Vol. 21 No. 2 (2025) pp. 190-195
INOVASI: Jurnal Ekonomi, Keuangan dan Manajemen
P-ISSN 0216-7786
E-ISSN 2528-1097

The Effect of Customer Experience and Responsiveness on Customer Lifetime Value (CLV) of Online Service Users

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Abstract
This study aims to analyze the effect of customer experience and responsiveness on customer lifetime value (CLV) among online service users. An associative quantitative approach was employed using a survey method involving 303 students of the undergraduate accounting program at Mulawarman University who are active users of digital platforms such as e-commerce and online transportation. Data were collected via questionnaires and analyzed using validity and reliability tests, classical assumption tests, and multiple linear regression analysis. The results show that both customer experience and responsiveness have a positive and significant effect on CLV, both partially and simultaneously. The coefficient of determination (R^2) of 0.564 indicates that 56.4% of the variation in CLV is explained by the two independent variables. The regression model satisfies classical assumptions, with no detected issues of autocorrelation, heteroscedasticity, and data approaching a normal distribution. These findings highlight the importance of enhancing customer experience and service responsiveness in building long-term customer value in the digital era.

Article history
Received 2025-02-09
Accepted 2025-04-15
Published 2025-05-25

Keywords
Customer;
Responsiviness;
Digital Service.

1. Introduction

The development of information and communication technology has changed the global business landscape, especially in the provision of online-based services. Ease of access, flexibility, and time efficiency make online services increasingly in demand by the public. In a highly competitive digital business ecosystem, companies are not only required to attract new customers, but also to retain existing customers and optimize their long-term economic value. One strategic indicator that is widely used in measuring the long-term profit potential of a customer is Customer Lifetime Value (CLV) (Kotler & Keller, 2016).

CLV is an estimate of the total net profit that a company can get from a long-term relationship with a customer (Gupta & Lehmann, 2003). To increase CLV, companies need to pay attention to the factors that shape customer loyalty and satisfaction. Two of them that are increasingly being researched in the digital context are customer experience (CX) and service responsiveness. Customer experience encompasses customers' overall perception of their interactions with a company, whether directly through an app or website or indirectly through social media and customer service (Lemon & Verhoef, 2016). Meanwhile, responsiveness reflects the speed and accuracy of the company in responding to customer needs, questions, and complaints (Parasuraman, Zeithaml, & Berry, 1988).

Previous research shows that positive customer experience and responsive service have a significant relationship with satisfaction, loyalty, and repurchase intentions, which in turn contribute to increasing CLV (Klaus & Maklan, 2013; Homburg, Jozić, & Kuehnl, 2017). However, in the context of online service users among university students, especially with unique digital behavior characteristics, empirical studies on the influence of these two variables on CLV are still limited. Therefore, this study uses a quantitative approach to measure and analyze the effect of customer experience and responsiveness on Customer Lifetime Value of accounting study program students as online service users.

Through a statistical approach and quantitative data processing, this research is expected to provide theoretical contributions in the development of digital consumer behavior studies as well as practical contributions for companies in designing data-driven marketing strategies oriented towards customer retention and long-term profitability.

2. Method

This research uses an associative quantitative approach, which is an approach that aims to determine the relationship or influence between variables that are measured numerically and analyzed using statistical methods. This research is explanatory because it explains the effect of customer experience and responsiveness on customer lifetime value (CLV).

2.1. Population and Sample

The population in this study were students of the S1 Accounting study program, Faculty of Economics and Business, Mulawarman University who used online services, especially those who used platforms such as e-commerce, online transportation, and other digital services in at least the last 6 months.

The sample was taken using purposive sampling technique, with the following criteria:

1) Is an active user for at least the last 6 months.
2) Has made at least 3 transactions.

The number of samples was determined based on the Slovin formula; $n = N / (1 + Ne^2)$, with a population of 1244 people, the ideal number of respondents is at least 303 people.

2.2. Data Collection Techniques.

Data was collected through an online questionnaire using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). The questionnaire was distributed through social media and other digital platforms to reach a wide range of online service users.

2.3. Operational Variables

Tabel 1. Operational Variable Definitions

Variabel	Indikator	Sumber
Customer Experience (X1)	Ease of use, personalization, service consistency, convenience, positive emotions	Lemon & Verhoef (2016); Klaus & Maklan (2013)
Responsivitas (X2)	Speed of response, clarity of information, service friendliness, complaint handling	Parasuraman et al. (1988) - dimensi SERVQUAL
Customer Lifetime Value (Y)	Repurchase frequency, loyalty, relationship duration, likelihood of recommendation	Gupta & Lehmann (2003); Kotler & Keller (2016)

2.4. Data Analysis Technique

The data obtained will be analyzed with the help of statistical software such as SPSS, through the following steps:

1) Validity Test: using item-total correlation on 30 respondents with Pearson Product Moment correlation value. (r > 0,5).
2) Reliability Test: using Cronbach's Alpha value (> 0,7).
3) Classical Assumption Test: normalitas, multikolinearitas, heteroskedastisitas.
4) Multiple Linear Regression Analysis:

Y = a + b1X1 + b2 X2 + e

Where to:

Y = Customer Lifetime Value (CLV)
a = konstanta
X1 = Customer Experience
X2 = Responsivitas
b = Koefisien regresi
e = Error term

3. Results and Discussion

The validity test is useful for measuring the validity of customer experience, responsiveness, and customer lifetime value statement items. The validity test results for all show that the significance value of all items has a significant correlation value to the total score (Pearson Correlation value to TOTAL> 0.3 and Sig. (2-tailed) <0.001). Therefore, all indicators in the Customer Experience (X1), Responsiveness (X2), and CLV (Y) variables are declared valid because they are significantly correlated with the total score and exceed the minimum correlation threshold of 0.3.

The reliability test is a test that is applied to measure questionnaires that are indicators of a variable.

Tabel 2. Reliability Test
Reliability Statistics

Cronbach's Alpha	N of Items
.929	14

Tabel 3. Statistic Test
Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X1.1	48.4785	62.111	.680	.923
X1.2	48.4290	62.305	.664	.924
X1.3	48.6304	61.320	.713	.922
X1.4	48.3168	61.674	.663	.924
X1.5	48.6700	61.123	.695	.923
X2.1	48.6601	62.026	.673	.923
X2.2	48.6700	61.308	.692	.923

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X2.3	48.5776	62.172	.696	.923
X2.4	48.7129	61.636	.664	.924
Y1.1	48.5644	61.286	.661	.924
Y1.2	48.6898	60.983	.652	.924
Y1.3	48.9967	62.454	.572	.927
Y1.4	48.5347	61.038	.734	.921
Y1.5	48.8746	61.249	.615	.926

The reliability test process by testing Cronbach's Alpha> 0.70, then the questionnaire is considered reliable or reliable. The Cronbach's Alpha value = 0.929 for 14 items, so this questionnaire is said to be very reliable because the alpha value is> 0.9, so the instrument has a very high internal consistency. There are no items that, if deleted, would significantly improve reliability.

3.1. Classical Assumption Test

1) Autocorrelation Test: The Durbin-Watson test results show a value of 1.950 which is close to 2. This indicates that there is no autocorrelation in this regression model.
2) Heteroscedasticity Test: The test results show a significance value of 1.000, which means that there are no symptoms of heteroscedasticity in the model.
3) Normality Test: The Kolmogorov-Smirnov test results yield a significance value of 0.005. Although this result indicates that the data is not perfectly normally distributed, with a large sample size (n = 303), the model is still acceptable based on the Central Limit Theorem.

3.2. Multiple Linear Regression Analysis

Multiple linear regression analysis is used to determine the effect of the independent variables Customer Experience (X1) and Responsiveness (X2) on the dependent variable Customer Lifetime Value (Y). The following are the results of multiple linear regression analysis:

Tabel 4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.751	0.564	0.561	2.280

Based on the results of the analysis, the coefficient of determination (R^2) is 0.564. This shows that 56.4% of the variation in the dependent variable (Y) can be explained by the independent variables X1 and X2 together, while the remaining 43.6% is explained by other factors outside this model.

Tabel 5. ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2018.969	2	1009.484	194.218	<0.001
Residual	1559.308	300	5.198		
Total	3578.277	302			

The ANOVA test results show that the regression model used is simultaneously significant. This is indicated by the calculated F value of 194.218 with a significance level of $p < 0.001$. Thus, together the variables X1 and X2 have a significant effect on variable Y.

Tabel 6. Coefficients

Variabel	B	Std. Error	Beta	t	Sig.
(Constant)	2.204	0.822	-	2.682	0.008
X1	0.546	0.056	0.519	9.814	<0.001
X2	0.366	0.066	0.291	5.501	<0.001

The t test results show that the Customer Experience variable (X1) has a positive and significant effect on Customer Lifetime Value (Y), with a regression coefficient of 0.546, a t value of 9.814, and

a significance of p <0.001. This means that every one unit increase in X1 will increase Y by 0.546 units.

Similarly, the Responsiveness variable (X2) also has a positive and significant effect on Y, with a regression coefficient of 0.366, a t value of 5.501, and a significance of p < 0.001. This shows that a one unit increase in X2 will increase Y by 0.366 units.

From the data that has been processed, multiple linear regression analysis can be formulated with the following equation:

Y = 2.204 + 0.546X1 + 0.366X2

Based on the results of multiple linear regression analysis, the coefficient of determination (R^2) value is 0.564. This shows that 56.4% of the variation in the dependent variable (Y) can be explained by the independent variables X1 (Customer Experience) and X2 (Responsiveness) together. While the rest, namely 43.6%, is explained by other factors outside the model.

The ANOVA test results show that this regression model is simultaneously significant, indicated by the calculated F value of 194.218 with a significance level of p < 0.001. This means that the overall model has good predictive ability of the Y variable.

Partially, the coefficient analysis results show that:

1) Variable X1 (Customer Experience) has a positive and significant influence on Y, with a regression coefficient of 0.546, a t value of 9.814, and a significance of p < 0.001. This means that every one unit increase in X1 will increase the value of Y by 0.546 units, assuming X2 is constant.
2) The X2 variable (Responsiveness) also has a positive and significant effect on Y, with a regression coefficient of 0.366, a t value of 5.501, and a significance of p < 0.001. This means that a one unit increase in X2 will increase Y by 0.366 units, ceteris paribus.

4. Conclusion

Based on the results of data analysis in research on the effect of Customer Experience (X1) and Responsiveness (X2) on Customer Lifetime Value (Y) in online service users, the following conclusions are obtained:

1. Customer Experience (X1) has a positive and significant effect on Customer Lifetime Value (Y). This shows that the better the experience felt by customers, the higher the value of these customers for the company in the long run.
2. Responsiveness (X2) also has a positive and significant effect on Customer Lifetime Value (Y). This means that the more responsive the service provider is in responding to customer needs and requests, the more likely customers are to remain loyal and provide greater economic value to the company.
3. The multiple linear regression model used has a coefficient of determination (R^2) of 0.564, which means that 56.4% of the variation in Customer Lifetime Value can be explained by the two independent variables simultaneously. The remaining 43.6% is influenced by other variables not examined in this model.
4. The results of the classical assumption test show that the regression model meets the conditions of no autocorrelation (Durbin-Watson = 1.950), no heteroscedasticity (sig. = 1,000), and data that is close to normal distribution (sig. K-S = 0.005), so the model is suitable for use.

Customer experience can increase loyalty, retention, and lifetime customer value (CLV). Investment in customer experience is considered a key growth strategy by many business leaders. Responsiveness, as one of the five dimensions of service quality in the SERVQUAL model, reflects the company's willingness and ability to help customers and provide services quickly. A high level of responsiveness can increase customer satisfaction and loyalty, which in turn can have a positive impact on CLV. Customer experience and responsiveness simultaneously have a positive and significant effect on CLV.

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