An Empirical Analysis on the Influence of On-Time Delivery on Generation Z Customer Loyalty Mediated by Payment Methods

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ABSTRACT

One of the reasons why consumers are loyal to a business or product is punctuality. Therefore, this study will investigate whether on-time payment affects customer loyalty. This study will use a quantitative approach. The Partial Least Square Path Model (PLS-SEM) is used for data analysis. Generation Z was convicted in the province of North Sumatra. The results show that Gen Z customers at the Lazada Store in North Sumatra Province greatly benefit from payment options and on-time delivery, both of which have a positive and significant impact on customer loyalty.

Keyword: On-Time Delivery, Customer Loyalty, Generation Z Payment Methods

1. Introduction

A study conducted by the IDN Research Institute in 2019 to investigate the behavior of millennials in Indonesia found that most of them made purchases on Lazada in less than six months. With the emergence of many e-commerce in Indonesia, of course there will be competition between e-commerce with each other. According to data collected by We Are Social in April 2021, 88.1% of Indonesian internet users have used the internet for shopping (Siahaan & Lidwina, 2021;Purba et al., 2018). To compete with other e-commerce, various marketing strategies must be carried out.

For this study, the researchers used Generation Z, sometimes referred to as the igeneration or the internet generation. Zoomers, often known as Generation Z, are people who were born between 1997 and 2012. Born between 1995 and 2010, Generation Z is the world's first technological generation and is most similar to cellphones. Since they were young, they have been surrounded by social media, the internet, and technology (Rahmawati et al., 2024). This indicates that Generation Z is a very perceptive generation that enjoys gathering information and citing a variety of sources.

This study chose the on-time delivery variable because Lazada Indonesia still occupies the third position out of the five most visited places in 2023. Lazada's campaign this year was successful, increasing buyers compared to the previous year (Kurniawan, 2021). Furthermore, Susi Susesti Adianti (2023) discovered that on-time delivery accuracy has no discernible impact on client loyalty because rivals in the expedition service sector have similar degrees of punctuality. Customers therefore consider accurate on-time delivery to be standard practice in the expedition sector. According to Peng & Lu (2017), customer loyalty at J&T Express Pengampon Square Surabaya is significantly influenced by on-time delivery.

The payment system is also thought to increase client loyalty. This supports research by Putri and Hari (2017) that demonstrates how payment methods impact customer loyalty and that the degree of customer loyalty is correlated with how easy payment methods are. Customer loyalty can rise when digital payment options are available (Alamsyah, 2023; Herviana & Wiyono, 2023). To boost future sales, businesses need to keep their customers loyal. Customers consistently purchase products from the same vendor or brand because they feel that they offer better value than alternatives, per research (Abror et al., 2020).

2. Literature Review

2.1 On time Delivery

On-time delivery is very important because the ordered product will be more satisfying for the customer. Timeliness is the time it takes for buyers from the time they order an item until the item arrives in their hands. In assessing shipping services, estimated arrival and delivery are often the main measures of customers (Berliana et al., 2020). According to Lin et al. (2000), timeliness means that the process of sending goods must be carried out according to the specified date, and if not, customers will file a complaint. To ensure customer satisfaction, the number of goods and shipments must arrive on time (Siburian & Kartika, 2021; Purba et al., 2019).

Timeliness also means that customer service can be provided on time. According to Handoko (2010), timeliness is the amount of time that passes between a client placing an order and the product arriving to them safely and on schedule. According to Boyaci & Ray (2006), timeliness means that the process of sending goods must be in accordance with the specified day and date, otherwise the customer can file a complaint or fine. The time between the customer placing the order and the product's arrival is known as "on time delivery" (Siahaan et al., 2022). Customers typically use the estimated arrival time as a criterion to determine whether or not the delivery service is satisfactory (Dündar & Öztürk, 2020).

According to Du et al. (2018), on-time delivery is when an order is delivered complete and on time on the date agreed between the store and the customer, or before the agreed date. According to Forslund & Jonsson (2010), timeliness means that information is used by decision makers before they lose the ability to make decisions. This means that information is not stale or becomes public knowledge. Delivery timeliness is critical since delivering ordered products on time is crucial to boosting customer satisfaction. "Delivery on time" describes how long it takes for a consumer to receive their order after placing their order. When assessing whether or not the delivery service is adequate, customers usually use the projected arrival time as a guide.

On-time delivery is the promptness of delivery and the guarantee that the customer's purchased items have reached their destination safely. This is important for businesses to maintain customer trust and loyalty (Handoko, 2010; Ingtyas et al., 2021). Siburian & Kartika (2021) define on-time delivery as when a customer's order is delivered in whole and on schedule on the day that the customer and the store have agreed upon, or earlier. In order to improve customer satisfaction, it is crucial that the requested goods be delivered on time.

2.2 Payment Methods

Shafa and Hariyanto (2020) stated that the payment system, also known as the payment method, is a process that shows that a certain amount of value flows from the buyer to the seller in a particular transaction. It can be inferred that the payment system or method will become even more efficient if we take into account the development of electronic-based payment systems, which have been shown to be more effective than paper-based payment systems (Humphrey, 2001; Amin et al., 2021). The payment method refers to the payment method used to pay for goods or services, debts, taxes, and so on. In buying and selling, you can usually pay in installments or cash.

We pay for something with a payment method. We can choose various payment methods, both cash and non-cash. There are undoubtedly benefits and drawbacks to each approach. Initially, Cash on Delivery (COD) is the most common payment method. However, over time, people began to use other non-cash payment methods, such as Bank Transfers in addition to COD, Credit Cards, and E-wallets.

2.3 Customer Loyalty

Loyal consumers, according to Hasan (2014), are individuals that pay for a product after making repeated, consistent purchases to satisfy their need for a good or service. According to Oliver (in Sangadji and Sopiah, 2014), a strong consumer commitment to re-subscribe or purchase a specific good or service on a frequent

basis in the future is what is meant by customer loyalty. This is true even though shifting circumstances and advertising campaigns have the power to alter consumer behavior.

The commitment of a consumer who consistently and consistently purchases a product to satisfy his wants by paying for the goods or receiving a service is known as customer loyalty, according to the definitions provided by the experts previously mentioned.

3. Research Methodology

This study conducted quantitative research with numerical data analyzed using statistics (Sugiyono, 2018). Latent variables/exogenous structures employed in this study include customer loyalty, payment methods, and on-time delivery. As science progresses, the most recent technique, structural equation modeling (SEM), has emerged as a superior option. This is due to the fact that this method provides a more accurate interpretation of the results, as well as producing more accurate and valid conclusions. The Partial Least Square Path Model (PLS-SEM) was used to analyze the data. Most of the generation Z involved in this study are Lazada Marketplace e-commerce customers located in North Sumatra Province and have made transactions more than once. This study consists of 3500 respondent samples that can represent Generation Z Lazada Market Place Customers in North Sumatra Province. This research technique uses associative research techniques.

3.1 Data collection technique

Data gathering is one of the research methods, according to Morgan & Harmon (2001). Researchers employ surveys, documents, interviews, and observation to gather data. Both primary and secondary data sources were used in this investigation. The Likert scale was used in this investigation. Values from outside testing are utilized to evaluate the model's validity and dependability.

3.2 Hypothesis Testing

Testing the hypothesis is the next stage. Hypothesis testing is done to show how endogenous and exogenous factors are related. To ascertain if the variables have a direct or indirect impact on one another, the IBM SEM version 4.0 application and the bootstrapping approach are utilized. The study's hypothesis is tested by the t-statistic and p-values. In this study, the level of statistical significance used to accept or reject the hypothesis is 5%. In other words, the level of confidence required to reject the hypothesis is 0.05 if the level of statistical significance is selected at 5% (Raftery et al., 1995). Furthermore, there is a 5% risk of choosing the incorrect option and a 95% probability of choosing the correct one. This serves as the foundation for decisions :

1. **There is an influence of on-time delivery (X) on customer loyalty (Y)**
   H01 : $\beta 1 = 0$ (On-time delivery has little bearing on client loyalty)
   Ha1 : $\beta 1 \neq 0$ (On-time delivery has an impact on client loyalty)
   Criteria:
   a. If the significance is less than 0.05, Ha is accepted or H0 is rejected.
   b. If the significance is greater than 0.05, H0 is accepted or Ha is rejected.
2. **There is an influence of payment method (Z) on customer loyalty (Y)**
   H02 : $\beta 2 = 0$ (Payment method has no bearing on client loyalty)
   Ha2 : $\beta 2 \neq 0$ (Customer loyalty is impacted by the mode of payment)
   Criteria:
   a. H0 rejected or Ha accepted if the significance < 0,05
   b. H0 accepted or Ha rejected if the significance ≥ 0,05
3. **There is an influence of on-time delivery (X) on payment methods (Z)**
   H3 : $\beta 3 = 0$ (On-time delivery has no bearing on the mode of payment)
   H3 : $\beta 3 \neq 0$ (On-time delivery has an impact on payment options)
4. **There is an influence of on-time delivery on customer loyalty which is mediated by payment methods.)**

H4: β4 = 0 (Customer loyalty is mediated by the payment method and is unaffected by on-time delivery)
H4 : β4 ≠ 0 (Payment method acts as a mediator between on-time delivery and consumer loyalty)

4. Data Analysis and Results

Convergent validity testing is used to assess if various research tools are appropriate for evaluating construct variables. It is expected that each instrument has a good value because an instrument with a high validity value is the right and appropriate tool to measure its construct variables. Convergent validity testing is carried out in two ways. First, the filling factor is used; second, a filling factor value greater than 0.7 is considered a good filling factor for an instrument that measures its construct variables (Wong, 2019). A Mean Distinction A respectable Average Variance A value larger than 0.5 is extracted for its construct variables (Dos Santos & Cirillo, 2023). The convergent validity results for each variable are then displayed. The composite reliability is 0.7 and the AVE limit value is 0.50. Table 1 below displays the loading factor values for this investigation :

Table 1. Validity Testing Based on Outer Loading ***(First Order)***

	Customer Loyalty	Payment Methods	Delivery time
X1			0.846
X2			0.872
X3			0.835
X4			0.873
X5			0.864
X6			0.899
X7			0.873
X8			0.830
Y11	0.682		
Y12	0.691		
Y13	0.693		
Y14	0.702		
Y15	0.707		
Y16	0.742		
Y17	0.724		
Y18	0.748		
Z11		0.729	
Z12		0.763	
Z13		0.754	
Z14		0.732	
Z15		0.697	
Z16		0.733	
Z17		0.732	
Z18		0.706	

Source: Data processed with Smart PLS, 2024

Finding the correlation between the item or indicator score and the variable score is the aim of the external addition test. The external load validity test indicates that the external load indicator's total value is greater than 0.7. Nonetheless, a correlation of 0.5 is still appropriate at this stage of growth (Zhou & Xu, 2016).

4.1 Average Variance Extracted (AVE)

Sholihin and Ratmono (2021) assert that the ideal Average Variance Extracted (AVE) value is more than 0.5. The AVE value must be more than 0.5 in order for discriminant validity to be deemed good. The AVE values are shown in Table 2 below :

Table 2. Validity Testing based on AVE; CR and CA (First Order)

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Customer Loyalty	**0.861**	**0.862**	**0.891**	**0.507**
Payment Methods	**0.875**	**0.876**	**0.902**	**0.534**
On Time Delivery	**0.950**	**0.951**	**0.958**	**0.743**

Source: Data processed with Smart PLS, 2024

All AVE numbers above 0.5 show that it has satisfied the validity requirements based on AVE, and the recommended AVE value is more than 0.5. The composite reliability value (CR) then serves as a guidance for reliability testing. All CR figures above 0.7 show that it has satisfied the reliability standards based on CR, and the recommended CR value is above 0.7. For the final test, the Cronbach's alpha (CA) value is used. Having a CA value greater than 0.7 is advised. Since all of the CA values are known to be greater than 0.7, it has satisfied the dependability standards established by Cronbach's alpha. Additionally, the Fornell-Larcker method is used to test discriminant validity.

4.2 Discriminant Validity

All of the outer loading values in Table 3's outer loading validity test are more than 0.7, meaning that the validity requirements have been met.

Table 3. Validity Testing Based on Outer Loading (Second Order)

	Sample Mean (M)
X1 <- On Time Delivery	0.838
X2 <- On Time Delivery	0.865
X3 <- On Time Delivery	0.825
X4 <- On Time Delivery	0.866
X5 <- On Time Delivery	0.856
X6 <- On Time Delivery	0.895
X7 <- On Time Delivery	0.866
X8 <- On Time Delivery	0.822
Y11 <- Customer Loyalty	0.681
Y12 <- Customer Loyalty	0.692
Y13 <- Customer Loyalty	0.681
Y14 <- Customer Loyalty	0.696
Y15 <- Customer Loyalty	0.705
Y16 <- Customer Loyalty	0.731
Y17 <- Customer Loyalty	0.717
Y18 <- Customer Loyalty	0.738
Z11 <- Payment Method	0.723
Z12 <- Payment Method	0.756
Z13 <- Payment Method	0.749
Z14 <- Payment Method	0.723
Z15 <- Payment Method	0.689
Z16 <- Payment Method	0.724

Z17 <- Payment Method	0.719
Z18 <- Payment Method	0.691

Source: Data processed with Smart PLS, 2024

According to the external load validity test in Table 3, all external load indicator values are more than 0.7, meaning that they have satisfied the validity standards based on the external load value. The validity discrimination test was carried out in the study utilizing the Fornell-Larckel technique, which compares the correlation value between the latent variable and other latent variables with the AVE square root value of a latent variable. The discriminant validity test results are displayed in Table 4 :

Table 4. Discriminant Validity Testing

	Quality of Service	Customer Loyalty	Payment Method	On Time Delivery
Customer Loyalty	0.944	0.935		
Payment Method	0.919	0.712	0.979	
On Time Delivery	0.885	0.885	0.731	0.909

Source: Data processed with Smart PLS, 2024

The AVE square root value for each latent variable is compared to the correlation value between each latent variable and other latent variables in the discriminant validity test. The AVE square root value of each latent variable is found to be greater than its correlation value with other latent variables. Therefore, it is concluded that it meets the criteria for discriminant validity.

4.3 Q-Square Value Analysis

The Q-squared value can be obtained from the Construct Crossvalidated Redundancy results in table 5 below :

Table 5. Construct Crossvalidated Redundancy

	SSO	SSE	Q^2 (=1-SSE/SSO)
Customer Loyalty	2800.000	1514.746	0.459
Payment Method	2800.000	1375.840	0.509
On Time Delivery	2800.000	2800.000	

Source: Data processed with Smart PLS, 2024

If the Q-squared value is greater than zero, it is considered relevant. Table 6 below contains the Q-Square values :

Table 6. Q-Square Values (Q2)

	Q2 (=1-SSE/SSO)
Payment Method	0,509
Customer Loyalty	0.459

Source: Data processed with Smart PLS, 2024

Known:

a. a. Customer loyalty's Q-Square value is 0.459 > 0, indicating that timely delivery and payment methods are predictively relevant to customer loyalty.
b. On-time delivery has predictive relevance to payment method, as indicated by the Q-Square value of 0.509 > 0.

4.4 Goodness of Fit Model Testing

Table 7. Goodness of Fit Model Testing

	Estimated Model
SRMR	0.050

Source: Data processed with Smart PLS, 2024

It is known that the model is FIT based on the SRMR goodness of fit test results, which show that the SRMR value = 0.080 < 0.1.

4.5 Structural Model Evaluation (Inner Model)

The links between latent variables are defined by a structural model, which is also known as a specification of relationships among latent variables (Friedman et al., 2008). The structural model was assessed using the t-test and significance of structural path parameter coefficients, the R-square for dependent constructs, and the Stone-Geisser Q-square test for predictive relevance. The external model tests' outcomes demonstrated the validity and dependability of the model. Tests were also carried out within the model. These included studies on the benefits of mediation and its effects, as well as examinations of the relevance of direct and indirect effects.

4.6 Direct Effect between Research Variables

Table 8 below displays the findings of this study's direct influence significance test :

Table 8. Direct Effect between Research Variables

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Payment Method -> Customer Loyalty	2.394	2.304	0.215	11.155	**0.000**
On Time Delivery -> Customer Loyalty	-0.925	-0.883	0.140	6.609	**0.000**
On Time Delivery -> Payment Methods	0.608	0.610	0.039	15.707	**0.000**

Source: Data processed with Smart PLS, 2024

1. The Influence of On Time Delivery on Customer Loyalty

H1: On-time delivery has a favorable and significant impact on customer loyalty.

Table 8 shows that consumer loyalty on Lazada e-commerce is positively and significantly impacted by on-time delivery, with a T statistic value of 6.609 and an O.S. value of -0.925 with a significance of 0.000 <0.05. Consequently, the hypothesis Ho is disproved and the hypothesis Ha is validated.

2. The Influence of Payment Methods on Customer Loyalty

H2: In Lazada e-commerce, payment methods significantly and favorably impact client loyalty.

Table 8 shows that the payment method has a significant and positive impact on customer loyalty in Lazada e-commerce, with an O.S. value of 2,394 and a T statistic value of 11,155 at a significance level of 0.000 <0.05. As a result, the hypothesis Ha is supported and Ho is rejected.

3. The Influence of On Time Delivery on Payment Methods

H3: Payment methods are positively and significantly impacted by on-time delivery.

Table 8 shows that on-time delivery has a favorable and significant impact on payment methods on Lazada e-commerce, with an O.S. value of 0.608 and a T statistic value of 15.707 with a significance of 0.000 <0.05. As a result, the hypothesis Ha is supported and Ho is rejected.

4.7 Indirect Influence

The indirect influence in this study is the influence mediated by the payment method variable in table 9 below :

Table 9. Results of Indirect Effect Test

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Delivery Time -> Payment Method -> Customer Loyalty	1.457	1.405	0.167	8.732	**0.000**

Source: Processed data, 2024

4. The Influence of On Time Delivery on Customer Loyalty mediated by payment methods

H4: Customer loyalty on Lazada E-commerce is positively and significantly impacted by on-time delivery, which is mediated by payment methods.

With an O.S. value of 1,457 and a T statistic value of 8,732 at a significance level of 0.000 <0.05, Table 9 demonstrates that the payment method on Lazada E-commerce mediates the association between customer loyalty and on-time delivery. As a result, the hypothesis Ha is supported and Ho is rejected.

4.8 Coefficient of Determination (R2)

If the coefficient of determination (R2) value is greater than 50%, it is considered strong. The coefficient of determination (R2) value from Table 10 is examined below :

Table 10. Coefficient of Determination (R2)

	R Square	R Square Adjusted
Customer Loyalty	0.798	0.791

Source: Data processed with Smart PLS, 2024

Customer loyalty's R-Square score is 0.798, meaning that the independent variable Customer loyalty, the dependent variable, is 79.8% of the time explained by on-time delivery (strongly); other independent factors account for the other 20.2%.

5. Conclusion

The research's findings and overall analysis allow for the drawing of the following conclusions:

1. In North Sumatra Province, generation Z Lazada Market Place customers' loyalty is positively and significantly impacted by on-time delivery.
2. In North Sumatra Province, payment methods significantly and favorably impact the loyalty of generation Z Lazada Market Place customers.
3. In North Sumatra Province, generation Z Lazada Market Place customers' payment methods are positively and significantly impacted by on-time delivery.
4. In North Sumatra Province, generation Z Lazada Market Place customers' customer loyalty is positively and significantly impacted by on-time delivery, which is mediated by payment methods.

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