

THE INFLUENCE OF ELECTRONIC CUSTOMER RELATIONSHIP MANAGEMENT ON CUSTOMER SATISFACTION THROUGH LOYALTY AS AN INTERVENING VARIABLE AMONG GENERATION Z

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Abstract: This study aims to examine the influence of Electronic Customer Relationship Management (E-CRM) on customer satisfaction, with customer loyalty as a mediating variable among Generation Z. The method used is Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the data obtained through questionnaires. The results indicate that E-CRM does not have a direct significant effect on customer satisfaction, with a path coefficient of 0.045, t-statistic of 0.616, and p-value of 0.538. However, E-CRM significantly affects customer loyalty, with a path coefficient of 0.744, t-statistic of 10.768, and p-value of 0.000. Additionally, customer loyalty has a significant effect on customer satisfaction, with a path coefficient of 0.823, t-statistic of 12.673, and p-value of 0.000. The mediation test shows that customer loyalty mediates the effect of E-CRM on customer satisfaction, with a path coefficient of 0.612, t-statistic of 7.355, and p-value of 0.000. The model fit test resulted in an SRMR value of 0.086, NFI of 0.765, and Chi-Square of 199.075, indicating that the model has moderate fit. The managerial implication of this study is the importance for companies to enhance customer loyalty through more effective E-CRM, as loyalty is proven to be key in increasing customer satisfaction.

Keywords: *Electronic Customer Relationship Management, Customer Satisfaction, Customer Loyalty, Generation Z*

Submitted: 2024-09-30; Revised: 2024-11-23; Accepted: 2024-12-11

1. Introduction

Electronic Customer Relationship Management (E-CRM) has become one of the essential tools for enhancing interactions between companies and customers, especially in the digital era dominated by Generation Z. This generation is highly familiar with technology and has high expectations for personalized and fast services. Customer loyalty is key to improving long-term satisfaction, but the mechanism of how E-CRM influences both loyalty and satisfaction has not been extensively studied. This research aims to explore the influence of E-CRM on customer satisfaction, with loyalty as an intervening variable among Generation Z. E-CRM encompasses the entire process aimed at building and maintaining beneficial relationships with customers by creating value and high satisfaction in customer management, particularly through social media platforms and e-commerce. The advancement of technology and the increased use of the internet have transformed the way businesses interact with customers,

where E-CRM allows companies to leverage technology and human resources to gain deeper insights into customer behavior and values. Through E-CRM, companies can reach customers more effectively via social media platforms and optimize their interactions to enhance customer loyalty and satisfaction. As a medium of interaction, E-CRM offers companies ease in attracting and retaining economically valuable customers while avoiding less profitable ones (Romano Jr & Fjermestad, 2001). This aligns with the primary goal of E-CRM, which is to build customer loyalty that ultimately leads to increased satisfaction. Winer (2001) asserts that E-CRM plays a significant role in building loyalty and improving customer satisfaction by providing more personalized and responsive services. Through this approach, companies can not only enhance their marketing skills but also strengthen their competence in fostering closer relationships with customers through social media platforms (Kennedy, 2006). Social media platforms have now become one of the main communication tools used in E-CRM to strengthen the relationship between companies and customers (Lam et al., 2013). Effective communication through social media enables companies to understand customer needs in real-time and respond quickly to complaints or inquiries. As a result, customers feel more valued, which in turn increases their satisfaction with the company.

Customer satisfaction is a key to business success, where, according to Kotler (2005), satisfaction is the level of a consumer's feelings after evaluating the performance of a product or service compared to their expectations. Sangadji & Sopiah (2013) also emphasizes that customer satisfaction results from the comparison between the actual performance of a product and the consumer's expectations, which, if met, creates a sense of happiness for the customer. Wood (2009) highlights several strategic benefits companies can gain from customer satisfaction, such as increased customer loyalty, potential future revenue, reduced transaction costs, and enhanced positive customer recommendations. Factors influencing customer satisfaction include product quality, price, service, emotional factors, as well as the ease or cost incurred in obtaining the product or service.

Customer loyalty, as defined by Kotler & Keller (2016), is a deep commitment to repurchasing in the future despite situational factors that could cause customers to switch, serving as a key variable that mediates the relationship between E-CRM and customer satisfaction. Loyalty does not form instantly but requires time and repeated purchasing processes. Therefore, an effective strategy in building loyalty through E-CRM will directly contribute to increasing customer satisfaction. In this context, several factors that influence customer loyalty include customer satisfaction itself, involving dimensions such as service quality, complaint resolution, order processing, and good communication between staff and customers. Considering these factors, this study will further investigate how E-CRM influences customer satisfaction through loyalty as an intervening variable, particularly in the context of Generation Z, who are highly accustomed to technology and social media as their primary interaction medium with companies.

E-CRM directly influences customer satisfaction by making transactions easier, more accessible, and faster. By offering personalized services and quick responses, E-CRM systems improve the overall customer experience, which directly increases satisfaction levels (Khan & Khawaja, 2013). Customer satisfaction, particularly in the digital environment, is a strong predictor of customer loyalty. When customers are satisfied, they are more likely to become repeat customers, engage in positive e-WOM, and show a higher intention to repurchase (Bataineh, 2015; Szymanski & Henard, 2001). Therefore, customer satisfaction acts as a crucial mediator in the development of customer loyalty. Loyalty is reflected in behaviors like repeat purchase intention, e-WOM, and positive complaining behavior. Loyal customers not only

keep coming back for more transactions but also help attract new customers by sharing their positive experiences online (Hennig-Thurau et al., 2004). Positive WOM has been shown to have a strong effect on the perception of e-retailers and enhances customer loyalty (Choi et al., 2000). Based on the literature reviewed, a possible hypothesis for your study could be: The implementation of E-CRM systems positively influences customer satisfaction, which in turn drives customer loyalty. Specifically, E-CRM services enhance customer satisfaction by providing timely, personalized, and efficient communication, fostering trust and reliability. This satisfaction leads to stronger emotional connections with the brand, making customers less susceptible to competitive disruptions and encouraging repeat purchases. As a result, loyal customers tend to engage in positive word-of-mouth, exhibit lower complaining behavior, and show a higher intention to make future purchases. Therefore, the hypothesis posits that E-CRM not only enhances the service experience but also contributes to a sustainable relationship between customers and service providers, where satisfaction reinforces loyalty and loyalty further strengthens satisfaction. From the above framework, the following hypotheses are proposed in this study:

Hypothesis 1: There is an expected influence of Electronic Customer Relationship Management on Generation Z's loyalty.

Hypothesis 2: There is an expected influence of loyalty on Generation Z's satisfaction.

Hypothesis 3: Loyalty is expected to mediate the influence of Electronic Customer Relationship Management on Generation Z's satisfaction.

2. Research Method

This study employs a quantitative approach with a survey method to examine the influence of E-CRM on customer satisfaction through the mediation of customer loyalty, using SmartPLS. The population of this study consists of Generation Z students at Universitas Widya Dharma Klaten, aged 12-27 years. The sample was determined using purposive sampling, with a total of 97 respondents selected based on criteria aligned with the research objectives.

In this study, several key variables are used to examine the relationship between E-CRM, customer satisfaction, and customer loyalty. The first variable, E-CRM (Electronic Customer Relationship Management), focuses on how technology is utilized to manage customer interactions. Key indicators for E-CRM include technology integration, which refers to how well the system integrates with other business platforms to provide a seamless experience; personalization, which measures the extent to which the service is tailored to individual customer preferences; communication quality, reflecting the effectiveness and relevance of customer communication; and real-time information access, which assesses the ability of customers to access up-to-date information when needed. The second variable, customer satisfaction, captures the overall customer experience and the fulfillment of expectations. The indicators for customer satisfaction include service quality, which evaluates the timeliness, reliability, and accuracy of the service provided; customer expectations, which measures the alignment between anticipated and actual service experiences; perceived value, assessing the balance between the perceived benefits and costs of the service; and customer trust, which reflects the confidence customers have in the company's ability to consistently meet their needs. Lastly, customer loyalty is the dependent variable, measuring the commitment of customers to continue purchasing from the same company. The indicators for customer loyalty include repeat purchase intention, which reflects the likelihood of customers returning for future transactions. These variables and indicators allow for a comprehensive analysis of how E-CRM

affects customer satisfaction and loyalty, providing insights into the mechanisms that sustain customer relationships.

Data collected through questionnaires were analyzed using SmartPLS, which allows for path analysis to examine the relationships between variables. This analytical technique was chosen due to its ability to simultaneously test both direct and moderating relationships. Hypothesis testing was conducted by analyzing the path coefficient, t-statistic values, and p-values at a significance level of 0.05. Additionally, validity and reliability tests were carried out to ensure the accuracy of the instruments in measuring the variables. The hypotheses tested include the direct effect of E-CRM on customer loyalty, the effect of loyalty on customer satisfaction, and the role of loyalty as a mediating variable in the relationship between E-CRM and customer satisfaction.

3. Results and Discussion

3.1. Results

Measurement Model Testing (Outer Model)

The measurement model (outer model) testing is conducted to demonstrate how each indicator relates to its latent variable. The outer model testing is carried out to analyze the validity and reliability of the variable indicators through tests of convergent validity, discriminant validity, and composite reliability. The following presents the results of the measurement model (outer model/measurement model) testing:

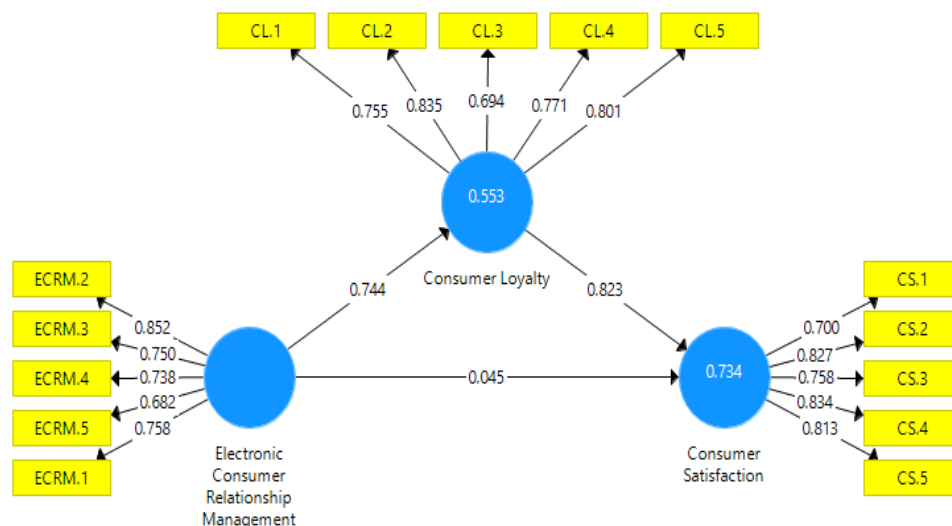


Figure 3.1 Measurement Model Testing

Convergent Validity

Convergent validity refers to the loading factor value on the latent variable with its indicators, which can be observed from the correlation between the item/indicator score and the construct score. A low convergent validity value indicates that the indicators on the reflective construct do not have a positive correlation, meaning that the corresponding construct is not suitable for use in the path model. An individual reflective measure is considered valid if the loading factor value exceeds 0.5 and the AVE (Average Variance Extracted) is ≥ 0.50 with the construct being measured (Ghozali & Latan, 2015). The results of the convergent validity test are presented in Table 3.1 below:

Table 1. Convergent Validity Results

Variable	Indicator	Factor Loading	AVE	Description
Consumer Loyalty	CL1	0,755	0,597	Valid
	CL2	0,835		Valid
	CL3	0,694		Valid
	CL4	0,771		Valid
	CL5	0,801		Valid
Consumer Satisfaction	CS1	0,700	0,621	Valid
	CS2	0,827		Valid
	CS3	0,758		Valid
	CS4	0,834		Valid
	CS5	0,813		Valid
Electronic Consumer Relationship Management	E-CRM1	0,542	0,575	Valid
	E-CRM2	0,702		Valid
	E-CRM3	0,730		Valid
	E-CRM4	0,774		Valid
	E-CRM5	0,811		Valid

Source: Processed Primary Data, 2024

Based on Table 3.1 above, it can be concluded that all indicators in the research variables meet the convergent validity criteria, as the factor loadings values are > 0.50 and the AVE (Average Variance Extracted) values are > 0.50 .

Composite Reliability

The composite reliability measurement is used to assess the reliability of a construct, which can be evaluated using the internal consistency of the block indicators forming the construct, showing the degree of common latent (unobserved) variables. The reliability test is conducted to demonstrate the accuracy, consistency, and precision of the instrument in measuring a construct. Reliability measurement can be performed in two ways: through Cronbach's Alpha and Composite Reliability. The reliability test results are shown in Table 3.2 below:

Table 2. Reliability Test Values

Variable	Cronbach's Alpha	Composite Reliability	Description
Consumer Loyalty	0,830	0,881	Reliable
Consumer Satisfaction	0,846	0,891	Reliable
E-CRM	0,813	0,871	Reliable

Source: Processed Primary Data, 2024

From Table 3.2 above, it can be seen that the values for all variables in the reliability test, both using Cronbach's Alpha and Composite Reliability, are > 0.70 . Therefore, it can be concluded that the tested variables are valid and reliable, allowing for further structural model testing.

Hypothesis Testing

Hypothesis testing is used to determine the effect of each exogenous variable on the endogenous variable, performed using the bootstrapping method. The decision to accept or

reject a hypothesis is based on the significance value (P-Value) and the T-table value. The criteria for accepting or rejecting a hypothesis are if the t-statistic value > 1.96 and the p-value < 0.05 (5%), the hypothesis is accepted; otherwise, if the t-statistic value < 1.96 and/or the p-value > 0.05 (5%), the hypothesis is rejected. The hypothesis testing results are shown in Table 3.4 below:

Table 3. Hypothesis Testing

Hypothesis	Original Sample	T-Statistics	P-Values	Description
Consumer Loyalty -> Consumer Satisfaction	0,823	12,673	0,000	Positive Significant
E-CRM -> Consumer Loyalty	0,744	10,768	0,000	Positive Significant
E-CRM -> Consumer Satisfaction	0,045	0,616	0,538	Positive Not Significant
E-CRM -> Consumer Loyalty -> Consumer Satisfaction	0,612	7,355	0,000	Positive Significant

Source: Processed Primary Data, 2024

3.2. Discussion

Direct and Mediation Effects

- 1. The Effect of Consumer Loyalty on Consumer Satisfaction.** The study results show that consumer loyalty has a positive and significant effect on consumer satisfaction, with a path coefficient of 0.823, t-statistic of 12.673 (greater than 1.96), and a p-value of 0.000. This indicates that Hypothesis 1 is supported positively and significantly. These findings align with the theory proposed by Kotler & Keller (2016), which states that customer loyalty, especially built through repeated positive experiences, has a direct impact on customer satisfaction. Loyalty reflects the customer's commitment to repeat purchases and tends to ignore disruptions from competitors, which in turn strengthens their satisfaction with the services provided by the company. This commitment to repurchase goes beyond habitual behavior; it signifies a deeper emotional attachment to the brand and trust in the consistency of service delivery. Loyal customers are not easily swayed by competitive offers, as they have developed confidence in the value and reliability of the company's products or services. This resistance to competitors is underpinned by perceived switching costs, brand attachment, and a belief that the company meets their needs in ways that alternatives cannot. The customer's satisfaction is further reinforced, creating a cyclical relationship: satisfied customers become loyal, and loyal customers, in turn, become more satisfied, often perceiving the company's services more positively. This cycle strengthens customer relationships and fosters long-term loyalty, as loyal customers are more likely to engage in positive word-of-mouth and are less prone to switching to competitors. This is also consistent with Wood (2009), who asserts that customer loyalty has the potential to generate future revenue and positive word-of-mouth recommendations, contributing to an overall increase in satisfaction.
- 2. The Effect of E-CRM on Consumer Loyalty.** This study found that E-CRM has a positive and significant effect on consumer loyalty, with a path coefficient of 0.744, t-statistic of 10.768 (greater than 1.96), and a p-value of 0.000. This indicates that Hypothesis 2 is supported positively and significantly. These results support the studies of

Romano Jr & Fjermestad (2001) and Kennedy (2006), who state that E-CRM can be an essential tool in building customer loyalty. Through personalized interactions and rapid responses enabled by E-CRM, companies can strengthen relationships with customers, ultimately enhancing their loyalty. This loyalty arises from the company's ability to leverage customer data through E-CRM to provide more relevant and timely offers, as suggested by Lam et al., (2013).

- 3. The Mediation Role of Consumer Loyalty in the E-CRM and Consumer Satisfaction Relationship.** The study found that E-CRM does not have a significant positive effect on consumer satisfaction directly, with a path coefficient of 0.045, t-statistic of 0.616 (less than 1.96), and a p-value of 0.538 (greater than 0.05). However, the mediation test results show that consumer loyalty significantly mediates the relationship between E-CRM and consumer satisfaction, with a path coefficient of 0.612, t-statistic of 7.355 (greater than 1.96), and a p-value of 0.000. This indicates that consumer loyalty significantly mediates the effect of E-CRM on consumer satisfaction. Thus, Hypothesis 3 is supported positively and significantly. These findings align with various theories suggesting that customer loyalty is a key factor in creating customer satisfaction, particularly in the context of customer relationship management supported by technology, such as E-CRM. Kotler & Keller (2016) explain that customer loyalty reflects a deep commitment to repeat purchases despite situational influences that could lead to switching. In this context, E-CRM serves as a tool to build loyalty by creating more personal and interactive relationships through technology, such as social media and other digital platforms. These results also support the studies of Romano Jr & Fjermestad (2001) and Winer (2001), which state that E-CRM plays a crucial role in enhancing customer loyalty, which ultimately leads to customer satisfaction. E-CRM provides companies with the opportunity to understand customer needs more deeply and offer tailored services. When customers feel valued and cared for through personalized interactions, their loyalty increases, which in turn enhances their satisfaction with the products or services provided by the company. Furthermore, these findings confirm Wood's (2009) theory that customer satisfaction is not only generated by direct interactions between the company and customers through technology but also through repeated positive experiences that create loyalty. E-CRM plays an essential role in managing these relationships by providing fast, personal, and responsive services, which ultimately increases loyalty and mediates the positive effect on satisfaction. Based on the mediation test results, it can be concluded that E-CRM indirectly influences consumer satisfaction through consumer loyalty. This means that an effective E-CRM strategy should first focus on enhancing customer loyalty, as loyalty has proven to be the key to achieving higher levels of satisfaction.

4. Conclusion

Based on the research results, it can be concluded that E-CRM does not have a direct significant effect on customer satisfaction, but it significantly influences customer loyalty, which in turn positively affects customer satisfaction. Customer loyalty has been proven to be a strong mediating variable in the relationship between E-CRM and customer satisfaction, suggesting that companies should focus on enhancing customer loyalty to achieve higher satisfaction. The managerial implications of these findings indicate that companies need to optimize the functions of E-CRM by providing personalized, responsive, and relevant customer experiences. Utilizing customer data generated by E-CRM to create tailored offerings and strengthen interactions through digital channels is a critical step in building loyalty. Additionally,

companies are advised to develop loyalty programs that offer incentives for loyal customers to increase engagement and sustained customer satisfaction. Therefore, E-CRM can play a more effective role in driving long-term business success through improved customer loyalty and satisfaction.

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