

E-Customer Relationship Management and Customer Loyalty in the Context of Logistics Service Providers: A Mediating Effect of Customer Satisfaction

*Soo-Cheng Chuah¹, Chai-Li Cheam¹, Jiang Lu¹, Roslilee Ab Halim¹, Fei Wan²

¹Faculty of Business and Management, Universiti Teknologi MARA, Selangor, Malaysia

²School of Digital Economics and Management, Suzhou City University, Wuzhong Avenue, Wuzhong District, Suzhou, Jiangsu Province, China

Email: *chuahsc@uitm.edu.my

Corresponding Author: Dr Soo-Cheng Chuah

Abstract: In the competitive logistics industry, fostering long-term customer relationships is important for sustained business performance. Logistics companies have increasingly adopted digital tools to manage customer relationships and support customer loyalty. This study examines the relationship between electronic customer relationship management (e-CRM) and customer loyalty, and the mediating role of customer satisfaction in this relationship, among logistics service users in Malaysia. Using stimulus-organism-response (SOR) theory, e-CRM is treated as the stimulus, customer satisfaction as the organism, and customer loyalty as the response. Data were collected through an online self-administered questionnaire from 123 valid respondents in Puncak Alam, Selangor, and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results show that e-CRM is positively related to both customer satisfaction ($\beta = 0.646$) and customer loyalty ($\beta = 0.334$), and that customer satisfaction is positively related to customer loyalty ($\beta = 0.576$). Customer satisfaction was also found to partially mediate the relationship between e-CRM and customer loyalty ($\beta = 0.372$). These findings contribute to the limited body of knowledge on digital CRM practices in the logistics sector and offer logistics service providers practical direction for strengthening customer satisfaction and loyalty through e-CRM.

Keywords: *e-CRM, Customer Loyalty, Customer Satisfaction, Logistics Service Providers*

1. Introduction

Logistics service providers (LSPs) play a crucial part in the global economy, managing all transportation needs from senders through delivery to the recipients, whether domestically or internationally. The emergence of e-commerce has accelerated the demand for logistics services. The lockdowns, business closures, and numerous restrictions on the movement of humans and goods worldwide during the COVID-19 pandemic between 2020 and 2021 have further increased e-commerce transactions, which in turn increased the number of orders and deliveries (Gultekin et al., 2022; Genc and Arzaghi, 2024). The rapid expansion of global e-commerce and digital supply chains has reshaped the logistics sector, pushing Logistics Service Providers (LSPs) to shift from traditional operating models to digital-first engagement strategies. Rising demand for delivery has led to more logistics service providers entering the market. Malaysia's logistics market is anticipated to be worth roughly USD 28.88 billion in 2024 and is predicted to grow at a CAGR (compound annual growth rate) of about 5.4% throughout the period 2024-2030 (Marknteladvisors, n.d.).

The rapid rise of e-commerce, changing consumer expectations, and advancements in digital technologies have created new challenges and opportunities for logistics service providers. To effectively meet consumer needs in a competitive market, it is imperative for LSPs to provide effective services. The shift in information technology from traditional business to electronic business, coupled with an increasingly competitive business environment, globalization, knowledgeable customers, higher customer demand, and vulnerable credit risks, has compelled firms to provide the best service promptly and effectively (Venkatakrishnan et al., 2023). A customer-centric approach that engages with each consumer personally to improve customer relationship management (Mohamed et al., 2022) has driven electronic customer relationship management (e-CRM) as a vital strategy for logistics service providers aiming to meet these challenges.

With the digital transformation of industries, logistics providers are increasingly adopting e-CRM systems to improve customer relations, satisfaction, and loyalty. e-CRM is the integration of technology and customer management practices to enhance the overall customer experience (Ali & Alfayez, 2024). By effectively leveraging e-CRM, businesses can improve customer satisfaction and loyalty, which are critical for gaining a

competitive edge in today's globalized market. e-CRM's primary goal is not only to transform the marketing domain, but also to improve a company's efficiency in creating and managing customer relationships, increasing customer service, and retaining consumers in order to maximise profitability (Adlin et al., 2019). This aligns with the findings of Azila and Noor (2011), Behravan and Rahman (2012), Haghighinasab et al. (2025), and Younis et al. (2025), highlighting the role of the technology platform in fostering the establishment of effective customer interactions, hence potentially enhancing customer satisfaction and developing loyalty.

Consumer loyalty is a reflection and extension of customer satisfaction derived from utilising the services or facilities offered by a firm, leading to continued consumption. According to Kotler and Armstrong (2005), customer loyalty arises from the satisfaction of customers' expectations. Customer loyalty has emerged as a significant predictor of business success due to its essential position in the corporate landscape (Bahri-Ammari & Bilgihan, 2019; Paparoidamis et al., 2019). Companies allocate substantial effort, resources, and time to nurture customer loyalty (Izogo, 2017; Nyadzayo & Khajehzadeh, 2016; Tseng et al., 2017). Venkatakrishnan et al. (2023) indicate that there has been a tremendous change in business practices over the last 40 years, where corporations are investing extensively in technology to keep their customer base and cultivate loyalty. However, numerous organisations have struggled to secure consumer loyalty owing to inadequate strategies and resource limitations (Cheng et al., 2019; Herhausen et al., 2019; Wolter et al., 2017).

Organisations integrate e-CRM as an essential component of their business processes to foster customer loyalty (Lee-Kelley et al., 2003; Alhamdi et al., 2026), as retaining an existing client is more profitable than recruiting new consumers (Popli & Rao, 2009). Hence, organisations use diverse e-CRM methods to establish, recruit, retain, and enhance customer relationships to build customer loyalty and increase organisational profitability (Dubihlela & Khosa, 2014). Numerous studies have examined the effect of different factors on customer loyalty, including customer engagement (So et al., 2016), product quality (Kasiri et al., 2017), customer trust (Stathopoulou & Balabanis, 2016), customer satisfaction (Schirmer et al., 2018), commitment (Tabrani et al., 2018), and additional factors (Marakanon & Panjakajornsak, 2017). Considering that today's consumers possess greater knowledge and are well-informed about the various services firms, does e-CRM contribute to customer loyalty in LSP?

The role of customer satisfaction mediating the relationship between e-CRM and loyalty has garnered significant scholarly interest. Customer satisfaction significantly influences a company's economic performance (Bolton et al., 2004). When an individual is satisfied, they are likely to buy the product or service and disseminate positive word-of-mouth by referring it to friends and family members, thus fostering customer loyalty. Delivering high-quality e-services is a capability for achieving customer satisfaction, and it is only via customer satisfaction that organisations can increase loyal consumers (Taylor & Hunter, 2002). There is a lack of consensus on the role of customer satisfaction as a mediator between eCRM and customer loyalty (Kumar & Mokha, 2022).

According to the preceding discussion, this study explores the relationship between e-CRM and customers' loyalty mediated by customers' satisfaction among LSPs in Malaysia. This study contributes to the existing e-CRM literature as research on E-CRM is still lacking in developing nations (Kaur, 2016; Shastri et al., 2020) and there are limited studies on the relationship between e-CRM and customer satisfaction on customer loyalty (Alhamdi et al., 2026) in the logistics industry specifically. A good understanding of customers' demands enables logistics service providers to respond quickly to evolving customers' preferences, thereby increasing the company's revenue and competitiveness. This study helps Malaysian logistics service providers improve their services through ECRM by providing better services to increase customer satisfaction and further improve consumer loyalty, which can enhance their profitability.

2. Literature Review

Theoretical Framework

The Stimulus-Organism-Response (S-O-R) theory, developed by Mehrabian and Russell (1974), posits that external stimuli (S) influence internal processes within an organism (O), ultimately leading to behavioral responses (R) (Pandita et al., 2021). As the external environment, stimuli serve as the foundation of a sequence of an individual's psychological and behavioral reactions (Donovan & Rossiter, 1982). Organism refers to the

internal processes and psychological characteristics of the consumer, including emotions, assessments, opinions, and perceptions towards the stimulus, whereas specific responses pertain to consumer behavior, including purchase decisions, buying intention, and customer loyalty (Sautter et al., 2004; Zhang et al., 2021; Kumar & Mokha, 2022). S-O-R framework has been applied across diverse disciplines, including online shopping (Gong et al., 2023), instant messaging social software (Li et al., 2023), e-commerce (Lin & Shen, 2023; Li et al., 2024), mobile banking (Kumar & Rani, 2024), user adoption studies of mobile apps (Ashraf et al., 2021; Aslam et al., 2021; Lee & Chen, 2022), and eCRM (Mousavai et al., 2015; Kumar & Mokha, 2022). The S-O-R model has been used to investigate the relationship between E-CRM and customer satisfaction and loyalty (Mousavai et al., 2015; Kumar & Mokha, 2022). Thus, the S-O-R model is appropriate to examine the influence of E-CRM and customer satisfaction on customer loyalty.

E-CRM is viewed as a stimulus that offers various features, including personalized products and services and several payment options. It is defined as using digital technology to manage client relationships by providing efficient, engaging, and pertinent communication with clients through various electronic media (Kampani & Jhamb, 2020). Customer satisfaction is regarded as an organism that reflects the emotive and cognitive states of individuals via the observation and evaluation of stimuli. It is significant in enhancing consumer relationships and critically contributes to the success of any organization in the competitive business landscape (Kumar & Mokha, 2022). Customer loyalty is the degree to which a supplier receives exceptional returns for the efforts it makes in working with its customers. As behavioral responses emerge upon exposure to stimuli, the formation of the consumer's internal processes occurs. As customer loyalty fosters positive word-of-mouth and the intention to engage with E-CRM services, it is regarded as a response (Kumar & Mokha, 2022; Gam et al., 2025).

With the advancement of information and communication technology, businesses are transitioning from traditional customer relationship management (CRM) to electronic customer relationship management (e-CRM) in an effort to improve service levels and customer experience through digital means amid intense market competition (Kampani & Jhamb, 2020). The effective application of e-CRM not only enhances customer satisfaction (CS) but also promotes the formation of customer loyalty (CL) (Kamal et al, 2021). Furthermore, empirical studies across different industries (such as banking, insurance, elderly care, port logistics, etc.) support this viewpoint, providing theoretical foundations and practical guidance for businesses on how to build long-term customer relationships.

e-CRM and Customer Satisfaction

e-CRM excels at utilizing digital tools (such as personalized marketing, automated customer service, data analysis, and prediction) to integrate customer information, improve service response speed and information delivery quality, thereby enhancing customer satisfaction (Kamal et al, 2021; Srivastava & Rai, 2013). Prior studies showed that e-CRM and customer satisfaction are interrelated (Abdulfattah, 2012; Al-Dmour et al., 2019; Kumar & Mokha, 2022; Srivastava & Rai, 2013). e-CRM effectively enhances customer relationships through the establishment of a virtual environment that can increase customer satisfaction (Kumar & Mokha, 2022). Efficient e-CRM systems reduce response times for customer inquiries and complaint handling and meet diverse customer needs through personalized financial product recommendations in the banking sector (Abdulfattah, 2012; Aldaihani et al., 2018), thus enhancing satisfaction across various customer segments. Studies found that e-CRM can significantly improve customer experience and further increase customer satisfaction in the hotel and insurance sectors (Rafiki et al., 2024; Nikou et al., 2016). The hypothesis is developed as follows:

H1: e-CRM is positively related to customer satisfaction

The Relationship Between Customer Satisfaction and Customer Loyalty

Numerous studies indicate that customer satisfaction is an important condition that leads to customer loyalty (Sheng & Liu, 2010; Kawa & Pisz, 2023; Banerji & Singh, 2024). Satisfied customers are seemingly to be loyal towards a product or service (Ababneh et al., 2022) and intend to make repeat purchases, promote related products or services, and recommend the brand to those around them, forming a high level of customer loyalty (Krishna Burra et al., 2022; Zahro & Miranti, 2024). This suggests that customer satisfaction and customer loyalty are directly related. However, there are special factors such as market competition, price sensitivity, and the attractiveness of substitutes that can impact this relationship, making satisfaction alone potentially

insufficient to guarantee customer loyalty, thus possibly weakening the conversion effect of satisfaction on loyalty (Srivastava & Rai, 2013; Sleimi et al., 2020). The following hypothesis is developed:

H2: Customer satisfaction is positively related to customer loyalty.

The Relationship Between e-CRM and Customer Loyalty

e-CRM not only plays a positive role in enhancing customer satisfaction but also directly promotes the formation of customer loyalty (Dehghanpouri et al, 2020; Amalyah et al., 2025). The application of digital platforms in enterprises helps businesses achieve real-time interaction with customers, providing higher-quality personalized services that further strengthen customer dependence on and identification with the brand, thus enhancing customer loyalty (Kamal et al, 2021; Mang'unyi et al., 2018; Karphammar & Brettschneider, 2021; Venkatakrishnan et al., 2023). Banks adopting E-CRM experience significantly reduced customer churn rates (Kumar & Mokha, 2020). In the telecommunications industry, the application of E-CRM has promoted improved marketing performance of relevant companies, thereby fostering further development of the telecommunications industry (Khaligh et al., 2012; Sunny & Abolaji, 2016; Emaluta et al., 2019). Past studies revealed a positive relationship between e-CRM and customer loyalty in various sectors such as the hotel industry, banking industry, e-commerce, etc. (Haghighinasab et al., 2025; Huda et al., 2021; Kariman et al., 2022; Khan & Khawaja, 2013; Kumar & Mokha, 2022; Mousavai et al., 2015; Mulyono and Situmorang, 2018; Sasono et al., 2021; Shastri et al., 2020; Younis et al., 2024). The hypothesis is developed as follows:

H3: e-CRM is positively related to customer loyalty.

e-CRM, Customer Satisfaction and Customer Loyalty

The S-O-R model is applied by positing that e-CRM serves as an agent stimulating people's emotive and cognitive states, which will lead to specific reactions of customer loyalty. In this manner, customer satisfaction mediates the role of e-CRM in enhancing customer loyalty. Appropriate e-CRM performance improves business-customer interaction and fosters the evolution of a virtual environment, which increases customer satisfaction (Upadhyaya, 2020). Customers who are satisfied with the products or services offered instill a positive attitude and a sense of fulfilment, resulting in customer loyalty (Hayati et al., 2020; Li et al., 2021). The significant role of customer satisfaction in mediating the relationship between E-CRM and customer loyalty has been found (Haghighinasab et al., 2025; Khan & Khawaja, 2013; Kumar & Mokha, 2022; Mulyono & Situmorang, 2018; Kariman et al., 2022). Thus, the hypothesis is as follows:

H4: Customer satisfaction mediates the relationship between e-CRM and customer loyalty.

3. Methodology

This study applies a purposive convenience sampling method by collecting data using a self-administered questionnaire through the Google Forms online platform among residents in Puncak Alam, Selangor, in 2025. Target respondents are those who have used logistics services. Prior to completing the questionnaire, respondents were informed of the purpose of the study and participated voluntarily; informed consent was obtained from all respondents. Given the minimal risk involved, formal ethics committee approval was not sought. A total of 139 questionnaires were collected, with 123 questionnaires (88.5%) being valid. The sample size fulfilled the minimum required sample size ($N = 107$) using the G*Power statistical power analysis tool (Faul et al., 2007) with the power of 0.95 and a medium effect size of 0.15. Table 1 presents the demographic characteristics of the respondents.

Table 1: Demographic Characteristics Analysis

Variables	Frequency (N=123)	Percent
Gender		
Female	77	62.6%
Male	46	37.4%
Age		
Below 20 years old	4	3.3%
20 – 29 years old	80	65.0%
30 – 39 years old	30	24.4%
40 – 49 years old	5	4.1%

50 – 59 years old	1	0.8%
60 years old and above	3	2.4%
Household Monthly Income		
Less than RM3000	53	43.1%
More than RM10000	9	7.3%
RM3001 – RM5000	38	30.9%
RM5001 – RM10000	23	18.7%
Education		
Primary Education	2	1.6%
Secondary education	14	11.5%
Tertiary education	75	61.5%
Postgraduate education	31	25.4%
Occupation		
Executive level	41	33.3%
Non-Executive level	54	43.9%
Student	26	21.1%
Housewife	2	1.6%

Note. n = 122 for Education; one respondent did not report educational level.

All three constructs and measurement items were adopted from Kamal et al. (2021). There were seven, six, and four items for e-CRM, customer satisfaction, and customer loyalty, respectively. A 5-point Likert scale was used to measure all items, which ranged from 1 = strongly disagree to 5 = strongly agree.

As data collection was done on a single-source basis, it is necessary to examine common method variance as suggested by Podsakoff et al. (2003). The marker variable method was assessed by adopting the marker variable measurement scale of attitude toward the color blue developed by Miller and Simmering (2023). Table 2 shows that the changes in R² values between the models with and without marker variables are less than 10%; thus, common method bias is not a serious problem.

Table 2: Comparison of R² Value Between The Model Without and With The Marker Variable

Relationship	Without marker variable	With marker variable
Customer satisfaction	0.418	0.440
Customer loyalty	0.692	0.694

This study used partial least squares structural equation modelling (PLS-SEM) to analyze the data using the SmartPLS 4.0 software (Ringle et al., 2024). PLS-SEM analysis incorporates the measurement model and structural model. The measurement model assesses the validity and reliability of the outer model and structurally tests the hypotheses developed in the study.

4. Results

Measurement Model

The convergent validity and the discriminant validity were examined in the measurement model (Hair et al., 2022). Convergent validity includes factor loadings, average variance extracted (AVE), and composite reliability (CR), which are shown in Table 3. The results indicate that convergent validity was generally acceptable. Although the loadings for ECRM4 (0.621) and ECRM5 (0.649) fell below the conventional 0.70 threshold, they were retained as the AVE and CR for e-CRM remained above the recommended thresholds of 0.5 and 0.7, respectively. The AVEs for all constructs were above 0.5, and all CRs were above 0.7.

Table 3: Measurement Model

Construct	Items	Loadings	CR	AVE
Customer Loyalty (CL)	CL1	0.943	0.941	0.841
	CL2	0.901		
	CL3	0.907		
Customer satisfaction (CS)	CS2	0.825	0.909	0.714
	CS3	0.864		
	CS4	0.831		
	CS5	0.858		
e-Customer Relationship Management (e-CRM)	ECRM1	0.707	0.872	0.535
	ECRM2	0.83		
	ECRM3	0.844		
	ECRM4	0.621		
	ECRM5	0.649		
	ECRM6	0.706		

Note: Four low-factor-loading items (e.g., ECRM7, CS1, CS6, and CL4) were deleted.

Further, discriminant validity with the multitrait-multimethod matrix was evaluated with the heterotrait-monotrait (HTMT) ratio of correlations as recommended by Henseler et al. (2015) and is shown in Table 4. All HTMT values were below the threshold level of HTMT90 (Gold et al., 2001), supporting discriminant validity, although the HTMT value between customer satisfaction and customer loyalty (0.893) approached this threshold, reflecting the conceptual closeness between the two constructs in the logistics service context.

Table 4: HTMT Ratio

	CL	CS	E-CRM
CL			
CS	0.893		
e-CRM	0.812	0.767	

Structural Model

Structural model assessment to test the hypotheses relationship with a bootstrapping procedure of 10,000 resamples that includes standard beta, t-values, confidence intervals, and the effect sizes (f^2) (Hair et al., 2022).

The analysis results in Table 5 indicate that e-Customer Relationship Management ($\beta = 0.646$, $p < 0.001$) is positively related to Customer Satisfaction, indicating H1 was supported. The R^2 value of 0.418 indicates that 41.8% of the variation in Customer Satisfaction is explained by the variation of e-Customer Relationship Management. Customer Satisfaction and e-Customer Relationship Management both have a positive relationship with Customer Loyalty. Thus, H2 and H3 were supported. The R^2 value of 0.692 indicates that 69.2% of the variation in Customer Loyalty is explained by Customer Satisfaction and e-Customer Relationship Management. The strength of the relationship between two variables is evaluated by the effect size. Following guidelines by Cohen (1992), f^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects, respectively. As shown in Table 5, the effect size of E-CRM ($f^2 = 0.718$) on CS was high. The effect size of CS on CL was large, and the effect size of E-CRM on CL was moderate.

The mediation hypothesis testing, as suggested by Preacher and Hayes (2004; 2008), was assessed by bootstrapping the indirect effect to test the mediation hypothesis, and the results are shown in Table 6. Hypothesis H4 of e-CRM $\rightarrow$ CS $\rightarrow$ CL ($\beta = 0.372$, $p < 0.001$) was supported. Thus, the mediation effect of customer satisfaction is significant, as the confidence interval bias-corrected 95% did not contain 0.

Table 5: Hypothesis Testing Direct Effects

Hypothesis	Relationship	Std Beta	Std Error	t-values	p-values	BCI LL	BCI UL	f ²	VIF
H1	e-CRM -> CS	0.646	0.061	10.656	P<0.001	0.528	0.732	0.718	1.000
H2	CS -> CL	0.576	0.094	6.158	p<0.001	0.419	0.724	0.628	1.718
H3	e-CRM -> CL	0.334	0.102	3.272	0.001	0.168	0.501	0.211	1.718

Table 6: Hypothesis Testing Indirect Effects

Hypothesis	Relationship	Std Beta	Std Error	t-values	p-values	BCI LL	BCI UL
H4	e-CRM -> CS -> CL	0.372	0.08	4.649	P<0.001	0.251	0.506

Predictive relevance of the model is assessed with PLS-Predict as recommended by Shmueli et al. (2019). With a 10-fold procedure of the PLS-Predict test, the results of PLS-Predict are shown in Table 7. As all items of the PLS-SEM RMSE values of the dependent variables were lower than the LM RMSE, this indicates the model has strong predictive power.

Table 7: PLS-Predict

	PLS-SEM		LM	PLS - LM
	Q ² predict	RMSE		RMSE
CL1	0.49	0.604	0.628	-0.024
CL2	0.337	0.675	0.701	-0.026
CL3	0.389	0.589	0.596	-0.007
CS2	0.303	0.698	0.73	-0.032
CS3	0.295	0.779	0.824	-0.045
CS4	0.246	0.727	0.753	-0.026
CS5	0.265	0.724	0.754	-0.030

5. Conclusion and Recommendations

The study examines the relationship between e-CRM and customer loyalty in the logistics industry, with customer satisfaction as a mediator. The analysis results indicate that e-CRM was positively related to customer satisfaction, consistent with previous studies (Abdulfattah, 2012; Al-Dmour et al., 2019; Anjarwati et al., 2026; Khan & Khawaja, 2013; Kumar & Mokha, 2022; Upadhyaya, 2020). Customers who are satisfied with the services provided tend to have a stronger relationship with service providers (Anjarwati et al., 2026), facilitated by better communication and engagement with customers through various technologies and digital channels such as email, web, and social media. Thus, e-CRM not only contributes to the establishment of virtual environments but also strengthens long-term customer relationships, which is associated with higher customer satisfaction (Kumar & Mokha, 2022). The results also show that customer satisfaction was positively related to customer loyalty, consistent with past studies (Ababneh et al., 2022; Hayati et al., 2020; Tahir, 2020). Customer satisfaction with the services offered by logistics service providers is associated with an increase in their loyalty towards the service provider, which may lead them to be more inclined to choose and recommend a particular logistics service provider to their friends and relatives (Kumar & Mokha, 2022).

Findings also show that e-CRM was positively related to customer loyalty, consistent with past findings (Khan & Khawaja, 2013; Kumar & Mokha, 2022; Mousavai et al., 2015; Mulyono & Situmorang, 2018; Shastri et al., 2020; Haghghinasab et al., 2024). As e-CRM helps businesses provide better customer service by managing online customer support inquiries, resolving issues efficiently, and providing timely assistance, customers are more likely to remain loyal to their logistics service provider.

The results support customer satisfaction in mediating the relationship between e-CRM and customer loyalty (Haghighinasab et al., 2025; Khan & Khawaja, 2013; Kumar & Mokha, 2022; Mulyono & Situmorang, 2018; Syaifullah et al., 2024). e-CRM is essential in enhancing customer satisfaction and retention as it effectively facilitates communication, personalizes interactions, and optimizes service delivery (Ali & Alfayez, 2024), which is associated with greater customer loyalty. e-CRM uses digital platforms to manage customer interactions through online customer support and social media engagement. Effectively managing online customer support inquiries, resolving issues efficiently, providing timely assistance, and responding to feedback may be associated with higher customer satisfaction and, in turn, greater customer loyalty.

Based on the findings, logistics service providers are encouraged to invest in e-CRM practices that support consistent, responsive, and personalized communication with customers, as these practices were associated with both customer satisfaction and customer loyalty in this study. Practical steps may include maintaining active digital channels for customer service, ensuring prompt responses to customer inquiries, and using customer data to tailor communication to individual needs.

Because customer satisfaction was found to partially transmit the relationship between e-CRM and customer loyalty, logistics service providers should treat customer satisfaction as an ongoing outcome to be monitored, rather than assuming that digital tools alone will secure customer loyalty. Regular collection of customer feedback and timely resolution of service issues may help sustain the satisfaction levels needed to support loyalty.

Firms in the logistics sector may also consider using e-CRM as a basis for differentiating their services from competitors, given that customers in this study reported forming loyalty based on their general experience with digital customer engagement rather than any single service feature. Continued investment in digital customer relationship capabilities may therefore support customer retention and long-term business performance.

References

- Ababneh, K.I., Ponnaiyan, S., ElMelegy, A. R., & Prybutok, V. (2022). Determinants of customer satisfaction and behavioral intentions in fast-food restaurants among undergraduate students during the COVID-19 pandemic. *Quality Management Journal*, 29(2), 104–124. <https://doi.org/10.1080/10686967.2022.2034491>
- Ab Hamid, N. R., Cheng, A. Y., & Akhir, R. M. (2011). Dimensions of E-CRM: An empirical study on hotels' websites. *Journal of Southeast Asian Research*, 2011, Article 820820. <https://doi.org/10.5171/2011.820820>
- Abdolhosseini Khaligh, A., Miremadi, A., & Aminilari, M. (2012). The Impact of eCRM on Loyalty and Retention of Customers in the Iranian Telecommunication Sector. *International Journal of Business and Management*, 7(2), 150–162. <https://doi.org/10.5539/ijbm.v7n2p150>
- Abdulfattah, F.H. (2012). *The effect of electronic customer relationship on customer satisfaction: A study on web banking in Saudi Arabia* [University of Huddersfield, West Yorkshire, England]. eprints.hud.ac.uk/18098/
- Adlin, F. N., Ferdiana, R., & Fauziati, S. (2019). Current trend and literature on electronic CRM adoption review. *Journal of Physics: Conference Series*, 1201, 012058. <https://doi.org/10.1088/1742-6596/1201/1/012058>
- Aldaihani, F. M., & Ali, N. A. (2018). Effect of Electronic Customer Relationship Management on Electronic Service Quality Provided by the Commercial Banks in Kuwait. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 8(2), 143–154. <https://doi.org/10.6007/ijarafms/v8-i2/4239>
- Al-Dmour, H. H., Algharabat, R. S., Khawaja, R., & Al-Dmour, R. H. (2019). Investigating the impact of ECRM success factors on business performance: Jordanian commercial banks. *Asia Pacific Journal of Marketing and Logistics*, 31(1), 105–127. <https://doi.org/10.1108/APJML-10-2017-0270>
- Alhamdi, F. M., Rashed, A. S., & Al-Kahtani, S. M. (2026). Electronic customer relationship management as a mediator between digital marketing strategies and electronic loyalty among Saudi Arabian consumers. *Discover Sustainability*. <https://doi.org/10.1007/s43621-026-03375-7>

- Amalyah, M., Putri, D., Hussein, A. S., & Handrito, R. P. (2025). The Impact of Electronic Customer Relationship Management (e-CRM) on e-Loyalty. *Jurnal Ilmiah Manajemen Kesatuan*, 13(5), 4191-4202. <https://doi.org/10.37641/jimkes.v13i5.3600>
- Anjarwati, G. C., Purmono, B. B., & Setiawan, H. (2026). Building Customer Loyalty in Digital Commerce: The Roles of Electronic Trust, E-CRM, and Customer Satisfaction. *Journal of Educational Management Research*, 5(5), 5575-5590. <https://doi.org/10.61987/jemr.v5i5.3011>
- Ali, N., & Alfayez, M. (2024). The impact of E-CRM on customer loyalty in the airline industry: the mediating role of customer experience. *Cogent Business and Management*, 11(1). <https://doi.org/10.1080/23311975.2024.2364838>
- Ashraf, A. R., Thongpapanl, N., Anwar, A., Lapa, L., & Venkatesh, V. (2021). Perceived values and motivations influencing m-commerce use: A nine-country comparative study. *International Journal of Information Management*, 59, 102318. <https://doi.org/10.1016/j.ijinfomgt.2021.102318>
- Aslam, W., Arif, I., Atiq, Z., & Hussain, F. (2021). Connecting mobile application features with perceived benefits in determining post-adoption behavior. *FIIB Business Review*, 10(4), 454-465. <https://doi.org/10.1177/23197145211035748>
- Azila, N., & Noor, M. (2011). Electronic customer relationship management performance: Its impact on loyalty from customers' perspectives. *International Journal of eEducation, e-Business, e-Management and e-Learning*, 1(2).
- Bahri-Ammari, N., & Bilgihan, A. (2019). Customer retention in mobile telecommunication service providers: The roles of perceived justice and customer loyalty program. *International Journal of Mobile Communications*, 17(1), 82-107. <https://doi.org/10.1504/IJMC.2019.096518>
- Banerji, A., & Singh, R. (2024). Determinants of customer satisfaction and loyalty in digital service platforms. *Frontiers in Communication*, 9, 1603554. <https://doi.org/10.3389/fcomm.2024.1603554>
- Behravan, N., & Rahman, M. S. (2012). Customer relationship management constructs under social networks towards customers' retention. *Australian Journal of Basic and Applied Sciences*, 6(7), 271-282.
- Bolton, R., Lemon, K. & Verhoef, P. (2004). The Theoretical Underpinnings of Customer Asset Management: A Framework and Propositions for Future Research. *Journal of the Academy of Marketing Science*, 32, 271-292. <http://dx.doi.org/10.1177/0092070304263341>
- Cheng, B. L., Gan, C. C., Imrie, B. C., & Mansori, S. (2019). Service recovery, customer satisfaction and customer loyalty: Evidence from Malaysia's hotel industry. *International Journal of Quality and Service Sciences*, 11(2), 187-203. <https://doi.org/10.1108/IJQSS-09-2017-0081>
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155-159. <https://doi.org/10.1037/0033-2909.112.1.155>
- Dehghanpouri, H., Soltani, Z., & Rostamzadeh, R. (2020). The impact of trust, privacy and quality of service on the success of E-CRM: The mediating role of customer satisfaction. *Journal of Business and Industrial Marketing*, 35(11), 1831-1847. <https://doi.org/10.1108/JBIM-07-2019-0325>
- Donovan, R. J., & Rossiter, J. R. (1982). Store atmosphere: An environmental psychology approach. *Journal of Retailing*, 58(1), 34-57.
- Dubihlela, J., and Khosa, P. M. (2014). Impact of e-CRM implementation on customer loyalty, customer retention and customer profitability for hoteliers along the Vaal Meander of South Africa. *Mediterranean Journal of Social Science*, 5(16), 175-183. <http://dx.doi.org/10.5901/mjss.2014.v5n16p175>
- Emaluta, F.H.K., Isnalita, I., & Soewarno, N. (2019). The Effect of Customer Relationship Management (CRM) on Customers' Loyalty and Customers' Satisfaction as Mediator Variables. *Jurnal AKSI (Akuntansi dan Sistem Informasi)*, 4(2), 59-63. <https://doi.org/10.32486/aksi.v4i2.352>
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175-191. <https://doi.org/10.3758/bf03193146>
- Gam, H., Yum, S., & Kim, J. (2025). Online customer relationship management post-purchase: Targeting electronic word-of-mouth to enhance customer satisfaction and loyalty. *Journal of Theoretical and Applied Electronic Commerce Research*, 20(1), 145-168.
- Genc, I. H., & Arzaghi, M. (2024). Did the COVID-19 pandemic permanently impact e-commerce in the US market? *Modern Finance*, 2(1), 18-30. <https://doi.org/10.61351/mf.v2i1.74>
- Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of Management Information Systems*, 18(1), 185-214. <https://doi.org/10.1080/07421222.2001.11045669>

- Gong, J., Said, F., Ting, H., Firdaus, A., Aksar, I. A., & Xu, J. (2023). Do Privacy Stress and Brand Trust Still Matter? Implications for Continuous Online Purchasing Intention in China. *Current Psychology*, 42(18), 15515–15527. <https://doi.org/10.1007/s12144-022-02857-x>
- Gultekin, B., Demir, S., Gunduz, M. A., Cura, F., & Ozer, L. (2022). The logistics service providers during the COVID-19 pandemic: The prominence and the cause-effect structure of uncertainties and risks. *Computers & Industrial Engineering*, 165, 107950. <https://doi.org/10.1016/j.cie.2022.107950>
- Haghighinasab, M., Ahmadi, D., & Khobbakht, F. (2025). Electronic customer relationship management and reputation: drivers of customer satisfaction and loyalty in digital-only banking. *Journal of Financial Services Marketing*, 30(1), 1–23. <https://doi.org/10.1057/s41264-024-00297-1>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage.
- Hayati, S., Suroso, A., Suliyanto, S., & Kaukab, M. E. (2020). Customer satisfaction as a mediation between micro banking image, customer relationship and customer loyalty. *Management Science Letters*, 10(11), 2561–2570. <https://doi.org/10.5267/j.msl.2020.3.039>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Herhausen, D., Kleinlercher, K., Verhoef, P. C., Emrich, O., & Rudolph, T. (2019). Loyalty formation for different customer journey segments. *Journal of Retailing*, 95(3), 9–29. <https://doi.org/10.1016/j.jretai.2019.05.001>
- Huda, S.S.S.M., Saha, S., & Kabir, M. (2021). Influence of eCRM on customer satisfaction and customer loyalty: a study on Bangladesh's fast food industry. *International Journal of Electronic Customer Relationship Management*, 13(1), 30–44. <https://doi.org/10.1504/IJECRM.2021.10038537>
- Izogo, E. E. (2017). Customer loyalty in telecom service sector: The role of service quality and customer commitment. *The TQM Journal*, 29(1), 19–36. <https://doi.org/10.1108/TQM-10-2014-0089>
- Kamal, M., Salam, M. A., Elnakib, I. (2021). Effect of E-CRM on port performance through customer satisfaction and customer loyalty: a case study of MENA region ports. *International Journal of Business & Management Science*, 7(4), 10–68. <https://doi.org/10.53555/eijbms.v7i4.125>
- Kampani, N., & Jhamb, D. (2020). Analyzing the role of e-CRM in managing customer relations: A critical review of the literature. *Journal of Critical Review*, 7(4), 221–226. <https://doi.org/10.31838/jcr.07.04.41>
- Kariman, A., Wahab, Z., Shihab, M. S., & Natalisa, D. (2022). The effect of E-CRM on customer loyalty with customer satisfaction as a mediation variable: A study of users of BNI Direct South Sumatra. *International Research Journal of Management, IT and Social Sciences*, 9(3), 375–385. <https://doi.org/10.21744/irjmis.v9n3.2089>
- Karphammar, M., & Brettschneider, J. (2021). eCRM features and customer loyalty: A qualitative study within the video streaming industry [Student thesis]. DiVA. <https://www.diva-portal.org/smash/record.jsf?pid=diva2:1574561>
- Kasiri, L. A., Cheng, K. T. G., Sambasivan, M., & Sidin, S. M. (2017). Integration of standardization and customization: Impact on service quality, customer satisfaction, and loyalty. *Journal of Retailing and Consumer Services*, 35, 91–97. <https://doi.org/10.1016/j.jretconser.2016.11.007>
- Kaur, B. (2016). *Electronic customer relationship management (E-CRM) in the banking industry in India* [Guru Nanak Dev University]. <http://shodhganga.inflibnet.ac.in/handle.net/10603/169250>
- Kawa, A., & Pisz, I. (2023). Logistics value in e-commerce and its impact on customer satisfaction, loyalty and online retailers' performance. *The International Journal of Logistics Management*, 35(2), 577–601. <https://doi.org/10.1108/IJLM-08-2022-0320>
- Khan, M. B., & Khawaja, K. F. (2013). The relationship of E-CRM, customer satisfaction and customer loyalty. The moderating role of anxiety. *Middle East Journal of Scientific Research*, 16(4), 531–535. <https://doi.org/10.5829/idosi.mejsr.2013.16.04.11568>
- Kotler, Philip & Gary Armstrong. 2005. *Dasar-dasar Pemasaran*. Alih Bahasa Alexander Sindoro 7 Benyamin Malon. Jakarta: Prenhallindo.
- Krishna Burra, V., Ramakrishna, G., Murthy, B.G.K., SK, Shareef, J., Padmalatha, P.S.V., & SubbaRao, M. V. (2022). E-CRM influence on customer satisfaction and loyalty: an empirical survey on mobile phone consumers. *Academy of Marketing Studies Journal*, 26(4), 1–7.
- Kumar, J., & Rani, V. (2024). Investigating the dynamics of FinTech adoption: an empirical study from the perspective of mobile banking. *Journal of Economic and Administrative Sciences*.

- <https://doi.org/10.1108/jeas-12-2023-0334>
- Kumar, P., & Mokha, A. K. (2020). A study on the relationship between electronic customer relationship management (E-CRM) and customer loyalty in the banking industry. *Ramanujan International Journal of Business and Research*, 5, 211–226. <https://doi.org/10.51245/rijbr.v5i1.2020.224>
- Kumar, P., & Mokha, A. K. (2022). Electronic Customer Relationship Management (E-CRM) and Customer Loyalty: The Mediating Role of Customer Satisfaction in the Banking Industry. *International Journal of E-Business Research*, 18(1), 1–22. <https://doi.org/10.4018/IJEER.293292>
- Lee, J.-C., & Chen, X. (2022). Exploring users' adoption intentions in the evolution of artificial intelligence mobile banking applications: the intelligent and anthropomorphic perspectives. *International Journal of Bank Marketing*, 40(4), 631–658. <https://doi.org/10.1108/IJBM-08-2021-0394>
- Lee-Kelley, L., Gilbert, D., & Mannicom, R. (2003). How e-CRM can enhance customer loyalty. *Marketing Intelligence & Planning*, 21(4), 239–248. <https://doi.org/10.1108/02634500310480121>
- Li, D., Peng, L., Zhang, G., Wang, F., Shi, Y. (2024). E-commerce live streaming impact analysis based on stimulus-organism response theory. *International Journal of Autonomous and Adaptive Communications Systems*, 17(6), 530–544. <https://doi.org/10.1504/IJAACS.2024.142525>
- Li, F., Lu, H., Hou, M., Cui, K., & Darbandi, M. (2021). Customer satisfaction with bank services: The role of cloud services, security, e-learning and service quality. *Technology in Society*, 64, 101487. <https://doi.org/10.1016/j.techsoc.2020.101487>
- Li, J., Zhang, S. Ao, W. (2023). Why is instant messaging not instant? Understanding users' negative use behavior of instant messaging software. *Computers in Human Behavior*, 142, 107655. <https://doi.org/10.1016/j.chb.2023.107655>
- Lin, B., & Shen, B. (2023). Study of Consumers' Purchase Intentions on Community E-commerce Platform with the SOR Model: A Case Study of China's "Xiaohongshu" App. *Behavioral Sciences*, 13(2). <https://doi.org/10.3390/bs13020103>
- Mang'unyi, E. E., Khabala, O. T., & Govender, K. K. (2018). Bank customer loyalty and satisfaction: The influence of virtual e-CRM. *African Journal of Economic and Management Studies*, 9(2), 250–265. <https://doi.org/10.1108/AJEMS-08-2017-0183>
- Marakanon, L., & Panjakajornsak, V. (2017). Perceived quality, perceived risk and customer trust affecting customer loyalty of environmentally friendly electronics products. *Kasetsart Journal of Social Sciences*, 38(1), 24–30. <https://doi.org/10.1016/j.kjss.2016.08.012>
- MarkNtel Advisors. (n.d.). Malaysia Logistics Market Size & Share Analysis Report, 2030. MarkNtel Advisors. <https://www.marknteladvisors.com/research-library/malaysia-logistics-market.html>
- Mehrabian, A., & Russell, J. A. (1974). *An Approach to Environmental Psychology*. MIT Press.
- Miller, B. K., & Simmering, M. J. (2023). Attitude Toward the Color Blue: An Ideal Marker Variable. *Organizational Research Methods*, 26(3), 409–440. <https://doi.org/10.1177/10944281221075361>
- Mohamed, S. M., Yehia, E., & Marie, M. (2022). Relationship between E-CRM, Service Quality, Customer Satisfaction, Trust, and Loyalty in the Banking Industry. *Future Computing and Informatics Journal*, 7(2), 51–74. <https://doi.org/10.54623/fue.fcij.7.2.5>
- Mousavai, S. B., Abdul Hamid, A. B., Asgarpour, R., Jamshidy, M., & Gheysari, H. (2015). Enhancing guests' loyalty in luxury hotels through the hotel's ambience. *International Journal of Engineering Research and Applications*, 5(12), 125–148.
- Mulyono, H., & Situmorang, S. H. (2018). E-CRM and loyalty: A mediation Effect of Customer Experience and satisfaction in online transportation in Indonesia. *Academic Journal of Economic Studies*, 4(3), 96–105.
- Nikou, S.H., Selamat, H.B., Yusoff, R.C.M., & Khiabani, M.M. (2016). Electronic customer relationship management, customer satisfaction, and customer loyalty: A comprehensive review study. *International journal of management and economics invention*, 2(12), 1133–1144. <https://doi.org/10.18535/ijmei/v2i12.02>
- Nyadzayo, M. W., & Khajehzadeh, S. (2016). The antecedents of customer loyalty: A moderated mediation model of customer relationship management quality and brand image. *Journal of Retailing and Consumer Services*, 30, 262–270. <https://doi.org/10.1016/j.jretconser.2016.02.002>
- Pandita, S., Mishra, H. G., & Chib, S. (2021). Psychological impact of COVID-19 crises on students through the lens of the Stimulus-Organism-Response (SOR) model. *Children and Youth Services Review*, 120, Article 105783. <https://doi.org/10.1016/j.childyouth.2020.105783>
- Paparoidamis, N. G., Katsikeas, C. S., & Chumpitaz, R. (2019). The role of supplier performance in building customer trust and loyalty: A cross-country examination. *Industrial Marketing Management*, 78, 183–

197. <https://doi.org/10.1016/j.indmarman.2017.02.005>
- Podsakoff, P.M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Popli, G., and Rao, D.N. (2009). Customer relationship management in Indian banks. Retrieved from SSRN: <https://ssrn.com/abstract=1373592> or <http://dx.doi.org/10.2139/ssrn.1373592>.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36(4), 717–731. <https://doi.org/10.3758/BF03206553>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. <https://doi.org/10.3758/BRM.40.3.879>
- Rafiki, A., Putra Nasution, M. D. T., Rossanty, Y. (2024). CRM impact on customer satisfaction in Islamic-based hotels: exploring a mediation model. *Journal of Islamic Marketing*, 15(12), 3425–3444. <https://doi.org/10.1108/JIMA-08-2023-0265>
- Ringle, C.M., Wende, S., & Becker, J.-M. (2024). *SmartPLS Release: 4*. <https://www.smartpls.com>
- Sasono, I., Suroso, & Novitasari, D. (2021). A study on the relationship of E-marketing, E-CRM, and E-loyalty: Evidence from Indonesia. *International Journal of Data and Network Science*, 5(2), 115–120. <https://doi.org/10.5267/j.ijdns.2021.2.003>
- Sautter, P., Hyman, M. R., & Lukosius, V. (2004). E-tail atmospherics: A critique of the literature and model extension. *J. Electron. Commerce Res.*, 5(1), 14–24. <http://www.csulb.edu/web/journals/jecr/issues/20041/Paper2.pdf>
- Schirmer, N., Ringle, C. M., Gudergan, S. P., & Feistel, M. S. (2018). The link between customer satisfaction and loyalty: The moderating role of customer characteristics. *Journal of Strategic Marketing*, 26(4), 298–317. <https://doi.org/10.1080/0965254X.2016.1240214>
- Shastri, S., Sharma, R., & Sethi, V. (2020). An empirical study on the influence of e-CRM on customer loyalty in the banking sector. *International Journal of Public Sector Performance Management*, 6(5), 642–652. <https://doi.org/10.1504/IJPSPM.2020.110135>
- Sheng, T., & Liu, C. (2010). An empirical study on the effect of e-service quality on online customer satisfaction and loyalty. *Nankai Business Review International*, 1(3), 273–283. <https://doi.org/10.1108/20408741011069205>
- Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J. H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). Predictive model assessment in PLS-SEM: guidelines for using PLSpredict. *European Journal of Marketing*, 53(11), 2322–2347. <https://doi.org/10.1108/EJM-02-2019-0189>
- Sleimi, M., Musleh, M., & Qubbaj, I. (2020). E-Banking services quality and customer loyalty: The moderating effect of customer service satisfaction: Empirical evidence from the UAE banking sector. *Management Science Letters*, 10(15), 3663–3674. <https://doi.org/10.5267/j.msl.2020.6.027>
- So, K. K. F., King, C., Sparks, B. A., & Wang, Y. (2016). The role of customer engagement in building consumer loyalty to tourism brands. *Journal of Travel Research*, 55(1), 64–78. <https://doi.org/10.1177/0047287514541008>
- Srivastava, M., & Rai, A. K. (2013). Investigating the mediating effect of customer satisfaction in the service quality - customer loyalty relationship. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 26, 95–109. <http://journalconsumersatisfaction.weebly.com/>
- Stathopoulou, A., & Balabanis, G. (2016). The effects of loyalty programs on customer satisfaction, trust, and loyalty toward high-and low-end fashion retailers. *Journal of Business Research*, 69(12), 5801–5808. <https://doi.org/10.1016/j.jbusres.2016.04.177>
- Sunny, E.-E., & Abolaji, O. (2016). Electronic Customer Relationship Management (E-CRM) & Marketing Performance: Empirical Evidence from Nigeria Telecom Sector. *British Journal of Economics, Management & Trade*, 11(1), 1–14. <https://doi.org/10.9734/bjemt/2016/19924>
- Syaifullah, M. H., Pebrianti, W., Afifah, N., Juniwati, & Jaya, A. (2024). The influence of electronic customer relationship management on customer loyalty with customer satisfaction and customer experience as mediators. *Jurnal Ekonomi*, 13(1), 215–227. <https://doi.org/10.54209/ekonomi.v13i01>
- Tabrani, M., Amin, M., & Nizam, A. (2018). Trust, commitment, customer intimacy and customer loyalty in Islamic banking relationships. *International Journal of Bank Marketing*, 36(5), 823–848. <https://doi.org/10.1108/IJBM-03-2017-0054>

- Tahir, H. S. (2020). Antecedents of customer satisfaction in e-service transactions. *International Journal of Innovation, Creativity and Change*, 11(2), 363–379.
- Taylor, S., & Hunter, G. (2002). The impact of loyalty with e-CRM software and e-services. *International Journal of Service Industry Management*, 13(5), 452–474. <https://doi.org/10.1108/09564230210447931>
- Tseng, F. C., Cheng, T. C. E., Li, K., & Teng, C. I. (2017). How does media richness contribute to customer loyalty to mobile instant messaging? *Internet Research*, 27(3), 520–537. <https://doi.org/10.1108/IntR-06-2016-0181>
- Upadhyaya, M. (2020). Analysis of E-CRM, service quality and brand trust relationship with student satisfaction. *Humanities & Social Sciences Reviews*, 8(1), 227–232. <https://doi.org/10.18510/hssr.2020.8132>
- Venkatakrishnan, J., Alagiriswamy, R., & Parayitam, S. (2023). Web design and trust as moderators in the relationship between e-service quality, customer satisfaction and customer loyalty. *The TQM Journal*, 35(8), 2455–2484. <https://doi.org/10.1108/tqm-10-2022-0298>
- Wolter, J. S., Bock, D., Smith, J. S., & Cronin, J. J., Jr. (2017). Creating ultimate customer loyalty through loyalty conviction and customer-company identification. *Journal of Retailing*, 93(4), 458–476. <https://doi.org/10.1016/j.jretai.2017.08.004>
- Younis, J. A., Al-Shammari, H., Hejase, H. J., Massoud, M., & Hejase, A. J. (2024). E-satisfaction as a mediator between consumer loyalty and E-CRM: The context of Lebanese ecommerce. *International Journal of Innovative Research and Scientific Studies*, 7(3), 978–996. <https://doi.org/10.53894/ijirss.v7i3.2987>
- Younis, A., Pham, H., & Ahammad, M. (2025). The effect of e-CRM components on e-loyalty mediated by e-satisfaction toward e-commerce. *Asia Pacific Journal of Marketing and Logistics*, 37(3), 612–635. <https://doi.org/10.1108/APJML-03-2025-0513>
- Zahro, T. S., & Miranti, T. (2024). The influence of service quality and relationship quality on customer loyalty through customer satisfaction with gender as a moderation variable. *Jurnal Tabarru': Islamic Banking and Finance*, 7(1), 310–324. [https://doi.org/10.25299/JTB.2024.VOL7\(1\).16341](https://doi.org/10.25299/JTB.2024.VOL7(1).16341)
- Zhang, G., Yue, X., Ye, Y., & Peng, M. Y. P. (2021). Understanding the Impact of the Psychological Cognitive Process on Student Learning Satisfaction: Combination of the Social Cognitive Career Theory and SOR Model. *Frontiers in Psychology*, 12(August). <https://doi.org/10.3389/fpsyg.2021.712323>