# THE EFFECT OF CHATBOT USABILITY AND RESPONSIVENESS ON CUSTOMER SATISFACTION AMONG GEN Z IN NGANJUK REGENCY (LAZADA CASE STUDY)

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**ABSTRACT**

This study examines the effect of chatbot usability and responsiveness on customer satisfaction among Generation Z users of the Lazzie Chat feature on the Lazada e-commerce platform in Nganjuk, Indonesia. Using a quantitative approach with 400 respondents selected through purposive sampling, data were collected via an online questionnaire and analyzed with multiple linear regression.

The results show that usability and responsiveness have a positive and significant effect on customer satisfaction, both partially and simultaneously, with a coefficient of determination ($R^2$) of 77.1%. These findings highlight the importance of developing chatbots that are user-friendly and responsive to enhance customer experience.

Theoretically, this study reinforces the application of the Technology Acceptance Model (TAM) in chatbot services, while practically providing insights for businesses to improve chatbot performance in e-commerce.

**KEYWORDS**: - Usability, responsiveness, chatbot, customer satisfaction, Lazada, Generation Z.

## 1.0 INTRODUCTION

The rapid development of digital technology, particularly the internet and mobile devices, has fundamentally transformed the way customers interact with companies across various sectors, including e-commerce. The internet today is not merely a communication tool but also a vital

infrastructure of the digital economy that enao.147bles transactions to be carried out quickly, conveniently, and without geographical limitations. According to We Are Social (2024), the number of internet users worldwide has reached more than 5.35 billion, accounting for 66.2% of the global population. This indicates that the internet has become the backbone of modern business activities.

In Indonesia, the growth of e-commerce has been remarkably rapid. The country is recognized as one of the fastest-growing e-commerce markets in the world. In 2024, the growth rate was reported at 30.5%, and the number of e-commerce users is projected to reach 73.06 million by 2025(Rizti, 2024). This expansion has been fueled by increasing internet penetration, the widespread use of smartphones, and shifting consumer behavior toward digital transactions. Among the key innovations supporting this growth is the adoption of chatbots, which serve as automated customer service tools (Sandy, 2023)

Among the key innovations driving this growth is the adoption of chatbots, which serve as automated customer service tools (Sandy, 2023). Chatbots are considered a form of disruptive innovation because they fundamentally change the way businesses interact with customers. As highlighted by (Supheni et al., 2024)the success of disruptive innovations is not only determined by technological advancement itself but also by how organizations and stakeholders adapt to and support their implementation. Lazada, one of the largest e-commerce platforms in Southeast Asia, has adopted this technology through its LazzieChat feature, designed to provide fast responses, assist in product information searches, track order status, and resolve transactional issues for users (Karri & Kumar, 2020)

However, despite these advantages, customer reviews have revealed several limitations in chatbot performance. Users often express dissatisfaction regarding the inability of chatbots to understand the context of queries, the provision of generic or template-based responses, and their inadequacy in handling more complex cases such as refunds. These shortcomings create a noticeable gap between customer expectations and their actual experiences (Abraham, 2023)

Against this background, Generation Z emerges as a particularly relevant consumer segment to examine. Born between 1998 and 2009, this generation is widely recognized as *digital natives* who are highly accustomed to technology in their everyday lives. They hold elevated expectations of digital service quality, with particular emphasis on fast response times, personalization, and ease of use (Arum et al., 2023). When these expectations are unmet, Generation Z users tend to switch rapidly to other platforms offering superior service experiences.

This study specifically focuses on two critical service quality dimensions of chatbots: usability (the ease of use of the system) and responsiveness (the speed and accuracy of responses). Both dimensions are essential in shaping customer perceptions and satisfaction. While usability ensures smooth navigation and information retrieval, responsiveness fosters trust and strengthens customer loyalty (Mahalli et al., 2022).

The novelty of this study lies in its focus on Generation Z consumers in a non-metropolitan area, namely Nganjuk Regency, Indonesia. Prior research has predominantly concentrated on consumers in large urban centers with more advanced digital infrastructure. However, recent studies in Nganjuk demonstrate that even in non-metropolitan regions, customers show increasing expectations toward modern services and digital innovation (Supheni et al., 2023). By contrast, this study aims to contribute both theoretically and practically: theoretically, by extending the literature on chatbot adoption and customer satisfaction in underrepresented regions; and practically, by offering insights for e-commerce companies to design customer service strategies that are more inclusive and responsive to diverse consumer contexts.

## 2.0 LITERATURE REVIEW
### 2.1 Technology Acceptance Model (TAM)
The Technology Acceptance Model (TAM), introduced by Davis (1989), is one of the most influential frameworks in explaining user acceptance of technology. TAM argues that an individual's intention to use a system is determined by two primary factors: perceived usefulness (PU) and perceived ease of use (PEOU). Perceived usefulness refers to the extent to which users believe that adopting a technology will enhance their performance, while perceived ease of use reflects the extent to which the technology is considered free of effort (Dpu Bina et al., 2025)

In the context of chatbots, usability is closely linked to PEOU since a simple interface, intuitive navigation, and clear instructions shape the ease of interaction. Meanwhile, responsiveness is associated with PU, as it reflects the tangible benefits users perceive from quick and accurate answers. Previous studies have confirmed that TAM is a suitable theoretical framework for analyzing chatbot adoption and customer satisfaction in e-commerce services (Mahalli et al., 2022).

### 2.2 Usability
According to the International Organization for Standardization (ISO 9241-11, 2018), usability is defined as the degree to which a product can be used by specific users to achieve defined goals effectively, efficiently, and satisfactorily within a particular context of use. This definition highlights three key dimensions: effectiveness (achieving goals accurately and completely),

efficiency (minimizing resources used), and satisfaction (comfort and acceptability of use)(Borsci et al., 2021).

In the context of chatbots, usability encompasses the ease of navigation, interface simplicity, clarity of instructions, and the ability of the system to provide a non-complex interaction experience. Nielsen (2012) emphasizes that systems with high usability reduce user frustration and increase overall satisfaction. (Koyande, 2021)asserts that well-designed chatbot usability not only enhances user experiences but also strengthens the intention to reuse the service. Similarly, (Fath & Abimanyu, 2024)argue that usability significantly impacts customer experiences in e-commerce, influencing both satisfaction and long-term loyalty.

## 2.3 Responsiveness

The concept of responsiveness is widely discussed within the SERVQUAL framework developed by Parasuraman, Zeithaml, and Berry (1988). Responsiveness is defined as the willingness and ability of service providers to help customers and deliver prompt services. In digital service contexts, responsiveness refers to the speed, accuracy, and relevance of a system in answering user queries.(Taufik, 2024)found that response speed is one of the most critical expectations of digital application users, where delays significantly lower satisfaction levels. (Zahara et al., 2024)also demonstrate that younger generations prefer responsive chatbots over those with additional features but slower replies. This indicates that responsiveness tends to carry greater weight in influencing customer satisfaction compared to other service attributes in chatbot interaction.

## 2.4 Customer Satisfaction

Customer satisfaction is a central construct in marketing and service quality research. Kotler & Keller (2009) define customer satisfaction as the result of evaluating perceived performance against initial expectations. If performance meets or exceeds expectations, satisfaction is achieved; conversely, performance below expectations leads to dissatisfaction. That satisfaction is dynamic, influenced not only by rational evaluation but also by previous experiences, repeated interactions, and emotional states (Sasongko, 2021).

In chatbot services, satisfaction is strongly determined by usability and responsiveness. (Mahalli et al., 2022)found that both usability and responsiveness significantly influence customer satisfaction among Shopee users. (Fath & Abimanyu, 2024)emphasized responsiveness as the most dominant factor affecting user satisfaction across e-commerce platforms. Furthermore, (Takaria &Tjokrosaputro, 2024)highlight the importance of personalization, noting that chatbots that tailor responses to customer profiles are perceived as more relevant and beneficial, thus enhancing satisfaction.

## 2.5 Previous Studies

A range of prior studies has examined the relationship between usability, responsiveness, and customer satisfaction in e-commerce contexts. For example, (Koyande, 2021)in India found that chatbot usability directly affects user experiences by improving navigability and reducing effort. (Zahara et al., 2024)in Indonesia revealed that young consumers are more satisfied with responsive chatbots compared to slow ones. Similarly, (Mahalli et al., 2022)studied Shopee users and confirmed that both usability and responsiveness jointly improve customer satisfaction.

Nevertheless, most of these studies concentrated on consumers in metropolitan areas where digital infrastructure is more advanced. The current study differs by focusing on Generation Z in Nganjuk Regency, a non-metropolitan region of Indonesia. This setting provides new insights into how users outside major urban centers perceive and interact with chatbot technology, thereby contributing to both theory and practice in e-commerce customer service research.

## 3.0 RESEARCH METHODOLOGY

This study employed a quantitative descriptive approach with an associative design. The quantitative method was selected because it enables the testing of causal relationships between variables through statistical analysis, while the associative design was chosen to explain the correlations between the independent variables, namely usability (X1) and responsiveness (X2), and the dependent variable, customer satisfaction (Y).

## 3.1 Population and Sample

The research population comprised Generation Z in Nganjuk Regency, defined as individuals born between 1998 and 2009 who had used the LazzieChat feature on the Lazada application. According to the Indonesian Central Bureau of Statistics (BPS) in 2023, the number of Generation Z individuals in Nganjuk exceeded 249,000 people. The sample size was determined using the Slovin formula with a margin of error of 5%, yielding a minimum of 400 respondents. This number was considered sufficient to provide representative results for the target population.

## 3.2 Sampling Technique

A purposive sampling technique was employed with the following criteria:
1. Respondents must fall within the Generation Z age range (1998–2009),
2. Reside in Nganjuk Regency,
3. Have experience using the LazzieChat feature on the Lazada application.

This sampling method was selected to ensure that respondents were relevant to the research focus, thereby improving the precision and accuracy of the findings.

### 3.3 Research Instrument

The research instrument was an online questionnaire distributed via Google Forms. A five-point Likert scale was used, ranging from 1 = strongly disagree to 5 = strongly agree.

The questionnaire consisted of 13 items, divided into:

- 5 items measuring usability,
- 4 items measuring responsiveness,
- 4 items measuring customer satisfaction.

### 3.4 Validity and Reliability Testing

Prior to distribution, the questionnaire underwent validity and reliability testing. The validity test revealed that all items had correlation values (r-count) higher than the r-table (0.361 at n = 30, α = 0.05), indicating that the items were valid. The reliability test produced Cronbach's Alpha values above 0.60 for all variables, confirming that the instrument was reliable and consistent in measuring the constructs.

### 3.5 Data Analysis Technique

The data analysis was conducted in several stages:

a) **Classical assumption testing**, including normality test (data normally distributed), multicollinearity test (tolerance > 0.10 and VIF < 10), and heteroscedasticity test (no heteroscedasticity detected).

b) **Multiple linear regression analysis** was employed to examine the influence of usability (X1) and responsiveness (X2) on customer satisfaction (Y).

c) **Partial testing (t-test)** was conducted to identify the individual effect of each independent variable.

d) **Simultaneous testing (F-test)** was conducted to assess the combined effect of the two independent variables.

e) **Coefficient of determination ($R^2$)** was calculated to determine the proportion of variance in customer satisfaction explained by usability and responsiveness.

### 4.0 RESEARCH ANALYSIS

### 4.1 Usability Analysis ($X_1$)

The results of the t-test show that the usability variable has a calculated t-value of 5.552, which is greater than the t-table value of 1.966, with a significance level of 0.000 < 0.05. The regression coefficient (B = 0.147) indicates that for every one-unit increase in usability, customer satisfaction increases by 0.147 units.

#### Table 1. Partial t-Test for Usability (X₁)

| Variable | t-calculated | t-table | Sig. | Description |
|---|---|---|---|---|
| *Usability* (X₁) | 5.552 | 1,966 | .000 | Significant |

Statistically, these findings confirm that usability has a positive and significant effect on customer satisfaction among Generation Z users of Lazzie Chat. This result aligns with the Technology Acceptance Model (TAM) proposed by Davis (1989), particularly in the dimension of *perceived ease of use*. Generation Z, who are digital natives, expect applications—including chatbots—to be simple, intuitive, and efficient. They are highly sensitive to complex systems that increase cognitive load, which can lead to frustration and dissatisfaction. A chatbot with poor usability may cause confusion, errors in navigation, and difficulties in retrieving information, ultimately lowering customer satisfaction.

Previous studies provide strong support for these findings. Mahalli et al. (2022) found that usability had a significant impact on customer satisfaction among Shopee users. Similarly, Fath & Abimanyu (2024) emphasized that usability contributes not only to short-term satisfaction but also to long-term customer loyalty. When customers find it easy to use a chatbot, they are more likely to repeatedly engage with the platform and maintain a positive perception of the service provider.

From a practical standpoint, these findings suggest that Lazada should prioritize enhancing the usability of LazzieChat by designing a more user-friendly interface. This could involve using icon-based menus that are easier to interpret, providing multilingual options to cater to diverse customer preferences, and integrating *quick reply* features to speed up interactions. High usability creates positive experiences from the very first interaction, increasing the likelihood that customers will remain loyal to Lazada rather than switching to competitors.

#### 4.2 Responsiveness Analysis (X₂)

The t-test results for the responsiveness variable reveal a calculated t-value of 28.794, which is far greater than the t-table value of 1.966, with a significance level of 0.000 < 0.05. The regression coefficient (B = 1.010) shows that each one-unit increase in responsiveness raises customer satisfaction by 1.010 units. With a standardized coefficient (Beta = 0.793), responsiveness is demonstrated to be the most dominant variable influencing customer satisfaction in this study.

#### Table 2. Partial t-Test for Responsiveness (X₂)

| Variable | t-calculated | t-table | Sig. | Description |
|---|---|---|---|---|
| *Responsiveness* (X₂) | 28.794 | 1,966 | .000 | Significant |

Within the TAM framework, responsiveness is closely associated with *perceived usefulness*, referring to the degree to which technology provides tangible benefits to its users. Generation Z tends to perceive chatbot responsiveness as a reflection of the company's overall service quality. A responsive chatbot conveys the impression that the company values customers' time, whereas a slow chatbot or one that provides repetitive, template-based answers signals poor service quality.

These findings are consistent with prior studies. Taufik (2024) highlighted that response speed is one of the most crucial determinants of satisfaction in digital applications. Similarly, Zahara et al. (2024) revealed that younger generations are more satisfied with chatbots that respond quickly rather than those with advanced but slow-performing features. The fact that responsiveness had a greater effect size than usability in this research underlines the importance of speed and accuracy as primary considerations in chatbot development.

In practical terms, Lazada can improve the responsiveness of LazzieChat by adopting more advanced Artificial Intelligence (AI)-based Natural Language Processing (NLP) technologies. This would enable the chatbot not only to respond faster but also to better understand the context of user queries. Moreover, integrating the chatbot with real-time customer transaction databases would accelerate the handling of complex problems, such as shipment tracking, refund requests, and order management. Improved responsiveness would not only enhance customer satisfaction but also foster greater trust in Lazada's services.

**4.3 Simultaneous Analysis (Usability and Responsiveness toward Customer Satisfaction)**
The results of the F-test show that the calculated F-value is 670.091, which is far greater than the F-table value of 3.02, with a significance level of 0.000 < 0.05.

**Table 3. Simultaneous Test (F-Test)**

| Model | F-Calculated | F-Table | Sig. | Description |
|---|---|---|---|---|
| Regression | 670.091 | 3,02 | .000[b] | Significant |

These results confirm that usability and responsiveness, when tested simultaneously, have a significant effect on customer satisfaction among Generation Z users of Lazzie Chat. Furthermore, the coefficient of determination ($R^2$) indicates the percentage of customer satisfaction explained by the two variables, while the remaining variation is influenced by other factors outside this research model.

Theoretically, these findings strengthen the TAM framework by showing that *perceived ease of use* and *perceived usefulness* complement each other in shaping technology acceptance. A

chatbot that is easy to use but slow is still disappointing, while a chatbot that is fast but confusing does not create a positive experience either. Therefore, customer satisfaction can only be maximized when both usability and responsiveness work together effectively.

This study also contributes to the existing literature by presenting insights from a non-metropolitan area. Previous research has primarily focused on consumers in major cities with better-developed digital infrastructure. However, the results of this study demonstrate that Generation Z in Nganjuk have similar expectations to those in metropolitan areas: they demand digital services that are both fast and easy to use. This highlights homogeneity of digital behavior among younger generations, regardless of geographical location.

From a managerial perspective, this implies that e-commerce companies like Lazada cannot rely on improving just one dimension of chatbot service. User interface improvements must be accompanied by robust server infrastructure and real-time processing capacity to maintain chatbot responsiveness even during high traffic periods. The balance between usability and responsiveness is therefore a critical factor for e-commerce platforms aiming to sustain Generation Z's satisfaction and loyalty in the highly competitive digital marketplace.

## 5.0 CONCLUSION

This study analyzed the influence of usability and responsiveness of LazzieChat, Lazada's official chatbot, on customer satisfaction among Generation Z in NganjukRegency. The findings show that both usability and responsiveness have a significant positive effect on satisfaction, with responsiveness emerging as the dominant factor.

The simultaneous regression test confirms this relationship, with an F-value of 670.091 (sig. 0.000 < 0.05), indicating that the model is statistically significant. The coefficient of determination ($R^2$) of 0.771 suggests that 77.1% of the variance in customer satisfaction can be explained by usability and responsiveness, while the remaining 22.9% is influenced by other factors outside the research model.

These results align with the Technology Acceptance Model (TAM), where usability reflects perceived ease of use and responsiveness reflects perceived usefulness. Responsiveness is shown to be the stronger determinant, highlighting the importance of fast and accurate responses for digital-native customers.

From a managerial perspective, companies must optimize both interface usability and response accuracy to maximize customer satisfaction. For Lazada and similar e-commerce platforms,

combining intuitive design with advanced NLP systems would help deliver more seamless and satisfying chatbot experiences.

Finally, the findings demonstrate that Generation Z in non-metropolitan areas such as Nganjuk hold similar expectations as urban users, emphasizing the universal demand for efficient and user-friendly digital services. Future research is encouraged to integrate variables such as trust, personalization, and information quality to capture the remaining variance and enrich the understanding of chatbot-based customer satisfaction.

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