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Omnichannel Strategy, Chatbot Responsiveness, and Same-Day Delivery's Influence on Customer Satisfaction in the Metaverse Commerce Era: A Case Study of Bukalapak and Zalora

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Abstract

This research aims to examine the influence of omnichannel strategy, chatbot responsiveness, and same-day delivery on customer satisfaction within the context of metaverse commerce. Using a quantitative approach with regression analysis, the study focuses on a case study of two e-commerce platforms, Bukalapak and Zalora. Data was collected through online questionnaires from a sample population of 300 people in Samarinda and its surrounding areas who have used these three services. The analysis method used was a combination of SEM-PLS.

The research findings show that all three independent variables—omnichannel strategy, chatbot responsiveness, and same-day delivery—have a significant influence on customer satisfaction. All alternative hypotheses were accepted. Among the three variables, same-day delivery showed the strongest influence, indicating that delivery speed is a crucial factor for customers. Meanwhile, chatbot responsiveness and omnichannel strategy also had a positive influence, although their impact was smaller compared to same-day delivery. The model was able to explain a large portion of the variation in customer satisfaction.

The implications of these findings suggest that companies like Bukalapak and Zalora need to prioritize delivery services to improve customer satisfaction. The results of this study can serve as a guide for optimizing omnichannel strategies, chatbots, and logistics. It is also recommended that future research includes additional variables and uses qualitative methods to provide a more comprehensive understanding.

INTRODUCTION

Digital transformation is advancing toward metaverse commerce in addition to incorporating traditional channels like websites, apps, social media, and physical storefronts. Businesses can now provide more interactive purchasing experiences thanks to the metaverse, an immersive, three-dimensional virtual environment. Customers can speak with customer service avatars in real time, interact with items, and even mimic usage (Dwivedi et al., 2022).

The emergence of metaverse commerce is seen as an evolution of the omnichannel strategy, where customer interactions are no longer limited to traditional online-offline channels but also expand into virtual worlds that offer multisensory experiences (Lee et al., 2021). In this context, consumers can experience a truly seamless shopping journey: from product exploration in the

metaverse, to consulting with an AI-based chatbot, to making a purchase and enjoying same-day delivery in the real world.

Several recent studies confirm that metaverse commerce can increase customer engagement and add value to customer satisfaction by providing a more personalized, interactive, and enjoyable experience (Park & Kim, 2022; Javornik et al., 2023). However, the integration of omnichannel strategy, chatbot responsiveness, same-day delivery, and metaverse commerce has rarely been comprehensively researched. Yet, all four have the potential to create an integrated service ecosystem across the physical, digital, and virtual worlds.

In addition to channel integration, the speed and quality of communication are also crucial factors. The presence of chatbot responsiveness enables companies to serve customers instantly, 24/7, and more cost-effectively. Recent research has shown that responsive chatbots can increase engagement, accelerate problem resolution, and strengthen customer loyalty (Ashfaq et al., 2020; Prentice et al., 2022; Sheehan et al., 2020). However, several studies also emphasize that chatbot effectiveness is greatly influenced by the system's ability to understand customer needs and provide relevant answers (Shankar, 2021).

On the other hand, same-day delivery has become the new standard in the logistics and e-commerce industries. Consumers prioritize delivery speed as a key indicator of satisfaction (Nguyen et al., 2021). Another study confirmed that fast delivery services increase customer perceived value and influence long-term loyalty (Hübner et al., 2022). This shows that logistics speed is no longer just an additional service but has become part of modern marketing strategies.

An omnichannel strategy is key to creating a seamless customer experience, enabling consumers to interact with brands across multiple platforms, both online and offline (Sudarsono, 2025). Furthermore, the presence of responsive chatbots has become the new standard in customer service, where the speed and accuracy of responses significantly impact user satisfaction (Adriansyah, 2025). Meanwhile, it has become a competitive differentiator in the e-commerce industry (Nguyen et al., 2021), as modern consumers increasingly demand fast and efficient delivery (Park & Kim, 2022; Javornik et al., 2023).

Bukalapak and Zalora are two leading e-commerce companies in Indonesia that have adopted these three elements. However, no research has specifically analyzed the extent to which omnichannel strategy, chatbot responsiveness, and same-day delivery influence customer satisfaction in the context of Metaverse Commerce. Therefore, this study aims to examine the influence of these three variables to provide strategic recommendations for e-commerce businesses.

Based on the above background, this study aims to examine the influence of omnichannel strategy, chatbot responsiveness, and same-day delivery on customer satisfaction in the Metaverse Commerce era.

The urgency of this research is several: Relevance to Digital Trends: With the rise of Metaverse Commerce, companies need to understand the factors that increase customer satisfaction in an increasingly complex digital ecosystem (Park & Kim, 2022; Javornik et al., 2023). Business Implications: The research results can serve as a reference for Bukalapak, Zalora, and other ecommerce players in optimizing omnichannel, chatbot, and logistics strategies to increase customer loyalty.

The novelty of this research is that this combination of approaches not only addresses the limitations of previous research, but also provides practical contributions for business actors to

optimize technology investments (e.g., chatbot development priority vs. logistics) and design omnichannel strategies that align with the Metaverse trend.

METHODS

This research approach uses a quantitative approach with regression analysis to measure the extent to which independent variables influence customer satisfaction. Case Study: Focusing on two e-commerce platforms (Bukalapak and Zalora) to obtain specific and relevant data.

Data Collection Technique: Online Questionnaire: Distributed questionnaires to Bukalapak and Zalora users who have used omnichannel, chatbot, and same-day delivery services, with a sample population of 300 people living in Samarinda and the surrounding area.

The analysis method uses a combination of SEM-PLS + qualitative triangulation, a mixed-methods approach in research. This means the researcher uses two different methods—one quantitative and one qualitative—to investigate the same phenomenon, thus gaining a more comprehensive and valid understanding.

For the Problem-Solving Strategy, the following steps will be taken:

- a) Measuring the Impact of Omnichannel Strategy on Customer Satisfaction Indicators used: Online-offline channel integration, information consistency, and ease of channel switching
- b) Measuring the Impact of Chatbot Responsiveness on Customer Satisfaction Indicators used: Response speed, answer accuracy, and personalization capabilities.
- c) Measuring the Impact of Same-Day Delivery on Customer Satisfaction Indicators used: Delivery timeliness, service reliability, and their impact on purchasing decisions.

Comparative Analysis: Comparing the regression coefficients of the three variables to determine which has the greatest influence.

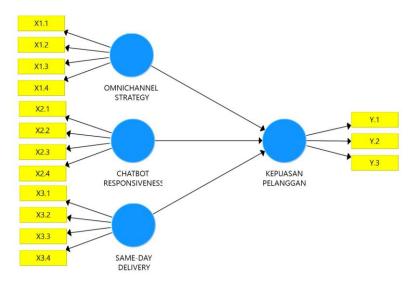


Figure 1. Research Results Model

RESULTS AND DISCUSSION

In order to understand the findings of the SmartPLS SEM analysis, this study went through multiple steps, including testing the direct influence hypothesis and evaluating the measurement model (outer model) and structural model (inner model).

1. Evaluation of Measurement Model (Outer Model)

1) Convergent Validity

The loading factor limit in this investigation was predicated on a value greater than 0.7. According to Ghozali and Latan (2015), this is categorized as exploratory research with a loading factor value between 0.6 and 0.7 and confirmatory research with a value larger than 0.7.

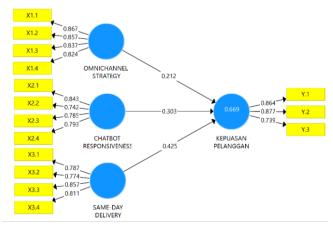


Figure 2. Loading Factor Results

The following table displays the specific findings of the convergent validity test:

Table 1. Convergent Validity Test Results

	OMNICHANNEL STRATEGY	CHATBOT RESPONSIVENESS	SAME-DAY DELIVERY	CUSTOMER SATISFACTION
X1.1	0,867			
X1.2	0,857			
X1.3	0,837			
X1.4	0,824			
X2.1		0,843		
X2.2		0,742		
X2.3		0,785		
X2.4		0,793		
X3.1			0,787	
X3.2			0,774	
X3.3			0,857	
X3.4			0,811	
Y.1				0,864
Y.2				0,877
Y.3				0,739

Source: Processed primary data, 2025

In this instance, convergent validity can be stated to be met by any variables with loading values higher than 0.7. On the other hand, a variable indicator is considered to have low validity

if its loading value is less than 0.7. Thus, it can be said that all of the study's indicators have loading values greater than 0.7, thus meeting convergent validity.

Convergent validity is also assessed based on the AVE values measured with the construct. Based on the rule of thumb, the AVE value must be greater than 0.5. The following are the results of the convergent validity test using the AVE value.

Table 2. AVE Test Results

	Average Variance Extracted (AVE)
OMNICHANNEL STRATEGY	0,717
CHATBOT RESPONSIVENESS	0,626
SAME-DAY DELIVERY	0,653
CUSTOMER SATISFACTION	0,687

Source: Processed primary data, 2025

An acceptable AVE value is one that surpasses 0.5. The data processing results table indicates that the AVE value for all variables exceeds 0.5.

Based on this rule, all four of your constructs have acceptable AVE values:

- 1. Omnichannel Strategy (0.717): This is a very good value, suggesting the items used to measure this strategy are highly valid and consistent.
- 2. Chatbot Responsiveness (0.626): Also a good value, indicating the questions about chatbot responsiveness are effectively measuring that construct.
- 3. Same-Day Delivery (0.653): A solid value, showing that the items related to this service are well-defined and measure the intended concept.

Consequently, it can be concluded that each instrument of the indicators in this study variable is legitimate and can advance to the next level.

2) Discriminant Validity

Discriminant validity is conducted based on the crossloading value. The following are the results of the crossloading value.

Table 3. Crossloading Test Results

	OMNICHANNEL STRATEGY	CHATBOT RESPONSIVENESS	SAME-DAY DELIVERY	CUSTOMER SATISFACTION
X1.1	0,867	0,548	0,491	0,570
X1.2	0,857	0,520	0,533	0,570
X1.3	0,837	0,545	0,474	0,535
X1.4	0,824	0,523	0,513	0,543
X2.1	0,500	0,843	0,522	0,589
X2.2	0,490	0,742	0,469	0,460
X2.3	0,446	0,785	0,522	0,551
X2.4	0,557	0,793	0,505	0,620
X3.1	0,525	0,542	0,787	0,583
X3.2	0,460	0,445	0,774	0,569
X3.3	0,502	0,559	0,857	0,648

	OMNICHANNEL	OMNICHANNEL CHATBOT		CUSTOMER
	STRATEGY	RESPONSIVENESS	DELIVERY	SATISFACTION
X3.4	0,434	0,512	0,811	0,600
Y.1	0,552	0,599	0,628	0,864
Y.2	0,550	0,574	0,669	0,877
Y.3	0,526	0,587	0,547	0,739

Source: Processed primary data, 2025

The table shows that the overall crossloading value is >0.7. Therefore, it can be concluded that all constructs are valid and have good discriminant properties. In addition to crossloading, discriminant validity testing can also be conducted by examining the Fornell-Larcker value. The following are the results of the Fornell-Larcker test:.

Table 4. Fornell Larcker Test Results

	CHATBOT RESPONSIVENESS	CUSTOMER SATISFACTION	OMNICHANNEL STRATEGY	SAME-DAY DELIVERY
CHATBOT RESPONSIVENESS	0,791			
CUSTOMER SATISFACTION	0,707	0,829		
OMNICHANNEL STRATEGY	0,631	0,655	0,847	
SAME-DAY DELIVERY	0,638	0,744	0,594	0,808

Source: Processed primary data, 2025

It is evident from the following table that the correlation value between the model's constructs is lower than the square root of the AVE value for each construct. Consequently, it may be said that every construct is legitimate and possesses strong discriminant qualities.

3) Reliability Test

In confirmatory research, the standard for composite reliability and Cronbach's alpha is a value above 0.7. Nevertheless, a value between 0.6 and 0.7 is deemed adequate for exploratory research.

Table 5. Results of Composite Reliability and Cronbach's Alpha Tests

	Cronbach's Alpha	Composite Reliability
OMNICHANNEL STRATEGY	0,868	0,910
CHATBOT RESPONSIVENESS	0,802	0,870
SAME-DAY DELIVERY	0,822	0,883
CUSTOMER SATISFACTION	0,769	0,868

Source: Processed primary data, 2025

The test results from the table indicate that the measurement variables used in this study are deemed reliable, as both their composite reliability and Cronbach's alpha values exceed 0.7.

2. Structural Model Evaluation (Inner Model)

a) R-Square (R^2)

Table 6. Adjusted R-Square Test Results

	R Square	R Square Adjusted
Customer Satisfaction	0,669	0,665

Source: Processed primary data, 2025

From the table above it can be seen that the R – Square Adjusted value is a more reliable measure than the standard R-Square because it accounts for the number of independent variables in the model. This prevents the R-Square from artificially increasing with the addition of more variables, regardless of their actual predictive power.

The value of 0.665 indicates a strong predictive power for your model. In simple terms, your three independent variables are very effective at explaining why customer satisfaction levels differ. The remaining 33.5% of the variation in customer satisfaction is due to other factors not included in your research, such as product quality, price, or brand reputation.

In summary, your model is highly effective at explaining and predicting customer satisfaction. This means that the variables omnichannel strategy, chatbot responsiveness, and same-day delivery influence customer satisfaction by 66.5%, with the remaining 33.5% influenced by variables outside this research model.

b) F-Square (F²)

Table 7. F-Square Test Results

	Chatbot Responsiveness	Customer Satisfaction	Omnichannel Strategy	Same-Day Delivery
Chatbot Responsiveness		0,137		
Customer Satisfaction				
Omnichannel Strategy		0,073		
Same-Day Delivery		0,290		

Source: Processed primary data, 2025

The table above indicates that chatbot response exerts a minor influence on customer satisfaction, evidenced by an F-square value of 0.137. The omnichannel strategy variable exerts a minor influence on customer satisfaction, evidenced by an F-square value of 0.073. Simultaneously, same-day delivery exerts a moderate influence on customer satisfaction, reflected by an F-square value of 0.290. The results are as follows:

- 1. Chatbot Responsiveness → Customer Satisfaction: The value is 0.137. This means that Chatbot Responsiveness explains 13.7% of the variance in Customer Satisfaction. This indicates a moderate effect on customer satisfaction.
- 2. Omnichannel Strategy → Customer Satisfaction: The value is 0.073. This means that Omnichannel Strategy explains 7.3% of the variation in customer satisfaction. This implies that the impact on customer contentment is less significant than that of chatbot responsiveness.
- 3. Same-Day Delivery → Customer Satisfaction: The value is 0.290. This means that Same-Day Delivery explains 29.0% of the variance in Customer Satisfaction. This is the strongest effect among the three, indicating that it is the most influential factor in explaining customer satisfaction.

The values represent the coefficient of determination (R2), which quantifies how much of the variation in the dependent variable. Customer Satisfaction is predictable from the

independent variables. Based on the data, Same-Day Delivery has the greatest impact on customer satisfaction, followed by Chatbot Responsiveness, and then Omnichannel Strategy.

c) Q-Square (Q^2)

Table 8. Q-Square Test Results

	SSO	SSE	Q ² (=1-SSE/SSO)
OMNICHANNEL STRATEGY	1200,000	1200,000	
CHATBOT RESPONSIVENESS	1200,000	1200,000	
SAME-DAY DELIVERY	1200,000	1200,000	
CUSTOMER SATISFACTION	900,000	496,528	0,448

Source: Processed primary data, 2025

From the table above it can be seen that Based on the table, the Q-Square (Q2) value for Customer Satisfaction is 0.448, which means:

- 1. The Q2 value measures the predictive relevance of the model. In simpler terms, it assesses how well the model can predict the data points of the dependent variable (Customer Satisfaction).
- 2. A positive Q2 value indicates that the model has predictive relevance. Since your value is 0.448, which is greater than zero, the model is considered to have good predictive relevance.
- 3. The value of 0.448 means that the independent variables (Omnichannel Strategy, Chatbot Responsiveness, Same-Day Delivery) collectively have a significant ability to predict and explain the variation in Customer Satisfaction.

The Q-Square value is greater than 0 so the data can be said to have good predictive relevance.

d) Model Fit

Table 9. Model Fit Test Results

	Saturated Model	Estimated Model
SRMR	0,066	0,066
d_ULS	0,529	0,529
d_G	0,267	0,267
Chi-Square	469,883	469,883
NFI	0,814	0,814

Source: Processed primary data, 2025

Given that the SRMR (0.066) and NFI (0.814) values are within or near the acceptable range, the data suggest that the model has a reasonable fit to the data, although the NFI value could be stronger. The fact that the values are identical for the "Saturated Model" and "Estimated Model" is unusual and may indicate a reporting error, but based solely on the figures provided for the "Estimated Model," the fit appears acceptable.

e) Hypothesis Testing

Table 10. Partial Significance Test Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Val ues
OMNICHANNEL STRATEGY -> CUSTOMER SATISFACTION	0,212	0,214	0,051	4,134	0,00
CHATBOT RESPONSIVENESS - > CUSTOMER SATISFACTION	0,303	0,304	0,050	6,053	0,00
SAME-DAY DELIVERY -> CUSTOMER SATISFACTION	0,425	0,423	0,053	8,062	0,00

Source: Processed primary data, 2025

The information presented in the preceding table indicates that:

- 1. Customer satisfaction is significantly impacted by omnichannel strategy. The p-value is 0.000, which is less than 0.05, and the t-statistic is 4.134, which is greater than 1.96. Consequently, the alternative hypothesis is adopted.
- 2. Customer contentment is significantly impacted by chatbot responsiveness. The p-value is 0.000, which is less than 0.05, and the t-statistic is 6.053, which is greater than 1.96. Consequently, the alternative hypothesis is adopted.
- 3. Customer contentment is significantly impacted by same-day delivery. The p-value is 0.000, which is less than 0.05, and the t-statistic is 8.062, which is greater than 1.96. Consequently, the alternative hypothesis is adopted..

DISCUSSION

Based on the data analysis, this study found that Omnichannel Strategy, Chatbot Responsiveness, and Same-Day Delivery significantly influence Customer Satisfaction. This finding aligns with previous studies examining similar variables in different contexts.

The Influence of Omnichannel Strategy on Customer Satisfaction

The results of this study indicate that an omnichannel strategy has a positive and significant impact on customer satisfaction. This finding is supported by other studies showing that the integration of online and offline sales channels creates a seamless and consistent shopping experience, ultimately increasing customer satisfaction (Novianagta & Sembiring, 2025). When customers can seamlessly switch between platforms (e.g., searching for a product in an app and purchasing it in a physical store), it builds trust and loyalty. Brand consistency across all channels is also a key factor in increasing customer trust ([suspicious link removed], 2025). However, it is important to note that a study by Adriansyah (2025) on Pegadaian customers found that omnichannel marketing did not have a direct effect on satisfaction, but rather through a mediating variable. This underscores the importance of designing an appropriate omnichannel strategy to have a direct impact on satisfaction.

The Influence of Chatbot Responsiveness on Customer Satisfaction

This study confirms that chatbot responsiveness has a significant impact on customer satisfaction. This finding aligns with research by Nugraha & Masnita (2024), which states that fast and accurate chatbot responses are crucial in shaping customer satisfaction. Responsive chatbots are able to provide instant solutions and the information customers need, significantly improving the service experience. According to other research, a chatbot's ability to understand natural language and provide relevant and complete answers can increase both extrinsic and intrinsic value for customers, ultimately impacting their satisfaction (Takaria & Tjokrosaputro, 2024).

The Impact of Same-Day Delivery on Customer Satisfaction

The results of this study indicate that Same-Day Delivery has the strongest influence among the three variables on customer satisfaction. This finding aligns with global trends and research findings showing that delivery speed is a key determinant of the online shopping experience (Autokirim.com, 2025). Fast delivery reduces customer anxiety and meets their expectations of receiving products instantly, which directly increases satisfaction and brand trust. As stated by McEasy (2022), same-day delivery can increase conversions and potentially increase revenue, indicating that customers are willing to pay more for this service due to the perceived benefits. This service also tends to increase the likelihood of repeat purchases because customers have experienced a positive and reliable experience.

CONCLUSION

Based on the analysis of the research results, it can be concluded that Omnichannel Strategy, Chatbot Responsiveness, and Same-Day Delivery have a significant influence on Customer Satisfaction. All alternative hypotheses proposed in this study are accepted.

From the three variables, Same-Day Delivery shows the strongest influence, indicating that delivery speed is a crucial factor for customers. Meanwhile, Chatbot Responsiveness and Omnichannel Strategy also have a positive influence, although their impact is smaller compared to delivery speed.

This model can explain a large portion of the variation in customer satisfaction, but there are other factors outside the model that also contribute. Therefore, future research is advised to include additional variables and use qualitative methods to provide a more comprehensive understanding.

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