy and business innovation affect business performance, and there is an indirect effect of digital transformation on business performance through marketing strategy and business innovation. This shows that digital transformation is not only focused as a technological tool but also a strategic catalyst in strengthening competitiveness, marketing effectiveness and innovation in running a business.

The implications of this research provide a clear picture for SMEs about the importance of adopting digital technology in running a business. Digital transformation is proven to increase business innovation and strengthen marketing strategies that have an impact on improving business performance. Therefore, SMEs need to start or continue to utilize digital platforms such as social media, e-commerce, and digital payment systems to reach a wider market. In addition, it is important for businesses to continue to create innovations, both in the form of products and business processes, in order to compete in an increasingly competitive era. Local governments or related agencies can also use the results of this study as a basis for designing training or mentoring programs on digitalization and innovation for SMEs.

Keywords. Digital Transformation, Marketing Strategy, Business Innovation, Business Performance.

1. Introduction

The role of SMEs in Indonesia is very significant, SMEs are the backbone of the economy by contributing around 60% of Gross Domestic Product (GDP) and absorbing more than 97% of the national workforce [1]. One of them is the tempe chips industry which is growing rapidly in Sanan Village, Malang City, East Java. Kampung Sanan has long been known as the center of tempe and tempe chips production, making it a typical culinary icon of Malang. About 80% of the total population of Kampung Sanan are tempe craftsmen, with a production capacity of up to 20 tons of tempe every day [2]. This makes Kampung Sanan not only the center of the tempe industry, but also a symbol of culinary cultural heritage that strengthens the identity of Malang City.

Based on the results of the researchers' initial observations, it was found that the business performance of SMEs in Kampung Sanan experienced significant fluctuations. In certain months, such as August, production in Sanan Village decreases dramatically so that business actors who are usually able to produce up to 1,000 pieces of tempe chips per day, can only produce the same amount in one week. On the other hand, during moments such as Lebaran or school vacations, there is a surge in demand, but during these events, tempe chip production stagnates. This fluctuation shows that the stability of business performance is strongly influenced by seasonal factors or certain momentum. In addition, the quality of products in each shop in Sanan village is different in each shop, thus creating intense competition among business actors. Therefore, a more comprehensive digital transformation strategy, marketing innovation, and product development are needed to encourage sustainable SME business performance. Some research results show that digital transformation has a significant impact on SME performance, both directly and through the mediating role of marketing strategy and business innovation [3]. Previous research highlights the importance of digital technology adoption to expand markets, improve operational efficiency, and drive product and process innovation [4]. However, there are inconsistencies in the findings, where some studies find an insignificant effect of digital transformation on SME performance [5]. This research is expected to bridge the gap of previous findings related to the role of digital transformation in improving SME business performance through marketing strategy and business innovation.

To overcome these challenges and improve the business performance of SMEs, digital transformation is a potential solution for tempe chips SMEs in Kampung Sanan. Technology can help change the way SMEs operate in the digital era. This is by encouraging them to implement the use of digital technologies, such as e-commerce, production tracking, and online marketing, to improve competitiveness and increase the accessibility of local products [6]. In addition, digital transformation helps SMEs optimize marketing, product innovation, and operational efficiency to support business performance. Thus, digital transformation is a strategic step for tempe chips SMEs in Kampung Sanan to face challenges, take advantage of opportunities, and achieve sustainable business growth.

This study aims to examine the effect of digital transformation on business performance of tempe chips SMEs in Kampung Sanan with marketing strategy and business innovation as mediating variables. The focus on the traditional food sector provides a new perspective in understanding the dynamics of digital transformation in this industry. This research is not only practically relevant for SMEs in Kampung Sanan, but also makes a theoretical contribution in enriching the literature.

2. Literature Review

2.1. Grand Theory (Dynamic Capabilities Theory)

Dynamic Capabilities Theory, introduced by Teece et al, is a theoretical framework that explains how companies can achieve and maintain competitive advantage in a dynamic and fast-changing business environment [7]. Dynamic Capabilities Theory defines three main components: sensing (the ability to detect and assess opportunities), seizing (the ability to take advantage of opportunities), and transforming (the ability to continuously renew and reconfigure organizational assets). The relevance of Dynamic Capabilities Theory in this study lies in its ability to explain the process by which SMEs in the tempe chips industry can improve business performance through digital transformation. The theory provides a conceptual foundation for understanding how SMEs can develop sensing capabilities to recognize the importance of digital technology, seizing capabilities to implement marketing strategies and business innovation, and transforming capabilities to integrate change into overall business operations. Using Dynamic Capabilities Theory, this research can explore not only the direct impact of digital transformation on business performance, but also the mechanism by which this transformation creates value through improved marketing strategy and business innovation. This makes the output a more comprehensive analysis of how SMEs can develop resilience and flexibility in the face of digital challenges, as well as how businesses can capitalize on opportunities arising from technological change to improve their competitiveness in a dynamic market.

2.2. Business Performance

Business performance is a measure of the success of a business that reflects the effectiveness of the organization in achieving its economic and non-economic goals. According to the Resource-Based View (RBV) theory proposed by Barney [8], a company's superior performance comes from resources and capabilities that are valuable, rare, difficult to imitate, and cannot be replaced. In this case, SME resources can be physical assets, employee skills, organizational processes, or even company reputation. According to Salehi & Arianpoor classify business

performance into two main dimensions: financial and non-financial dimensions [9]. Financial dimensions include profitability, sales growth, and return on investment (ROI), while non-financial dimensions include customer satisfaction, product innovation, operational efficiency, and corporate reputation. To measure business performance, researchers used sales growth, profitability, operational efficiency, customer satisfaction, and market share.

2.3. Digital Transformation

Digital transformation is the process of integrating digital technology into all aspects of a business, resulting in fundamental changes in the way it operates and delivers value to customers. This concept is not only about the adoption of new technologies, but also about fundamental changes in organizational culture, business processes, and business models. According to Kraus et al., digital transformation includes organizational changes triggered by the development of digital technology and the emergence of new business models, which aim to improve overall company performance [10]. Digital transformation covers various aspects, ranging from the use of e-commerce and social media to marketing. Digital transformation is also used as a method that significantly changes the characteristics of an entity by utilizing a combination of information technology, computing, communication, and connectivity. This transformation process not only focuses on technological aspects, but also involves developing employees' digital capabilities, changing management mindsets, and reorienting business strategies to take advantage of opportunities in the digital era. To measure digital transformation, researchers used the following indicators, digital technology adoption, digital skills, digital infrastructure, and digital culture

2.4. Marketing strategy

Marketing strategy is a comprehensive plan that describes how a company will achieve its marketing objectives. The Marketing Mix theory proposed by McCarthy, and popularized by Kotler, known as the 4Ps (Product, Price, Place, Promotion) is still the foundation of marketing strategy development. However, in the digital era the 4P concept has evolved to include new aspects such as personalization, customer participation, and marketing. In the digital era, marketing strategy focuses on utilizing digital technology to reach and engage customers. The main components of the marketing strategy include content marketing, social media marketing, search engine optimization (SEO), and influencer marketing. According to Saura et al. emphasized that SMEs that adopt digital marketing strategies can increase brand visibility, expand market reach, and increase interaction with customers [11]. Digital marketing strategies allow SMEs to compete more effectively with large companies through more precise targeting and more accurate performance measurement. The marketing strategy indicators in this study are digital marketing, market segmentation, product branding, and distribution channels.

2.5. Business Innovation

Business innovation refers to the introduction of new ideas, methods, or devices that significantly improve a company's products, processes, or business model. The Disruptive Innovation Theory proposed by Christensen, highlights how innovation can change the competitive landscape and create new markets. Innovation is never a one-time occurrence however, innovation must be continuous and cumulative involving several organizational decision-making processes, from the idea stage to the implementation stage. Business innovation is the key to surviving and thriving in a competitive market, especially in the digital era that is full of rapid changes. The types of business innovation relevant to SMEs include product innovation, which is the development of new products or the improvement of existing products, process innovation, which is improvements in production or distribution methods, marketing innovation, which is the introduction of new marketing methods, and organizational innovation, which is the implementation of new organizational methods in business practices. According to the Diffusion of Innovation Theory proposed by Rogers, the adoption of innovations in organizations occurs through a process involving knowledge, persuasion, decision, implementation, and confirmation [12]. SMEs that innovate tend to have better performance than those that do not innovate, especially in terms of sales growth and profitability. Indicators of business innovation are product innovation, process innovation, business model innovation, and innovation culture.

3. Methodology

This research uses a descriptive quantitative approach to test the causal relationship of the research variables, namely business performance, digital transformation, marketing strategy and business innovation of SMEs. This study uses the explanatory research method to explain how digital transformation affects business performance along with the mediating role of marketing strategy and business innovation of business actors. The data analysis technique used is Path Analysis using the SEM PLS programme. The selection of Path Analysis is based on its ability to test direct and indirect relationships between variables, as well as determine the mediating influence of marketing strategy and business innovation variables. This study aims to see whether there is an effect of Digital transformation on Business performance of tempe chips SMEs in Sanan village through Marketing strategy and Business innovation.

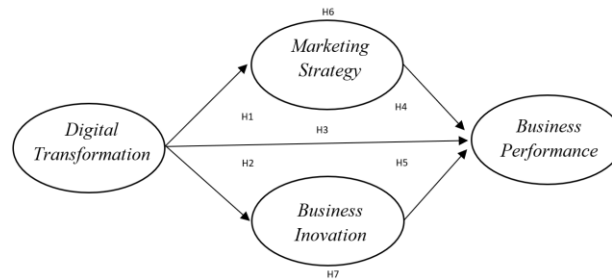


Figure 1. Research Design
(Source: Processed by researchers, 2025)

3.1. Study Population

The population in this study is all tempe chips SMEs in Sanan Village, Malang City. Current data shows that there are around 500 active SMEs.

3.2. Study Sample

Sampling researchers used purposive sampling method with the following criteria:

1. SMEs that have been operating for at least 2 years
2. SMEs that have implemented at least one form of digital technology in their operations
3. SMEs with between 5-50 employees
4. Determination of the number of samples of researchers using the help of the sample size calculator website obtained as many as 218 SMEs that will be the sample of this study.

3.3. Validity of the Internal Consistency

After confirming the apparent validity of the study tool, the researcher applied it in the field, and the Pearson correlation coefficient was calculated to know the internal validity of the questionnaire, as the correlation coefficient was calculated between the degree of each of the statements of the study tool and the total degree of the axis to which the statement belongs, as shown in the following tables.

3.3.1. Convergent Validity

The purpose of Convergent Validity is to determine the validity of each relationship between indicators and their constructs or latent variables. Convergent validity testing can be seen from the results of the outer loading test with the provisions, if the outer loading value > 0.70 then the indicator can be said to be valid for measuring constructs. The results of this study's outer loading can be seen in the table 1.

Table 1. Convergent Validity

No.	Variables	Indicator	Outer Loadings	Ket
1	Business Performance	BP1	0.766	Valid
		BP2	0.822	Valid
		BP3	0.793	Valid
		BP4	0.806	Valid
2	Digital Transformation	DT1	0.799	Valid

No.	Variables	Indicator	Outer Loadings	Ket
		DT2	0.798	Valid
		DT3	0.751	Valid
		DT4	0.799	Valid
3	Marketing Strategy	MS1	0.913	Valid
		MS2	0.898	Valid
		MS3	0.737	Valid
		MS4	0.916	Valid
4	Business Innovation	BI1	0.878	Valid
		BI2	0.834	Valid
		BI3	0.819	Valid
		BI4	0.896	Valid

Source: Data processed by researchers, 2025

Based on table 1., the results of outer loading in this study show that all indicators have strong validity. Indicators of these four variables produce significant values and are greater than 0.70 so it can be concluded that the indicators of the four variables in this study can be said to be valid for measuring digital transformation variables affecting business performance, marketing strategy and business innovation.

3.3.2. Discriminant

Discriminant validity is one of the validity tests with the aim of ensuring that a latent variable can reflect different concepts from other latent variables in this research model. Discriminant validity testing in this study uses the Fornell Larcker criteria. The test results can be seen in table 2.

Table 2. Discriminant Validity (Fornell-Larcker Criterion)

	<i>Digital Transformation</i>	<i>Business Innovation</i>	<i>Business Performance</i>	<i>Marketing Strategy</i>
Digital Transformation	0.787			
Business Innovation	0.713	0.857		
Business Performance	0.675	0.644	0.797	
Marketing Strategy	0.716	0.543	0.610	0.869

Source: Data processed by researchers, 2025

The criteria fornell larcker is that if the statistical calculation shows the thick diagonal or cross loading value should be higher than the cut off value of 0.70. when viewed from table 2. it can be concluded that the thick diagonal value in each construct is greater than 0.70 so that the criteria fornell larcker have been met.

3.3.3. Reliability

Table 3. Internal Consistency Reliability

No.	Variables	Cronbach's Alpha	Composite Reliability (rho_a)	Compodite Reliability (rho_c)	Ket
1	Digital Transformation	0.795	0.797	0.867	Reliable
2	Business Innovation	0.880	0.887	0.917	Reliable
3	Business Performance	0.809	0.814	0.874	Reliable
4	Marketing Strategy	0.890	0.905	0.925	Reliable

Source: Data processed by researchers, 2025

The reliability test can use 2 values, namely in terms of Cronbach's alpha and composite reliability. The test provisions are that if the Cronbach's alpha value is greater than 0.6, it can be considered reliable. However, if composite reliability can be considered reliable when the CR value is > 0.7. Based on table 4.12, it can be concluded that the Cronbach's alpha value in each variable in this study is > 0.6, so it can be said to be reliable. Meanwhile, the composite reliability value in this study also obtained results > 0.7 so that it can be said to be reliable. The results of this reliability test indicate that the question items used in this study to measure each variable can be trusted in representing the construct being measured.

4. Research results

4.1. Inner Model (Structural Model Evaluation)

This inner model test is carried out to test the causal relationship between latent variables in the research model. In this study, testing focuses on testing the r-square model, q2 predictive relevance, goodness of fit model, and f-square.

4.1.1. R-Square

R-Square test aims to assess how much the independent variable can explain the dependent variable in this research model. The R-Square criteria if the value is close to > 0.25 then the R-Square is considered weak, if the value is > 0.45 then it is considered moderate and if the value is > 0.70 then it is considered strong [13].

Table 4. R-Square

Variables	R-Square
Business Innovation	0.509
Business Performance	0.537
Marketing Strategy	0.513

Source: Data processed by researchers, 2025

Based on the analysis results, the R-Square value shows the contribution of the independent variables in explaining the dependent variable. The R-Square value for Business Innovation was recorded at 0.509, which means that about 50.9% of the variation in business innovation can be explained by the model. Furthermore, the R-Square value for business performance reached 0.537, indicating that 53.7% can be explained by the variables in the model. Meanwhile, marketing strategy has an R-Square value of 0.513, which indicates that the model is able to explain 51.3% of the variation in marketing strategy.

4.1.2. Q2 Predictive Relevance

The Q² or predictive relevance value is used to measure the extent to which the model has predictive ability of the dependent variable. The Q Square test in Smart-PLS 3 is carried out using a blindfolding procedure. The criteria for the Q Square value if $Q^2 < 0.15$ is a weak model, if $Q^2 > 0.15$ and $Q^2 \leq 0.35$ is a medium model, and if $Q^2 \geq 0.35$ is a strong model. The results of the Q² test in this study are presented in table 5.

Table 5. Q2 Predictive Relevance

Variables	Q2	Ket
Business Innovation	0.360	Strong
Business Performance	0.321	Medium
Marketing Strategy	0.380	Strong

Source: Data processed by researchers, 2025

Based on the analysis results, the Q² value for the Business Innovation variable is 0.360, which indicates that the model has strong predictive power for this variable. The same can be seen for Marketing Strategy with a Q² value of 0.380, which is also in the strong category. Meanwhile, the Business Performance variable obtained a Q² value of 0.321. This value is still in the medium category, which means that the model has sufficient predictive ability, although not as strong as the other two variables.

4.1.3. Goodnes of Fit Model

Goodnes of Fit Model aims to measure the overall fit evaluation of the model. GoF in this study describes whether there is an overall model fit from the outer to the inner model. The results of the GoF Index value in this study were obtained from the square root of the average AVE and average R-Square. The results of the Gof Index calculation in this study are presented in table 6.

Table 6. Goodnes of Fit Model

Average AVE	Average R-Square	GoF Index	Ket
0,686	0,520	0,504	Strong

Source: Data processed by researchers, 2025

Based on table 6. that the GoF Index of this study is 0.504 so it can be concluded that the GoF Index is high because the GoF value is > 0.36. High GoF means that empirical data is able to explain the measurement model and structural model with a good / high level of fit.

4.1.4. F-Square

This F-Square analysis aims to evaluate how much contribution each exogenous variable makes to the endogenous variables in this study. This value shows how much influence the exogenous latent variables have on the endogenous latent variables separately in the structural model. The provisions for the value of f^2 if $f^2 > 0.02$ then it is classified as small effect, if $f^2 > 0.15$ then it is classified as medium effect, and if $f^2 > 0.35$ then it is classified as large effect.

Table 7. F- Square

Variables	BP	DT	MS	BI
Business Performance				
Digital Transformation	0.057		1.052	1.036
Marketing Strategy	0.105			
Business Innovation	0.060			

Source: Data processed by researchers, 2025

Based on table 7. that the effect size of digital transformation is $0.057 > 0.15$, it can be interpreted that the effect is medium. Then the marketing strategy variable obtained an effect size value of $0.105 > 0.02$ so that f^2 on this variable the effect is classified as small. If the business innovation variable effect size is $0.060 > 0.15$, which means that this variable has a medium effect.

4.2. Hypothesis Testing

This can be seen by looking at the p-value, with the criteria that if the p-value < 0.05 (5%), it can be said that the hypothesis has a positive and significant effect or is accepted, while if the p-value > 0.05 , it can be said that the hypothesis has no effect or the hypothesis is rejected. This study tests the hypothesis using the help of Smart-PLS 3.0 software through bootstrapping results.

Table 8. Hypothesis Testing Result

Exogenous Variables	Mediating Variable	Endogenous Variable	Path Coefficients	P- Value	Ket
Digital Transformation	-	Marketing Strategy	0.716	0.000	Accepted
Digital Transformation	-	Business Innovation	0.713	0.000	Accepted
Digital Transformation	-	Business Performance	0.279	0.042	Accepted
Marketing Strategy	-	Business Performance	0.238	0.030	Accepted
Business Innovation	-	Business Performance	0.316	0.004	Accepted
Digital Transformation	Marketing Strategy	Business Performance	0.171	0.022	Accepted

Digital Transformation	Business Innovation	Business Performance	0.225	0.002	Accepted
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Source: Data processed by researchers, 2025

Based on the results in Table 4.17, it can be concluded that all relationships in the structural model show a positive path coefficient and p-value <0.05. This indicates that all hypotheses proposed in this study are statistically accepted. Digital Transformation is shown to have a significant effect on Marketing Strategy (coefficient = 0.716; p = 0.000) and Business Innovation (coefficient = 0.713; p = 0.000), which indicates that the application of digital technology is able to encourage the strengthening of marketing strategies and innovation in business directly. In addition, Digital Transformation also has a direct effect on Business Performance (coefficient = 0.279; p = 0.042), although the effect is relatively smaller than the previous two variables. Furthermore, Marketing Strategy also has a significant impact on Business Performance (coefficient = 0.238; p = 0.030), as well as Business Innovation which shows a positive contribution to company performance (coefficient = 0.316; p = 0.004). These findings indicate that both strategy and innovation are important factors that mediate business success in the midst of digital transformation. The findings of this study also show an indirect effect, Digital Transformation through Marketing Strategy has an indirect effect on Business Performance (mediation coefficient = 0.171; p = 0.022), as does Digital Transformation through Business Innovation (mediation coefficient = 0.225; p = 0.002). Both mediation effects are significant, indicating that Digital Transformation not only works directly, but also indirectly strengthens business performance through optimizing marketing strategy and innovation.

5. Discussion

5.1. Effect of Digital Transformation on Marketing Strategy

The results of the study indicate that digital transformation has a positive and significant effect on marketing strategy in Tempe Chips SMEs in Kampung Sanan. In line with the results of Albrecht's research, which states that digital transformation has a deep and diverse impact on marketing strategy [14]. The implementation of digital transformation such as digital technology, e-commerce, social media platforms makes it easier for SMEs to develop their marketing strategies to be more effective, efficient and responsive and can compete in a competitive market. Digital transformation has encouraged SMEs to shift from traditional marketing methods to an omnichannel approach, so that with this transition SMEs can reach a wider range of customers at a lower cost [15]. The application of digital transformation makes it very easy for consumers to access store information, find out prices, see the chips menu available on social media or e-commerce, to access purchases that no longer need to come to the physical store directly, thus providing an easier and more attractive experience for consumers.

This is also supported by the TAM (Technology Acceptance Model) theory developed by Davis which states that technology adoption is influenced by perceived usefulness and perceived ease of use. SMEs have felt the ease and benefits of digital transformation which has contributed to increasing the effectiveness of more effective and relevant marketing strategies, increasing consumer interaction and loyalty so as to maximize sales in the digital era. The results of this study are supported by research results from Cherti, which states that digital transformation significantly impacts marketing strategy [16]. In connection with the theoretical explanation and variable attachment, this study shows that SMEs apply digital technology, e-commerce, social media, the more effective and efficient their marketing strategy. In line with the descriptive analysis on the digital transformation variable that providing digital payment methods is one of the marketing strategies of SMEs to facilitate customer transactions.

5.2. The Effect of Digital Transformation on Business Innovation

The results showed that digital transformation has a positive and significant effect on business innovation in tempe chips SMEs in Kampung Sanan. This shows that the higher the level of digital transformation carried out by SMEs, the higher their ability to create and implement innovations in business. This finding indicates that the utilization of digital technology not only increases operational efficiency, but also encourages the creation of new ideas that are relevant to market needs. The adoption of various technologies such as social media, e-commerce, digital payment, and communication applications that make it easier for SMEs to access market information, understand consumer behavior, and respond to these needs quickly through product, service, or business model innovations [17]. With the implementation of digitalization, tempe chips SMEs in Kampung Sanan can be more adaptive in

responding to market changes, and can create innovations in the form of flavors, shapes, and several processed tempe innovations.

This finding is in line with the Disruptive Innovation Theory proposed by Christensen, which states that disruptive innovation arises when new technology changes the traditional way of doing business and creates new value. Digital transformation acts as a disruptive force that encourages traditional SMEs such as Sanan tempe chips to start thinking innovatively in modifying the way they run their business, from packaging, promotion, to product distribution. The digitization process encourages SMEs to break out of old patterns and innovate to stay relevant and competitive in an ever-evolving market. Thus, digital transformation is not only an operational tool, but also an important catalyst in creating sustainable innovation that supports competitiveness and long-term business growth. This is supported by the results of research by Blat et al., which states that digital transformation has an impact on business innovation [5]. In line with the results of descriptive analysis on digital transformation variables, the provision of digital payment methods is a tangible form of digital transformation implementation that supports operational efficiency and becomes a foundation for SMEs to continue to explore other potential innovations in developing their business.

5.3. Effect of Digital Transformation on Business Performance

The results of this study indicate that digital transformation has a positive and significant effect on business performance in tempe chips SMEs in Sanan Village. This finding shows that the higher the level of adoption and implementation of digital transformation, the higher the sales growth, business profitability and operational efficiency. Digital transformation has an important role in driving improved business performance [18], especially for SMEs such as the Tempe Chips industry center in Kampung Sanan, Malang. Digital transformation refers to the application of digital technology in various aspects of business operations, ranging from marketing, payment transactions, stock management, to customer service. The adoption of digital technology can improve efficiency, expand market reach, and increase sales and business profitability [19].

These results are in line with the Dynamic Capabilities theory proposed by Teece et al., which explains that the dynamic capabilities of an organization, namely the ability to integrate, build, and reconfigure internal and external competencies to respond to environmental changes, are key in achieving sustainable competitive advantage. Digital transformation reflects these dynamic capabilities, because SMEs that are able to adopt technology quickly and appropriately will be more adaptive to market changes and consumer needs. Digitalization becomes a strategic tool to strengthen business flexibility and innovation. This is supported by findings from previous studies Huang & Cheng, which show that digital transformation affects business performance so that it can encourage increased competitiveness and business performance in the SME sector [19], [20]. This research also shows that with digital transformation, SMEs feel improvements in various aspects of business performance, especially in terms of operational efficiency and increased revenue.

5.4. The effect of Marketing strategy on Business Performance

Marketing strategy is an important element in supporting business success in Tempe Chips SMEs in Sanan Village. The results of this study indicate that marketing strategy has a positive and significant effect on business performance. So, if the more effective the marketing strategy carried out by SMEs, the higher the business performance they achieve. The marketing strategy referred to in this study includes various activities such as digital marketing, target market determination, product branding, and selection of distribution channels in accordance with consumer needs. This is in line with research from Deku et al., that marketing strategies have a major impact on business performance [21].

This finding is in line with the Marketing Mix (4P) theory by McCarthy, which states that marketing success is strongly influenced by four main elements, namely product, price, place, and promotion. The products offered by SMEs in Kampung Sanan are tempe chips that already have a distinctive value and local flavor that is the main attraction [22]. The price offered is competitive, in line with consumer purchasing power. The distribution strategy also utilizes various channels, both online and offline, which makes the products more accessible to consumers. In addition, digital promotion through social media and e-commerce is the main strategy in increasing product visibility. One important aspect that drives high business performance is the ability of SMEs to utilize digital platforms such as Instagram, WhatsApp, Facebook, and marketplaces to interact directly with customers. These interactions not only build closeness, but also increase customer trust and expand marketing networks. This strategy

has proven to be effective in reaching a wider range of consumers and building customer loyalty, while still developing capabilities regarding adaptation to digital trends. The results of this study confirm that success in implementing the right marketing strategy is one of the main keys in maintaining the competitiveness and sustainability of SME businesses in the midst of increasingly competitive market competition.

5.5. The effect of Business innovation on Business Performance

Business innovation is one of the key factors in encouraging the improvement of business performance of tempe chips SMEs in Sanan Village. The results of this study indicate that business innovation has a positive and significant effect on business performance. The higher the level of innovation carried out by SMEs, the better the business performance they will achieve. The innovation includes product innovation, processes, business models, to the creation of an innovative culture in the business environment. This finding is in line with the Open Innovation Theory proposed by Chesbrough, which emphasizes the importance of collaboration and exchange of ideas from both inside and outside the organization to produce valuable innovations. This theory shows that businesses do not have to rely entirely on internal resources to innovate, but can utilize knowledge, technology, and input from various external parties such as customers, business communities, academics, and other business actors.

An open approach is believed to accelerate the innovation process and expand business opportunities. This is in line with research [23] that business innovation has a direct positive impact on business performance. In addition, one of the results that reinforces this finding is the tendency of SMEs to utilize digital platforms to understand customer needs and preferences [24]. Through these interactions, businesses can develop products that are more in line with the market and create added value for consumers. Product innovations such as flavor variants and processed tempe chips as well as more practical packaging innovations are concrete examples of the application of innovations that directly contribute to increasing sales in tempe chips SMEs in Kampung Sanan.

5.6. The influence of Digital Transformation on Business Performance through Marketing Strategy

The results showed that digital transformation has a positive and significant effect on business performance through marketing strategy as a mediating variable. Digital transformation implemented by tempe chips SMEs in Kampung Sanan not only has a direct impact on improving business performance, but also indirectly through increasing the effectiveness of the marketing strategies they run. Digital transformation allows SMEs to utilize various digital technologies and platforms in carrying out marketing activities such as the use of social media, e-commerce, digital payment systems, to digital-based customer communication [25]. The application of digitalization in these marketing activities strengthens market affordability, accelerates information dissemination, and improves the quality of relationships between SMEs and their consumers, thus creating a more efficient, responsive, and measurable marketing strategy.

This finding is in line with the Integrated Marketing Communications (IMC) Theory proposed by Schultz, Tannenbaum, and Lauterborn, which emphasizes the importance of integration of various marketing communication tools such as advertising, promotion, public relations, direct marketing, and digital marketing to create a consistent message to consumers. Digital transformation helps SMEs integrate and deliver their brand or product messages consistently across various digital communication channels, such as Instagram, WhatsApp Business, Facebook, and marketplace platforms. The consistency of messages built through an integrated digital marketing strategy can strengthen brand awareness and influence consumer purchasing decisions. This is in line with the results of research by Cherti, that digital transformation affects business performance through marketing strategy [16]. SMEs can use paid promotional features on social media to reach a wider market, manage communication with customers through instant messaging, and provide an easier and faster purchasing experience through digital platforms. This strategy not only improves marketing efficiency, but also has a direct impact on increasing sales, profitability, and customer satisfaction, which are key indicators of business performance.

5.7. The effect of Digital Transformation on Business Performance through Business Innovation

The results of this study indicate that digital transformation has a positive and significant effect on business performance through business innovation as a mediating variable. Digital transformation carried out by tempe chips SMEs in Kampung Sanan encourages innovation in their business processes, which then has an impact on improving overall business performance. Digital transformation opens opportunities for SMEs to access various information, new technologies, and relevant market trends. With this convenience, businesses are better able to develop products, improve operational processes, create new business models, and build an innovative culture

within their organizations. These innovations help SMEs to adapt to market changes, increase efficiency, and attract and retain customers, thereby improving business performance.

This finding is in line with the Innovation Diffusion Theory proposed by Rogers, This theory explains how, why, and at what level new technologies and innovative ideas are disseminated in a social community or organization [12]. Digital transformation triggers the process of innovation diffusion in SMEs. Through the adoption of digital technology, businesses become faster in recognizing and adopting innovative ideas that are relevant to their market and business needs. Digital transformation encourages the stages of diffusion ranging from knowledge, persuasion, to implementation of innovation. The higher the ability of SMEs to absorb and implement digital-based innovations, the higher the level of business performance they achieve. In line with the results of research by Blat et al., that digital transformation has a positive and significant effect on business performance through business innovation [5]. The adoption of digital technology encourages SMEs in Kampung Sanan to experiment with products and services, explore new collaborations, and seek more efficient production and distribution methods. In fact, in some cases, SMEs are developing new business models that utilize digital platforms as the central point of distribution and customer communication.

6. Conclusion and Recommendations

6.1. Conclusion

- There is a positive and significant direct influence between digital transformation variables on business performance on tempe chips SMEs in Malang City's Sanan Village. It can be interpreted, if the higher the level of adoption and application of digital transformation, such as the use of e-commerce, social media, and digital payment systems, the higher the business performance of SMEs, especially in terms of increasing sales, operational efficiency, and profitability.
- There is a positive and significant direct influence between digital transformation variables on marketing strategy on tempe chips SMEs in Kampung Sanan Malang City. So that digital transformation can encourage SMEs to develop and implement more effective marketing strategies, such as utilizing social media, digital market segmentation, and online distribution channels.
- There is a positive and significant direct influence between digital transformation variables on business innovation in tempe chips SMEs in Malang City's Sanan Village. So that if the higher the utilization of digital technology, the higher the level of innovation carried out by SMEs, both in the form of product development, process efficiency, and the creation of new business models.
- There is a positive and significant direct influence between marketing strategy variables on business performance on tempe chips SMEs in Malang City's Sanan Village. So that if the more effective the marketing strategy is carried out, the more business performance of SMEs will increase, such as market expansion, customer loyalty, and increased sales.
- There is a positive and significant direct influence between business innovation variables on business performance on tempe chips SMEs in Malang City's Sanan Village. So that innovations made in products, processes, and business models are able to encourage the improvement of business performance of SMEs.
- There is a positive and significant indirect effect between digital transformation on business performance through marketing strategy on tempe chips SMEs in Kampung Sanan Malang City. It can be interpreted that, digital transformation will have an optimal impact on business performance if supported by an effective and integrated marketing strategy.
- There is a positive and significant indirect effect between digital transformation on business performance through business innovation on tempe chips SMEs in Malang City's Sanan Village. It can be interpreted that, good digital adoption can encourage the birth of innovation, which in turn significantly improves business performance.

6.2. Recommendations

6.2.1. For SMEs

- SMEs in Kampung Sanan are expected to continue to improve their skills in utilizing social media for digital marketing strategies.

- Training or mentoring related to digital marketing, content creation, and social media management needs to be carried out on an ongoing basis so that products can reach a wider market.

6.2.2. For Government and Related Stakeholders

- Local governments and SME support institutions are advised to continue to facilitate comprehensive SME digitalization training, not only on technical aspects but also on aspects of digital business strategy and innovation.
- The provision of stable internet infrastructure is also an important factor in supporting the smooth adoption of technology.

6.2.3. For Future Researchers

- This research can serve as a basis for further studies that quantitatively examine the relationship between digital transformation and improved business performance.
- In addition, future researchers can also explore the long-term impact of digital transformation on SME business sustainability, including how digital technology affects consumer behaviour, customer loyalty, and product innovation.
- Qualitative research or a more in-depth case study approach can also be used to explore the real experiences of SMEs in implementing digital-based marketing strategies in a more contextual and in-depth manner.

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