The Impact of E-Commerce Live Streaming Services and Customer Engagement on Customer Loyalty at Shaqila Baby Shop

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Abstract— This research examines the effect of e-commerce live streaming services and customer engagement on customer loyalty at Shaqila Baby Shop, a store adapting innovative digital marketing strategies to enhance customer interactions. E-commerce live streaming services provide an interactive platform where customers engage directly with sellers, view products in real time, and receive immediate responses, fostering a personalized shopping experience. Customer engagement is another critical factor, as it involves customers' attachment to the brand through regular purchases, interactions, and feedback, all of which can increase loyalty. A quantitative approach was utilized, employing multiple linear regression analysis on data collected through structured questionnaires from a sample of 100 respondents, determined using Slovin's formula. The validity and reliability tests confirmed the robustness of the data collection instruments. Findings reveal that e-commerce live streaming services and customer engagement each have a positive and significant impact on customer loyalty. Specifically, live streaming services enhance the overall shopping experience, while customer engagement fosters deeper connections with the brand. Furthermore, a simultaneous analysis shows that these factors collectively strengthen customer loyalty to a significant extent. This study provides valuable insights into how digital marketing innovations, such as live streaming and customer engagement efforts, can enhance customer loyalty, offering a practical model for businesses aiming to leverage e-commerce platforms effectively.

Keywords *: E-commerce live streaming, customer engagement, customer loyalty, digital marketing.*

I. INTRODUCTION

The advancement of technology and the internet has brought about a revolutionary shift in the field of marketing. With technological progress, marketing methods have transitioned from traditional approaches to more efficient and effective digital marketing. The global reach of the internet offers consumers broader access to information, interaction, and online shopping. This creates new opportunities for businesses to enter wider markets and enhance brand awareness. Digital marketing is currently a marketing activity with significant potential to attract customers through the internet.

One of the most often used kind of digital marketing nowadays is e-commerce. Data from databoks.katadata.co.id indicates that e-commerce has grown significantly in Indonesia in recent years. By 2023, e-commerce transaction values are expected to have grown to IDR 689 trillion from IDR 266.3 trillion in 2020. Numerous variables, such as rising internet penetration, the pervasive use of smartphones, and the simplicity of accessing e-commerce platforms, are responsible for this expansion. The practice of selling goods or services via live broadcasts, known as e-commerce live streaming, reflects a change from conventional to contemporary purchasing habits. With the use of this service, customers can communicate

with merchants, examine products in real time, and get product information straight from the live stream. [1]

Customer engagement refers to the level of a customer's attachment to a brand or company, demonstrated through their behaviors and actions, such as repeat purchases, regular use of products or services, and sharing positive information about the brand with others. Customer engagement is key to building a strong relationship between the brand and the customer. [2] Shaqila Baby Shop consistently keeps up with the latest fashion trends and offers a wide variety of stylish and modern clothing, enabling customers to always look their best. Shaqila Baby Shop also has friendly hosts and regularly holds giveaways during live streaming sessions, making customers feel happy when shopping at Shaqila Baby Shop.

Through e-commerce live streaming services, Shaqila Baby Shop can interact directly with customers, answer questions, provide recommendations, and create a more personalized experience. Effective customer retention enhances loyalty and boosts customer satisfaction. Advances in streaming technology have made smoother, higher-quality live broadcasts possible. Shaqila Baby Shop uses streaming technology to deliver engaging live sessions, inviting customers to actively participate. This can increase customer loyalty and influence purchasing decisions.

Social media also plays a key role in supporting the impact of e-commerce live streaming services.

Table 1. The Number Visitor at Shaqila Baby Shop

No	Year	Number of Customers Purchasing Products in Store	Number of Buyers Via Live Streaming
1	2021	1.150	5.500
2	2022	2.070	9.400
3	2023	3.200	18.755
Jumlah		6.650	27.655

The table above shows the number of visitors or buyers at Shaqila Baby Shop from 2021 to 2023. It is evident that the number of visitors or buyers has increased significantly each year. From 2021 to 2022, the number of customers grew by 44.45%, and from 2022 to 2023, it increased again by 49.88%. Sales at Shaqila Baby Shop vary significantly between online and offline channels, each with its own advantages and challenges. Based on the data in Table 1, online sales are higher than in-store sales. This is due to the flexibility of online shopping, allowing customers to shop anytime without being bound by store hours, and reaching customers in various locations, even in Sukoharjo.

Shaqila Baby Shop has business competitors selling similar products, one of which is Falisha Baby Shop. Located in the same area, Sukoharjo, this store offers a variety of baby supplies at affordable prices, though only available for purchase in-store. Unlike Falisha, Shaqila Baby Shop provides a wide range of baby products at competitive prices and offers convenience for customers who lack the time to visit the physical store by providing a live streaming service.

Based on the above background, I am interested in conducting a study titled The Impact of E-Commerce Live Streaming Services and Customer Engagement on Customer Loyalty at Shaqila Baby Shop Tawangsari. This research aims to fill a knowledge gap by focusing on the impact of e-commerce live streaming services and customer engagement on customer loyalty at Shaqila Baby Shop.

II. RESEARCH METHODS

This research falls under the quantitative method category. Quantitative research is a systematic scientific study of causal relationships between parts and phenomena, as well as their interactions. The research method used is experimental, involving the manipulation of independent variables and observing their effects on dependent variables in a controlled environment. The experiment aims to test causal (cause-and-effect) relationships.

Population, Sample, and Sampling Technique : The population for this research is based on the average number of customers at Kanino Premium Clothing Manado, totaling 7,000 individuals. The sample size was determined using the Slovin formula. Based on the calculations using the Slovin formula, the sample size obtained is 100 respondents.

Type and Source of Data : The types and sources of data in this research are primary and secondary data. Primary data is collected through questionnaires, consisting of written questions using a Likert scale from 1 to 5. Secondary data comes from literature and other information sources related to the research.

Data Collection Technique : The primary data collection technique in this study is a written survey conducted through a questionnaire. A questionnaire is a data collection method involving a set of written questions or statements given to respondents to answer. Validity and Reliability Tests : The validity test is conducted to ensure whether a measurement tool is valid. In this context, the measurement tool is the survey questions. A survey is considered valid if the survey questions accurately measure what they are intended to measure. This validity test determines whether the data obtained from the survey is valid based on the measurement tool (questionnaire) used. Reliability, or consistency, is the degree to which measurement results remain consistent across repeated measurements or between different raters. Reliability implies that the same measurement instrument yields consistent results (test-retest) or that two raters achieve similar results (inter-rater reliability). A test is considered reliable if it provides consistent data when conducted under the same conditions with the same subjects.

Data Analysis Technique : Based on the established hypothesis, the analysis used in this research is quantitative, utilizing a multiple linear regression model and using SPSS version 25 to process questionnaire data.

Normality Test : The normality test is a statistical procedure used to determine whether a specific dataset follows a normal (Gaussian) distribution. A normal distribution has a characteristic symmetric bell shape and is the basis for many inferential statistical techniques. The normality test is essential as many statistical methods, such as regression and t-tests, assume that the data being analyzed is normally distributed.

Multicollinearity Test : Multicollinearity is a condition where there is a perfect or nearly linear relationship between independent variables in a regression model. A regression model is said to have

multicollinearity if there is a perfect linear function for some or all of the independent variables within that linear function. Indicators of multicollinearity include checking the variance inflation factor (VIF) and tolerance.

Multiple Linear Analysis: Multiple linear regression is a regression model that involves more than one independent variable. Multiple linear regression analysis is conducted to determine the direction and extent of the effect of independent variables on the dependent variable. The regression equation in this study is:

$$Y = α + β1X1 + β2X2 + ε$$

Hypothesis Testing
F Test (Simultaneous) **:** The F test is an essential statistical technique for analyzing relationships between variables and testing the significance of the model and regression coefficients. The interpretation of F test results should consider the F value, p-value, and other factors in the research:

1. If Sig > 0.05, then Ho is accepted and Ha is rejected, indicating no significant effect.
2. If Sig < 0.05, then Ho is rejected and Ha is accepted, indicating a significant effect.

T Test (Partial) **:** The t test is a commonly used statistical technique to test research hypotheses about the differences between two groups. The t test plays an important role in research analyzing the effects of E-commerce Live Streaming Service (X1) and Customer Engagement (X2) on Customer Loyalty (Y):

1. Compare the significance value with the probability value of 0.05. Ho will be accepted if the significance value is greater than 0.05. Conversely, Ha will be accepted if the significance value is less than 0.05.
2. Compare t-calculated with t-table. Ha will be accepted if t-calculated > t-table. Conversely, Ho will be accepted if t-calculated < t-table.

III.   LITERATUR REVIEW

Digital marketing is a marketing activity that utilizes internet-connected devices, various strategies, and digital media with the aim of communicating with potential consumers through online communication channels. Digital marketing is a marketing strategy that leverages digital technology to achieve business objectives, such as increasing brand awareness, generating leads, and boosting sales. [3] [4]

E-commerce can be defined as an electronic system that enables commercial transactions, such as the buying and selling of goods and services, to be conducted over a computer network, including the Internet [5]. Meanwhile, Live Streaming Service refers to a service that allows real-time video broadcasts over the internet. Based on these definitions, E-Commerce Live Streaming Service can be understood as a service that enables sellers to market their products directly through live-streamed video in real-time, where sellers can interact directly with buyers. E-commerce Live Streaming Service includes several evaluation aspects, such as the number of viewers, video and audio quality, viewer interaction, and satisfaction. [6]

Customer engagement is the relationship between the customer and the brand. Customer loyalty is built and rebuilt through every interaction with a brand, including making purchases, viewing social media posts, and receiving brand updates [7]. Customer engagement is a critical part of any company or business organization, and the success of a company or business organization depends on customers' continuous participation and involvement in the company's service process, as well as on establishing a social relationship between the customer and the company Customer Engagement includes aspects such as customer retention rate, time spent watching, feedback and reviews, and purchase frequency [8].

Customer loyalty is defined as the commitment of customers to a brand or company, demonstrated through repeat purchases, positive recommendations to others, and resistance to competitor appeal [9]. Customer Loyalty includes several evaluation indicators: repeat purchases, customer satisfaction, and participation in loyalty programs.

conducted research aiming to understand and analyze whether customer engagement and customer experience have a positive and significant impact on customer loyalty. This study employed a quantitative research method, and the findings indicated that both independent variables have a positive and significant effect on the dependent variable. [10]

Aimed to examine the impact of customer engagement on customer loyalty, with customer satisfaction as an intervening variable, using a case study of Bank BRI Unit Palembang. The findings showed that customer engagement has a positive and significant effect on customer satisfaction within BRI Belimbing Padang banking. This implies that the higher the level of customer engagement in service quality, the higher the level of customer satisfaction in the BRI Belimbing Padang banking unit. Conversely, if customers are dissatisfied with the service provided, the ability of BRI Bank Belimbing Padang to increase customer satisfaction diminishes.

Aimed to identify the content marketing concepts applied by Bloom Coffee to increase customer engagement through Instagram. The survey method was used to distribute and collect data among respondents. A Likert scale was used as a measurement

tool for the questionnaire. The sample included 100 respondents who follow the Instagram account @bloomcoffeejkt. The analysis method was simple regression analysis. The researchers processed and analyzed the sample data using Excel and IBM Statistics 22 (SPSS version 22). Based on the results of the simple linear regression analysis, a hypothesis was proposed, indicating that content marketing has a significant effect on customer loyalty. [7]

IV. RESULT AND ANALYSIS

Interpretation of Validity Test Results :
An item is considered valid if the Pearson Correlation (calculated r) > r table or if the Sig. value < 0.05.

Table 2. Validity Test Result

Item	Pearson Correlation (r hitung)	Sig. (2-tailed)	Validitas
X1_1	0.732	0.000	Valid
X1_2	0.658	0.000	Valid
X2_1	0.705	0.000	Valid
X2_2	0.689	0.000	Valid
Y_1	0.812	0.000	Valid
Y_2	0.794	0.000	Valid

Based on the results above, all items in variables X1, X2, and Y are deemed valid because the Pearson Correlation > r table or Sig. < 0.05. Interpretation of Reliability Test Results:

Table 3. Reliability Test Result

Variabel	Cronbach's Alpha	Reliabilitas
X1 (E-Commerce Live Streaming Service)	0.831	Reliabel
X2 (Keterlibatan Pelanggan)	0.769	Reliabel
Y (Loyalitas Pelanggan)	0.854	Reliabel

Based on the results above, all variables (X1, X2, and Y) are considered reliable because the Cronbach's Alpha value is > 0.7.
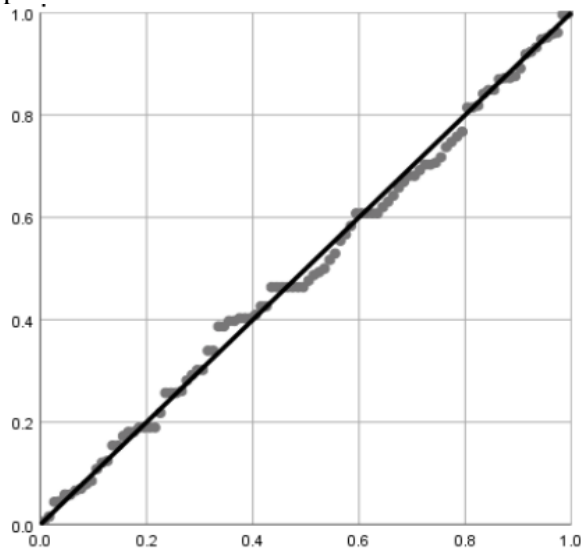

Figure 1. P-Plot Graph

The sample points in the typical P-Plot graph are shown to follow the diagonal line from the lower left to the upper right. This leads to the conclusion that the normality assumption is met and the data is normally distributed.

Table 4. Results of Multicollinearity Test

Coefficients[a]		Collinearity Statitics	
Model		Tolerance	VIF
1	E-Commerce Live Streaming	.608	1.657
	Customer engagement	.608	1.657
a	Dependent Variable : Customer loyalty		

The aforementioned processed data demonstrates that the independent variables in the research regression model do not exhibit multicollinearity. This is demonstrated by the fact that each independent variable's tolerance values are greater than 0.1 and its VIF values are less than 10. Test Results of Multiple Linear Regression Analysis.

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.302	2.045		1.615	.110
	E-COMMERCE LIVE STREAMING SERVICE	.438	.152	.272	2.889	.005
	KETERLIBATAN PELANGGAN	.615	.119	.487	5.164	.000
a. Dependent Variable: LOYALITAS PELANNGAN						

Figure 2. Results of Multiple Linear Regression Analysis

The multiple linear regression equation can be deduced as follows from the following table:

$$Y = 3.302 + 0.438X1 + 0.615X2 + \varepsilon$$

The value of the dependent variable (customer loyalty) equals 3.302 if the values of the independent variables (e-commerce live streaming service and customer engagement) remain unchanged. This is known as the constant.

The E-Commerce Live Streaming Service variable (X1) has a positive regression coefficient of 0.438. This indicates that the Customer Loyalty variable will rise by 0.438 if the E-Commerce Live Streaming Service variable increases by 1 point considerably while the other independent variables stay the same.

The regression coefficient for the Customer Engagement variable (X2) is 0.615 and is positive. This means that if the Customer Engagement variable increases by 1 point significantly, with other independent variables remaining constant, it will increase the Customer Loyalty variable by 0.615.

Based on the table above, to determine the partial (individual) influence of each independent variable on the dependent variable, the following results are obtained:

1. The E-Commerce Live Streaming Service variable has a significance value of 0.005, which is less than 0.05. For the calculated t-value, the result is 2.889 > t-table (1.984), indicating that the E-Commerce Live Streaming Service variable influences the Customer Loyalty variable. Therefore, the first hypothesis, H1: the E-Commerce Live Streaming Service variable has a significant partial effect on the Customer Loyalty variable, is "accepted."

2. The Customer Engagement variable has a significance value of 0.000, which is less than 0.05. For the calculated t-value, the result is 5.164 > t-table (1.984), indicating that the Customer Engagement variable influences the Customer Loyalty variable. Therefore, the second hypothesis, H2: the Customer Engagement variable has a significant partial effect on the Customer Loyalty variable, is "accepted." Simultaneous test results.

ANOVAª

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	251.148	2	125.574	44.158	.000ᵇ
	Residual	275.842	97	2.844		
	Total	526.990	99			

a. Dependent Variable: LOYALITAS PELANNGAN
b. Predictors: (Constant), KETERLIBATAN PELANGGAN, E-COMMERCE LIVE STREAMING SERVICE

Figure 3. Simultaneous Test Results

Based on the table above, the significance value is 0.000 < 0.05, and the F-value is 44.158 > F-table value of 3.090, which indicates that the independent variables, namely E-Commerce Live Streaming Service and Customer Engagement, have a significant simultaneous influence on the dependent variable, Customer Loyalty.

The results of the data analysis show that the hitung variable of the e-commerce live streaming service has a significance level of 0.005, which is slightly less than 0.05. On the other hand, t hitung is determined by a value of 2,889 > ttabel (1,984), meaning that the variable of siaran langsung e-commerce has an effect on the variable of customer loyalty. This indicates that the independent variable (e-commerce live streaming service) has a positive and significant effect on the dependent variable (customer loyalty). Because of this, hypothesis 1 in this study is presented, which indicates that live streaming e-commerce services have a significant impact on customer loyalty. The use of live streaming e-commerce services by Kanino Premium Clothing Manado can increase interaction and create a more intimate and personal relationship between customers and sellers, allowing them to feel more inclined to buy the product in question on a regular basis.

Based on the results of this data analysis, the significance level is 0.000 < 0.05 and the Fhitung value is 43,58 > Ftabel 3,090, indicating that customer loyalty and participation are independent variables and that live streaming e-commerce is a dependent variable. Accordingly, the third hypothesis of this study may be tested and prove that live streaming e-commerce and customer visibility have a positive and significant impact on customer loyalty.

VI. CONCLUSION

Customer loyalty is positively and significantly impacted by e-commerce live streaming services, to a certain extent. This suggests that by offering a dynamic and captivating buying experience, the live streaming function in e-commerce can increase client loyalty.

Customer Engagement: Partially, customer loyalty is positively and significantly impacted by customer engagement. This implies that customers are more likely to stick with a brand or store if they are more engaged with it.

Consumer interaction and live streaming services for e-commerce: When combined (at the same time), these two factors significantly impact consumer loyalty. This indicates that when these elements are used in tandem, they greatly increase Shaqila Baby Shop customers' loyalty.

The following recommendations can be made in response to the findings of the study:

For the Store: a. Create a loyalty program that offers rewards to regular customers, such reward points, exclusive discounts, or first dibs on new merchandise. b. Customer Feedback: To learn about the needs and preferences of your customers, actively seek out and pay attention to their opinions via surveys, reviews, or social media comments.

For Upcoming Researchers: a. Take into account including additional factors like product quality and price that could affect customer loyalty. This might offer a more thorough understanding of the elements influencing client loyalty. To determine whether there are variations in the impact of e-commerce live streaming services, think about dividing up your clientele according to demographics like age, gender, and income.

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