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Connecting E-Customer Relationship Management and E-Loyalty: The Moderating Role of E-Satisfaction

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Abstract: This study examines the effect of Electronic Customer Relationship Management (E-CRM) on e-loyalty, with e-satisfaction as a moderating variable in the context of Umrah travel services provided by PT. Sangkan Hurip Bersama. The sample consists of 256 pilgrims from Jakarta, West Java, and Central Java who have performed Umrah more than twice. The sample size was determined using the Isaac and Michael table, while the sampling technique employed was purposive sampling. A quantitative approach was used, with data collected through structured questionnaires and analyzed using SmartPLS 4 to test both measurement and structural models. The results indicate that E-CRM has a significant positive relationship with e-loyalty, highlighting the relevance of digital relationship management to customer loyalty. Furthermore, e-satisfaction significantly moderates the relationship between E-CRM and e-loyalty, with a small positive interaction effect. These findings suggest that higher levels of customer satisfaction enhance the effectiveness of E-CRM strategies in building long-term loyalty. This study provides both theoretical and practical contributions by highlighting the critical role of integrating digital customer relationship management and customer satisfaction in improving loyalty within the religious tourism sector.

Keywords: Electronic-Customer Relationship Management, E-Loyalty, E-Satisfaction, Moderating, Umrah Travel

INTRODUCTION

Digital transformation has fundamentally changed the way organizations build and maintain relationships with customers, particularly through the implementation of Electronic Customer Relationship Management (E-CRM). In the theoretical framework, E-CRM is understood as the integration of information technology, business processes, and marketing strategies aimed at continuously improving the quality of customer interactions (Kumar et al., 2022; Dehghanpouri et al., 2020). This concept is becoming increasingly relevant in the era of the digital economy, where customer interactions are no longer limited to physical contact but are shifting to electronic platforms that demand quick responses, personalization, and service

reliability. Therefore, the success of E-CRM implementation is often associated with its ability to create digital customer loyalty (e-loyalty), which is an important indicator of business sustainability.

Nevertheless, the relationship between E-CRM and e-loyalty remains a topic of debate in the academic literature. Several studies report that E-CRM has a significant direct influence on e-loyalty (Mang'anyi et al., 2018; Srisutto, 2025), while other research suggests that the relationship is indirect and mediated by psychological variables such as e-satisfaction and customer experience (Hwang, 2022; Mokha & Kumar, 2024). In addition, some studies highlight that factors such as trust, privacy, and service quality also play an important part in determining the effectiveness of E-CRM in building loyalty (Qatawneh et al., 2024; Dehghanpouri et al., 2020). These differing findings indicate that the mechanism underlying the relationship between E-CRM and e-loyalty is not yet fully conclusive and requires further exploration. Accordingly, this study examines the direct relationship between E-CRM and e-loyalty and tests whether e-satisfaction moderates this relationship.

In the empirical context, e-satisfaction is often identified as a key variable linking E-CRM and e-loyalty. Previous studies have predominantly conceptualized e-satisfaction as a mediating variable that explains how E-CRM influences loyalty outcomes (Karim et al., 2025; Younis et al., 2024). However, beyond its mediating role, e-satisfaction also has the potential to function as a boundary condition that strengthens the relationship between E-CRM and e-loyalty. Empirical evidence from the digital banking and e-commerce sectors suggests that higher levels of customer satisfaction enhance the effectiveness of E-CRM strategies in fostering loyalty and recommendation intentions (Haghighinasab et al., 2025; Gautam & Sah, 2023). Additionally, the perceived quality of digital experiences contributes to the simultaneous development of satisfaction and loyalty (Anita & Samuel, 2026; Malnaad et al., 2022). Despite these findings, most prior studies have focused primarily on the mediating role of e-satisfaction, leaving its moderating role underexplored. Therefore, this study adopts a moderation perspective and draws on Expectation Confirmation Theory (ECT) to explain how satisfaction arising from the confirmation of prior expectations may shape subsequent behavioral responses. In this context, when customers experience higher levels of satisfaction, the positive impact of E-CRM on e-loyalty is expected to become stronger, as satisfied customers are more receptive to relationship-building efforts.

The research gap is also evident from the context of the sectors being studied. Most previous studies have focused on the banking, e-commerce, and hospitality industries, which have characteristics of utilitarian-based services and routine transactions (Haghighinasab et al., 2025; Anita & Samuel, 2026). Meanwhile, the religious tourism sector, such as Umrah, has different characteristics because it involves higher emotional, spiritual, and belief dimensions. In this context, customer loyalty is not only determined by the quality of digital services but also by the religious experience and holistic satisfaction. Therefore, it is important to re-evaluate the E-CRM model in a more specific and value-oriented context, such as Umrah travel services.

Based on the description, the novelty of this research lies in the development of a conceptual model that examines the role of e-satisfaction as a moderating variable in the relationship between E-CRM and e-loyalty in the religious tourism sector. Furthermore, this research uses respondents who have performed Umrah more than twice, providing a deeper perspective on the formation of experience-based loyalty. Thus, this study not only contributes to the theoretical development of E-CRM literature but also offers practical implications for Umrah travel managers in designing more effective digital strategies to enhance customer satisfaction and loyalty.

METHOD

This research employs a quantitative approach with an explanatory design to analyze the relationship between Electronic Customer Relationship Management (E-CRM), e-satisfaction, and e-loyalty. The research population consists of pilgrims who have used the travel services of PT. Sangkan Hurip Bersama in Jakarta, West Java, and Central Java, with the criterion of having performed Umrah more than twice, as they are considered to have sufficient experience to evaluate the services. The sampling technique used in this study is purposive sampling, based on these specific respondent criteria. The sample consisted of 256 respondents selected according to the purposive sampling criteria. Data were collected through a structured questionnaire developed using a five-point Likert scale to measure respondents' perceptions of the research variables.

Data analysis was conducted using the Partial Least Squares-based Structural Equation Modeling (PLS-SEM) approach with the assistance of SmartPLS 4 software. PLS-SEM was used to evaluate the measurement model and estimate the structural relationships, including the interaction effect between E-CRM and e-satisfaction (Hair & Alamer, 2022). The stages of analysis include the evaluation of the measurement model (outer model) to test convergent validity, discriminant validity, and construct reliability, as well as the evaluation of the structural model (inner model) to test the hypothesized relationships between variables and the moderating effects. Additionally, significance testing is conducted using the bootstrapping technique to obtain t-statistics and p-values, thereby ensuring the empirical strength of the relationships between constructs in the research model.

The measurement of variables in this study is conducted by adopting and adapting indicators from relevant literature to ensure conceptual validity and suitability with the research context. Each construct is operationalized into several indicators that reflect the main dimensions of the variable being studied, thereby capturing respondents' perceptions comprehensively. All measurement items are arranged in the form of closed statements using a five-point Likert scale, ranging from strongly disagree to strongly agree. This process aims to ensure that the research instrument has an adequate level of reliability and validity in measuring the latent constructs used. The details of the measurement indicators for each variable in this study can be seen in Table 1.

Table 1. Measuring Indicators

Variable	Measuring Indicator
E-Customer Relationship Management (Younis et al., 2024)	<i>Online Service Quality</i>
	<i>Online Presence</i>
	<i>Customization</i>
	<i>Customer Trust</i>
E-Loyalty (Karim et al., 2025)	<i>Repurchase Intention</i>
	<i>Continuance Intention</i>
	<i>Resistance to Switching</i>
	<i>Positive Attitude Toward Service</i>
	<i>Willingness to Recommend</i>
E-Satisfaction (Hwang, 2022)	<i>Overall Satisfaction</i>
	<i>Expectation Confirmation</i>
	<i>Experience Evaluation</i>
	<i>Decision Satisfaction</i>

RESULTS AND DISCUSSION

Result

1. Validity Test

Table 2. Discriminant Validity- Cross Loading

		E-CRM	E-Loyalty	E-Satisfaction
E-Customer Relationship Management	Online Service Quality	0.855	0.642	0.532
	Online Presence	0.917	0.702	0.583
	Customization	0.883	0.652	0.584
	Customer Trust	0.913	0.706	0.595
	Repurchase Intention	0.597	0.904	0.891
	Continuance Intention	0.913	0.721	0.575
E-Loyalty	Resistance to Switching	0.371	0.596	0.596
	Positive Attitude Toward Service	0.259	0.518	0.441
	Willingness to Recommend	0.585	0.898	0.863
	Overall Satisfaction	0.375	0.527	0.624
E-Satisfaction	Expectation Confirmation	0.599	0.874	0.896
	Experience Evaluation	0.597	0.864	0.893
	Decision Satisfaction	0.389	0.574	0.675

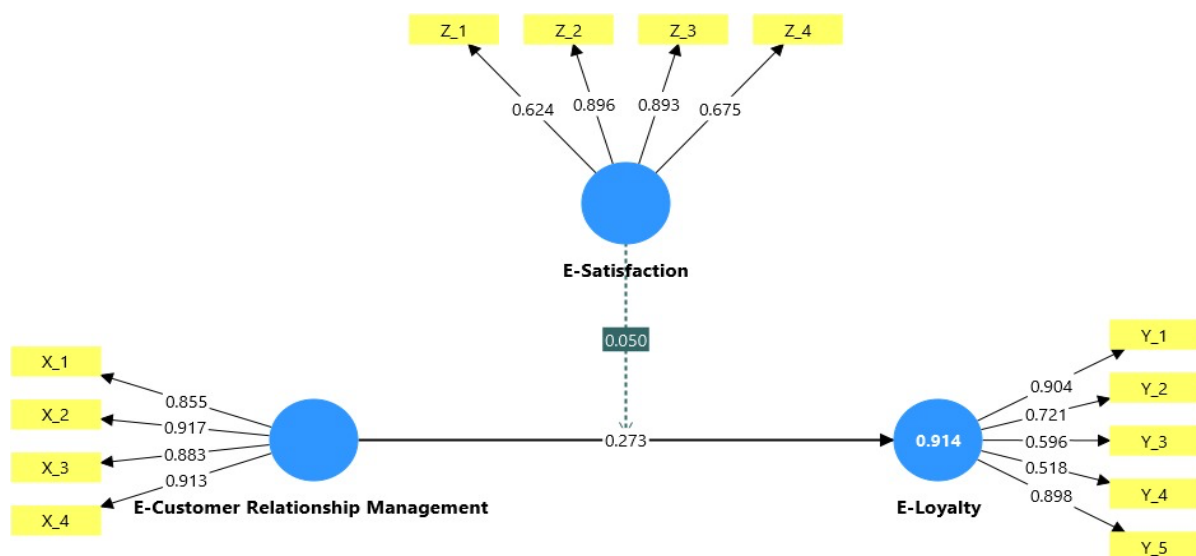


Figure 1. SmartPLS Test

In the E-Customer Relationship Management (E-CRM) variable, all indicators such as online service quality (0.855), online presence (0.917), customization (0.883), and customer trust (0.913) consistently have the highest loadings compared to other constructs. This indicates that these indicators are capable of strongly and specifically representing the E-CRM construct. In the E-Loyalty variable, indicators such as repurchase intention (0.904) and willingness to recommend (0.898) show high loading on their construct, although there are some indicators like resistance to switching (0.596) and positive attitude toward service (0.518) that are relatively lower and closer to other constructs. Meanwhile, in the E-Satisfaction variable, indicators like expectation confirmation (0.896) and experience evaluation (0.893) have a dominant contribution, followed by decision satisfaction (0.675) and overall satisfaction (0.624). Overall, the model has met the discriminant validity, although some indicators with low loading values need to be evaluated to improve the accuracy of the measurement model.

The cross loadings table is used to evaluate discriminant validity by examining whether each indicator has the highest loading value on the construct it measures compared to other constructs. In the E-CRM variable, all indicators such as online service quality (0.855), online presence (0.917), customization (0.883), and customer trust (0.913) show the highest loading on their respective constructs, indicating good discriminant validity. Similarly, in the E-Loyalty variable, key indicators such as repurchase intention (0.904), continuance intention (0.721), and willingness to recommend (0.898) show strong consistency, although some indicators like resistance to switching and positive attitude toward service have relatively lower values.

In the E-Satisfaction variable, the indicators of expectation confirmation (0.896) and experience evaluation (0.893) have a very strong contribution, while overall satisfaction (0.624) and decision satisfaction (0.675) still meet the criteria because they have the highest loading on their constructs. Overall, these results indicate that most indicators have met the criteria for discriminant validity, thus the measurement model is deemed adequate in distinguishing between constructs, although some indicators with lower values need to be considered for further evaluation.

2. Reliability Test

Table 3. Reliability Test

	CA	CR (rho_a)	CR (rho_c)	AVE
E-Customer Relationship Management	0.915	0.917	0.940	0.796
E-Loyalty	0.788	0.839	0.856	0.553
E-Satisfaction	0.786	0.837	0.860	0.611

In the E-Customer Relationship Management (E-CRM) variable, the values of CA (0.915), rho_a (0.917), and rho_c (0.940) are above the threshold of 0.70, and the AVE of 0.796 exceeds the minimum criterion of 0.50, indicating that this construct has very good reliability and convergent validity. Furthermore, the E-Loyalty and E-Satisfaction variables also show adequate results, with CA values of 0.788 and 0.786, respectively, and composite reliability values (rho_a and rho_c) above 0.80. The AVE values for these two variables, 0.553 and 0.611, have also exceeded the minimum threshold, so it can be concluded that all constructs in this study are reliable and valid in terms of convergence. This indicates that the indicators used are able to consistently and accurately explain the latent variables in the research model.

Table 4. Path Coefficients

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
E-CRM -> E-Loyalty	0.273	0.272	0.027	10.084	0.000
E-Satisfaction -> E-Loyalty	0.751	0.752	0.024	30.851	0.000
E-Satisfaction x E-CRM -> E-Loyalty	0.050	0.049	0.017	2.839	0.005

The results of the structural model testing show that E-Customer Relationship Management (E-CRM) has a positive and significant effect on E-Loyalty, with a coefficient value of 0.273, t-statistics of 10.084, and a p-value of 0.000 (< 0.05). This indicates that the better the implementation of E-CRM, the higher the level of customer loyalty. Additionally, the E-Satisfaction variable also shows a very strong and significant effect on E-Loyalty with a

coefficient of 0.751, t-statistics of 30.851, and a p-value of 0.000, which confirms that customer satisfaction is the main determinant in forming loyalty in the context of digital services.

Furthermore, the results of the moderation test indicate that the interaction between E-Satisfaction and E-CRM on E-Loyalty has a positive and significant effect, with a coefficient of 0.050, t-statistics of 2.839, and a p-value of 0.005 (< 0.05). These findings suggest that E-Satisfaction acts as a moderating variable that strengthens the relationship between E-CRM and E-Loyalty, albeit with a relatively small moderating effect. Overall, these results indicate that an increase in customer satisfaction not only directly impacts loyalty but also strengthens the effectiveness of E-CRM strategies in building sustainable customer loyalty.

Discussion

The findings of this study demonstrate that E-CRM has a positive and significant effect on e-loyalty, while e-satisfaction emerges as a strong predictor of e-loyalty and a significant moderating variable in the relationship. The coefficient for e-satisfaction ($\beta = 0.751$) was larger than that for E-CRM ($\beta = 0.273$) within the estimated structural model, indicating a strong association between satisfaction and e-loyalty in this sample. In the case of Umrah pilgrims with repeated usage, loyalty appears to be shaped not only by system quality and digital interaction but also by cumulative experiential evaluations, suggesting a hybrid behavioral–attitudinal loyalty pattern.

From a theoretical standpoint, these results reinforce the relational marketing and technology acceptance perspectives, which argue that E-CRM enhances customer engagement through personalized and efficient digital interactions (Kumar et al., 2022; Dehghanpouri et al., 2020). However, the findings also extend prior frameworks by demonstrating that e-satisfaction plays a contingent role in strengthening the e-CRM in e-loyalty linkage. This aligns with studies highlighting the centrality of satisfaction in digital environments (Hwang, 2022; Qatawneh et al., 2024), yet challenges the dominant assumption that satisfaction primarily acts as a mediating variable. Instead, this study positions satisfaction as a boundary condition that determines the effectiveness of E-CRM strategies.

Empirically, the results are consistent with prior research showing that E-CRM significantly influences loyalty through customer-related constructs such as satisfaction and experience (Mokha & Kumar, 2024; Karim et al., 2025; Srisutto, 2025). Additionally, the strong effect of e-satisfaction on loyalty supports evidence from digital banking, e-commerce, and hospitality sectors, where satisfaction is a critical determinant of repeat behavior and recommendation intentions (Haghighinasab et al., 2025; Gautam & Sah, 2023; Anita & Samuel, 2026). However, this study contributes new empirical insight by identifying a significant moderating effect ($\beta = 0.050$; $p < 0.05$), indicating that higher satisfaction amplifies the impact of E-CRM on loyalty, even if the magnitude of moderation is relatively modest.

Importantly, this study addresses a critical gap in the literature by introducing a moderation framework in a context that has been largely overlooked, religious tourism. Unlike conventional service industries, the Umrah travel sector is characterized by high emotional involvement, trust, and spiritual value, which reshape the formation of loyalty. The use of experienced pilgrims (more than two Umrah journeys) further strengthens the robustness of the findings, as their evaluations are based on repeated service encounters rather than initial impressions. This provides a more nuanced understanding of how digital relationship management interacts with experiential satisfaction over time. Overall, the study advances the E-CRM literature by offering a more integrative and context-sensitive model, where e-satisfaction not only explains but also conditions the relationship between E-CRM and e-loyalty. These findings suggest that organizations should not rely solely on technological capabilities but must also prioritize customer satisfaction as a strategic lever to maximize the effectiveness of digital relationship management in fostering sustainable customer loyalty.

CONCLUSION

This study confirms that Electronic Customer Relationship Management (E-CRM) has a positive and significant effect on e-loyalty, while e-satisfaction emerges as the most dominant factor influencing customer loyalty and significantly strengthens the relationship between E-CRM and e-loyalty. These findings highlight that in the context of Umrah travel services, customer loyalty is not solely driven by digital system effectiveness but is highly dependent on the level of satisfaction derived from prior service experiences. Thus, integrating effective E-CRM strategies with efforts to enhance customer satisfaction is essential for building sustainable loyalty.

However, this study has several limitations that open avenues for future research. First, the sample is limited to pilgrims from specific regions (Jakarta, West Java, and Central Java) and one travel agency, which may restrict the generalizability of the findings. Second, the cross-sectional design does not capture changes in customer perceptions over time. Third, the model focuses only on e-satisfaction as a moderating variable, while other potential factors such as e-trust, perceived value, or service quality may also play significant roles. Future research is therefore recommended to expand the sample across broader geographical and industry contexts, apply longitudinal approaches to better understand customer behavior dynamics, and incorporate additional variables or alternative model structures, such as moderated mediation or mediated moderation, to enrich the theoretical development of E-CRM and e-loyalty relationships.

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