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Exploring The Relationship Between Responsiveness and Usability And its Impact on Customer Satisfaction in E-commerce

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Abstract The results of the study show that decisions made by tourists (Y) about the Cikadongdong River Tubing attraction are significantly influenced by internet marketing (X1). Similarly, eWOM (X2), or electronic word of mouth, has a big influence on visitor choices. (Y). Additionally, travelers' decisions to visit are greatly influenced by eWOM (X2) and online marketing (X1); Cikadongdong River Tubing Tourism has a coefficient of determination of 0.680, or 68%. The purpose of this study is to examine how internet marketing and eWOM affect visitation decisions. The results show how important they are. A substantial positive correlation between chatbot usability (Y) and responsiveness (X) was found through hypothesis testing. This suggests that consumers view chatbots with higher levels of responsiveness as being more beneficial. Customers find chatbots useful and efficient for fulfilling their demands when they promptly respond with pertinent information. The study also discovered that usability (Y) has a major impact on consumer satisfaction (Z). In e-commerce, chatbots that are simple to use and efficient improve client happiness. A consumer may ask questions and get the assistance they need with ease when using a well-designed chatbot with an easy-to-use UI. Additionally, the chatbot's precise and pertinent replies help to efficiently satisfy client requests. In conclusion, the study emphasizes how responsive and user-friendly chatbots, which effectively and efficiently address consumer demands, greatly increase customer satisfaction in e-commerce.

Keywords: Chatbot, Customer Satisfaction, Usability, Responsiveness

INTRODUCTION

Businesses are currently under more pressure than ever to reevaluate how they engage with customers and set themselves apart by offering superior customer experiences. Conversational interfaces have been widely used in daily life on a variety of platforms, including e-commerce and retail, to enhance the online shopping experience for consumers and satisfy their demands for more purchases. One solution that can satisfy customers' expectations for communicating with businesses is the chatbot that is now in use. A chatbot is a computer program that mimics human communication using natural language processing; it is frequently employed as an online virtual assistant (Fryer et al., 2019). Chatbots may engage in consumer interaction while promoting products and sales processes.

Prior to the introduction of chatbots into e-commerce, customers would often use the search box or navigation menu to get product information, get in touch with customer support by phone or email, or seek answers to their concerns in the FAQ (Frequently Asked Concerns). Compared to a chatbot, this procedure may be slower and less participatory. Customers and industry participants

may now gain from AI-based chatbot technology. By automatically responding to inquiries for a range of operational requirements, chatbots streamline operations. Additionally, businesses may utilize chatbots to assist clients without having to deal with a large number of inquiries, particularly those that come up regularly. A chatbot is a device that users may use directly; it is created using a straightforward algorithm (Andrade & Tumelero, 2022). As a result, an increasing number of online retailers are thinking about implementing chatbots to help with customer service. Chatbots are used by customers in the business sector for various purposes. One of the fastest-expanding applications of AI is e-commerce integration. A growing number of companies are utilizing AI chatbots, also known as "chatbots," to improve customer experiences online and in customer interactions (Okuda & Shoda, 2018; Sidaoui et al., 2020; Wirtz et al., 2018).

By providing customer support services, e-commerce must continuously adjust to technology advancements in order to meet the shifting expectations of its clients (Huang & Rust, 2021; Lu et al., 2019). By solving the problems and disadvantages of e-commerce and lowering the dangers and impersonal features of online purchases, chatbots can have a significant influence. Because they boost productivity and effectiveness by supplementing and replacing front-line employees through technology-mediated learning, chatbots are essential to creating front-line customer service experiences (Lu et al., 2019). For instance, chatbots in e-commerce provide gamified purchasing experiences by drawing and holding users' interest via conversational interfaces. Customers are urged by this to thoroughly study product descriptions, offer feedback, and employ a variety of techniques to enhance their purchases (Przegalinska et al., 2019).

The business community has also seen certain challenges because to the COVID-19 pandemic of 2019. Due to the pressing need for retailers to adjust their business practices, chatbots are emerging as a viable and scalable substitute. The majority of chatbot research has come from a business management standpoint, neglecting to consider how important it is to identify the essential elements of chatbot value from the customer's point of view (Hu et al., 2018). As a result, there is still a gap in the value proposition regarding chatbot adoption in e-commerce and online customer experience. Because of this, the value case for chatbot adoption in e-commerce and online consumer experience is currently lacking. The purpose of this research is to examine how chatbot adoption affects e-commerce responsiveness, with a particular emphasis on how it affects usability and customer happiness. The purpose of the study is to ascertain how much customer happiness, usability, and responsiveness are impacted by the use of chatbots in e-commerce environments.

RESEARCHES METHODS

This study employs quantitative methods. The online distribution of surveys via social media and similar platforms is the data-gathering approach. With very minor modifications, research tools from earlier studies were translated to create the questionnaire's questions. Nine items were modified from Frasquet et al. (2024), and Borchi et al. (2020) were used to test usability. Four questions that were modified from (Roy et al., 2018) and (Chung et al., 2020) were used to test responsiveness. Four items that were modified from Frasquet et al. (2024) and (O. Pappas et al., 2014) were used to gauge customer satisfaction. To guarantee accuracy, a description of the chatbot and inquiries about the user's experience were included in the survey.

Purposive sampling was used to collect the research's data depending on a number of factors (Cheng, 2022). The findings of the surveys that were given out in the Indonesian city of Cirebon yielded a total of 195 replies. Following that, SPSS and AMOS analytic tools were used to verify the survey responses in preparation for testing.

RESULTS AND DISCUSSION

Statistik Descriptif

Table 1. Cross Tabulation

		Gender		Total
		Man	Woman	
Age	Age ≤ 20	8	11	19
	Age 21-30	66	90	156
	Age 31-40	20	0	20
Total		94	101	195
		48.2%	51.8%	100.0%
Work	Student	45	62	107
	Self-employed	8	19	27
	Private sector employee	32	18	50
	ASN	9	2	11
Total		94	101	195
		48.2%	51.8%	100.0%

Source: SPSS output

There were 156 responders in all, and the majority of them were between the ages of 21 and 30. There were 107 respondents, the majority of whom were students, for employment. In terms of gender, males make up 48.2% of the sample, while women make up 51.8%.

Validity and Reliability Test

To ascertain if a questionnaire is valid for each variable, validity testing is done. The following table displays the validity tests that were performed for this study:

Table 2. Validity and Reliability Test

Item	Invalid item	Cronbach's Alpha
Responsiveness (X)	-	0,745
Usabilty (Y)	-	0,725
Customer satisfaction (Z)	-	0,782

Source: SPSS output

Because the computed r value> r table is 0.1406, the table indicates that the validity test calculations for all questions pertaining to the variables of usability, responsiveness, and customer satisfaction are deemed valid. Each of the three variables' reliability test findings indicates that the variables are reliable if the Cronbach's alpha number is more than 0.60.

Classical Assumptions

Normality Test

Determining the distribution of the variables shown in the normally distributed questionnaire is the goal of the Kolmogorov-Smirnov normality test. A sig<0.01 standard error is employed.

Table 3. Normality Test

	Responsiveness (X)	Usability (Y)	C.Satisfaction (Z)
Asymp. Sig. (2-tailed)	0,000[c]	0,000[c]	0,000[c]

Source: SPSS output

The responsiveness, usability, and customer satisfaction variables all have values of 0.000<0.01, which indicates that the data from each variable is normally distributed, according to the results of the data normality test.

Multicollinearity Test

To find out if there is a significant connection between the independent variables that make up the model, the multicollinearity test is utilized. One way to identify a multicollinear linear regression model is to use the independent variable's Variance Inflation Factor (VIF) to check for it. That is, multicollinearity occurs if the independent variable's VIF value is less than 10.

Table 4. Multicollinearity Test

Model	VIF
Responsiveness (X)	1,546
Usability (Y)	1,546
a. Dependent Variable: Customer Satisfaction	

Source: SPSS output

The output results show that the responsiveness and usability variables have a VIF value of 1.546, which is less than 10. This indicates that each independent variable (Responsiveness (X) and Usability (Y)) has experienced multicollinearity.

Hypothesis Testing

This research looks into chatbot use in e-commerce from the viewpoint of the user to ascertain how responsiveness affects usability and how usability affects user pleasure. Prior to applying the SEM model for research hypothesis testing, the outcomes of model appropriateness testing (model fit) must be completed. The structural equation model for multivariate data analysis in this study was AMOS.

Table 5. Model Fit

GFT size	Mark	Test criteria	Implications on h_0
CFI	0,913	> 0,90	Fit
NFI	0,910	> 0,90	Fit
GFI	0,931	> 0,90	Fit

Source: AMOS Output

The CFI score of 0.913, the NFI value of 0.910, and the GFI value of 0.931 indicate that this model satisfies the requirements. Theoretical hypothesis testing may be done since the majority of fit models can be met or fit.

Table 6. Path Analysis

Hypothesis	Track			C.R.	P	Results
H_1	Responsiveness (X)	→	Usability (Y)	10,290	***	Diterima
H_2	Usability (Y)	→	Customer satisfaction (Z)	14,879	***	Diterima

Source: AMOS Output

The outcomes of the hypothesis testing are displayed below. According to the test findings for hypothesis H1, responsiveness (X) influences usability (Y) in a positive way. This is shown by a C.R value of 10.290 or more than 1.98 and a P value of less than 0.05 or indicated by the sign *** (below 0.01). These findings indicate that higher levels of responsiveness in chatbots are often associated with higher levels of usability, as consumers find it simpler to communicate and receive a prompt answer.

Usability (Y) has a positive effect on customer satisfaction (Z), according to the results of the hypothesis test for H2, which examined the relationship between Y and Z. The C.R. value was 14.879 or more than 1.98, and the P value was less than 0.05 or indicated by the symbol *** (below 0.01). These findings suggest that user-friendly chatbots are associated with higher consumer satisfaction levels during online purchases. When customers ask questions about a product or service, chatbots also assist customers obtain answers more rapidly. This 24-hour service is offered to customers.

Influence Decomposition

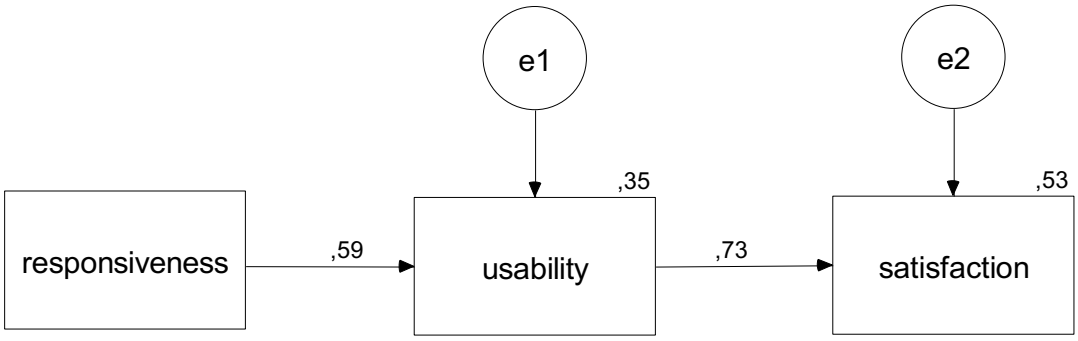

Figure 1 Decomposition of Influence

Source: AMOS Output

Usability (Y) is positively and significantly impacted by responsiveness (X), with a coefficient of (0.594)2 = 0.352836, or 35.28%. The remaining amount, or 64.71%, is affected by additional factors not included in the model (1- 0.352836) = 0.647164. Customer satisfaction (Z) is positively and significantly impacted by usability (Y), as shown by (0.73)2 = 0.5329 or 53.29%. The remaining amount, which is affected by other factors not covered by the model, is (1- 0.5329)= 0.4671, or 46.71%. √0.647164 = 0.819536 is the magnitude of the route coefficient model for the residual variable e1 on the exogenous variable Usability (Y). √0.4671 = 0.683 is the path coefficient of the model for the residual variable e2 on the endogenous variable Customer Satisfaction (Z). Accordingly, Z= 0.73Y + 0.683e2 and Y= 0.594X+ 0.819536e1 represent the estimated structural influences of the Usability and Customer Satisfaction models, respectively.

Many related hypotheses and investigations support the study's conclusions. The idea that

chatbot adoption might improve perceived utility and convenience of use, and hence, user pleasure, is supported by the Technology Acceptance Model (TAM). Furthermore, according to the Service Quality Theory, chatbots' reactivity can improve overall service quality and raise client happiness. The conversational interfaces of chatbots can improve user pleasure and engagement, as further highlighted by Social Presence Theory. The Information Systems Success Model, in conclusion, emphasizes the significance of both system and service quality, both of which are enhanced by the deployment of chatbots. When taken as a whole, these ideas and research offer a solid theoretical framework for comprehending how chatbot adoption affects e-commerce responsiveness, usability, and customer pleasure.

CONCLUSION

The results of this study show that the chatbot's responsiveness (X) and usability (Y) have a favorable correlation. Higher levels of Customer Satisfaction (Z) are indicative of a chatbot's ease of use, which increases with its responsiveness. The study's findings indicate that the chatbot's usability (Y) and responsiveness (X) have a favorable correlation. Higher levels of usability are typically associated with chatbots that are more responsive and dependable since consumers find it simpler to communicate and receive a prompt answer. Additionally, the results demonstrate that customer satisfaction (Z) is highly influenced by the usability variable (Y). User-friendly chatbots are more likely to boost client satisfaction during the online purchase process. These results highlight how crucial it is to improve chatbot usability and responsiveness on e-commerce platforms. Developing a chatbot with a high level of responsiveness and user-friendliness may boost client retention, overall revenues, and customer happiness. E-commerce businesses should keep an eye on the creation and administration of their chatbots in light of the study's findings. Enhancing the online purchasing experience and general client happiness involves ensuring the chatbot is user-friendly and responsive.

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