



## **The Role of CRM-Based Information Systems and Service Quality in Enhancing Customer Loyalty of MSMEs in Padang**

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### **Abstract**

The study aims to discover the influence of CRM-based information systems and service quality on MSMEs' customer loyalty in Padang City. The unit of analysis is Micro, Small, and Medium Enterprises (MSMEs) in Padang City. The study utilised primary data obtained through the questionnaire. Sampling technique by using quota sampling. 120 questionnaires from MSMEs were returned as a final sample. Data were analysed using multiple regression analysis performed by SPSS software. The result shows that CRM-based information systems significantly influenced customer loyalty in Padang City. Service quality significantly influenced customer loyalty in Padang City. The findings of this study have several important implications; MSMEs should invest in and adopt digital CRM solutions to improve customer interactions, data management, and personalised services, ultimately leading to increased customer retention. MSMEs should improve their service standards continuously. Enhancing responsiveness, reliability, and customer engagement can help build stronger customer relationships and trust.

**Keywords:** CRM-Based Information Systems; Service Quality; Customer Loyalty

### **1. Introduction**

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in economic development by contributing to job creation and economic growth (Tekola & Gidey, 2019). However, retaining customers has become a major challenge for MSMEs in an increasingly competitive business environment. Customer loyalty is essential for business sustainability, as loyal customers repeat purchases and recommend the business to others (Arslan, 2020).

One of the key strategies for enhancing customer loyalty is the implementation of Customer Relationship Management (CRM)-based information systems. CRM systems help businesses manage customer interactions, track purchasing behavior, and personalise services, leading to stronger customer relationships (Fernando et al., 2023). In addition, service quality also plays a critical role in shaping customer perceptions and satisfaction, which can influence their loyalty to a business (Singh et al., 2023).

Service quality is also important in building customer loyalty (Amin, 2016). Good service includes not only quality products but also positive customer experiences during the transaction process and interactions with the

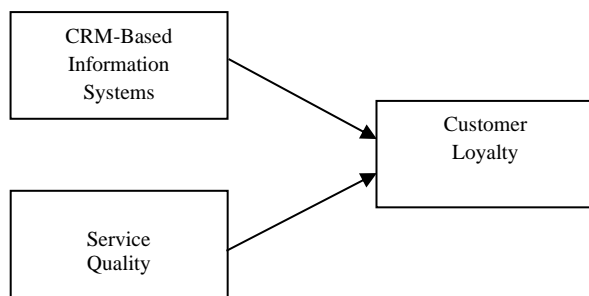
business. In the context of MSMEs in Padang, where interactions between business actors and customers are often personal, service quality is a determining factor that can differentiate one business from another.

CRM systems allow SMEs to manage customer data in a more structured way, understand customer needs, and provide more personalised services (Galvão et al., 2018). Thus, customers tend to feel more appreciated and understood, ultimately increasing their loyalty to the business. Good service quality, such as responsiveness, reliability, and empathy in serving customers, can create a positive experience. This experience will increase customer satisfaction, encouraging their loyalty to continue using the UMKM product or service.

Several sources highlight the importance of CRM and service quality for MSMEs. (Setiawati et al., 2019) notes that good customer relationship management is essential for increasing customer satisfaction and loyalty. (Zaman & Kusi-Sarpong, 2024) Indicates that understanding customers and maintaining relationships are crucial strategies for business success. A similar point is made by (Adegbuyi et al., 2015) that stresses the importance of improving services to consumers, while (So et al., 2016) focuses on strengthening customer relationships. (Mehralian & Khazaei, 2022) shows how CRM can be

applied to improve sales during the pandemic. Finally, (Mehralian & Khazaei, 2022) studies the influence of service quality on customer trust.

The theoretical framework was determined by reviewing some literature. So, the model of (Ilić et al., 2021) for CRM-based information systems and customer loyalty. Model of (Supriyanto et al., 2021) for service quality and customer loyalty. According to previous research and the definitions presented above, the following conceptual models are presented to test the effect of CRM-based information systems and service quality on MSMEs, as described in Figure 1 below:



**Figure 1: Conceptual Framework**

The conceptual model above generates two hypotheses will be tested in the study. Therefore, the hypotheses could be formulated as follows:

- H<sub>1</sub>: CRM-based information systems have significant influence on customer loyalty  
H<sub>2</sub>: Service quality has a significant influence on customer loyalty

## 2. Methods

This research employs a quantitative approach, which involves explaining phenomena by gathering numerical data and analysing it using mathematically based methods, particularly statistical techniques (Bell et al., 2018). A quantitative approach is typically applied when starting with a theory or hypothesis and testing it to confirm or refute its validity (Mohajan, 2020). The data for this study were collected through questionnaires. The respondents consisted of owners of MSMEs in Padang City, and information about these businesses was obtained from the Statistical Bureau Center of West Sumatra Province, Indonesia. A total of 100 MSMEs were selected using a quota sampling method.

The current model treats CRM-based information systems and service quality as exogenous variables, while customer loyalty is endogenous. The primary tool for data collection is a questionnaire, which is designed based on five dimensions for process selection: customer data management, customer data analysis, customer

interaction, process automation, and system integration (Anshari et al., 2019). Similarly, service quality is evaluated using five dimensions: reliability, responsiveness, assurance, empathy, and tangibles (Prakoso et al., 2017). Additionally, customer loyalty is measured using five dimensions: behavioral loyalty, attitudinal loyalty, cognitive loyalty, affective loyalty, and conative loyalty (Manzuma-Ndaaba et al., 2016).

To assess the level of agreement among participants with the given statements, a five-point Likert scale was utilised, with the following response options: 5) Strongly Agree, 4) Agree, 3) Neutral, 2) Disagree, and 1) Strongly Disagree. The data collected from the survey were then analysed using the SPSS software..

The validity of the instrument was assessed using the Pearson Product Moment Correlation. An instrument is considered highly valid if the correlation value between each indicator and the total score exceeds 0.30, or if the r-value is greater than 0.30 (Groenland & Dana, 2019). Additionally, the reliability of the instrument was evaluated using Cronbach's Alpha. The instrument meets the reliability criteria if the Cronbach's Alpha value is greater than 0.6 (Pandey & Pandey, 2021).

The data analysis employs both descriptive statistics and multiple regression analysis. Descriptive statistical analysis summarises the demographic characteristics of respondents, such as age, gender, education level, position, and salary. Meanwhile, multiple regression analysis is utilised to predict the value of a variable based on the values of two or more other variables.

## 3. Results and Discussion

Based on the data collected from the survey, the demographic distribution of the respondents shows interesting trends across various categories. In terms of gender, 46% of the respondents are male, while 54% are female, indicating a slightly higher proportion of female respondents. Regarding age, the largest group falls within the 41 to 45-year range, comprising 31% of the respondents, followed by the 46 to 50-year range at 27%, and the 36 to 40-year range at 21%. Younger respondents, particularly those under 25 years old, make up only 2% of the total, highlighting that the majority of respondents are middle-aged adults. When it comes to education, nearly half of the respondents (47%) have a high school or lower education level, while 9% have a junior college education, 25% hold a bachelor's degree, and 19% have a master's degree or higher. This suggests a generally well-educated respondent pool, with a significant number having attained at least a bachelor's degree. In terms of income, most respondents earn between 8 million and 12 million IDR per month, with 25% earning within the 8,000,001-10,000,000 IDR

range and 30% earning between 10,000,001-12,000,000 respondent group that is predominantly middle-aged, IDR. Additionally, 18% of respondents have an income well-educated, and enjoys a relatively higher income above 12 million IDR, indicating that the majority have level.:  
a relatively high income. Overall, the survey reveals a

**Table 1. Demographics of Respondents**

		Numbers of respondents (NR)	Percentage (%)
Sex	Male	55	46%
	Female	65	54%
Age	<25	2	2%
	26≤30	3	3%
	31≤35	9	8%
	36≤40	25	21%
	41≤45	37	31%
	46≤50	32	27%
	51≤55	9	8%
	<55	3	3%
Education	High School or below	56	47%
	Junior college	11	9%
	Bachelor	30	25%
	Master or above	23	19%
Income	<2,000,000	-	
	2,000,000- 4,000,000	13	11%
	4,000,001- 6,000,000	16	13%
	6,000,001- 8,000,000	25	21%
	8,000,001-10,000,000	30	25%
	10,000,001-12,000,000	36	30%
	>12,000,000	21	18%

Source: Primary data processed by the author, 2024

**Table 2. Result of Mean Value of Research Variables/ Indicators**

No	Variables/ Indicators	Mean	Description
<b>1</b>	<b>CRM-Based Information</b>	<b>4.15</b>	<b>High</b>
	Customer Data Management	4.10	High
	Customer Data Analysis	4.12	High
	Customer Interaction	4.13	High
	Process Automation	4.20	High
	System Integration	4.02	High
<b>2</b>	<b>Service Quality</b>	<b>4.07</b>	<b>High</b>
	Reliability	4.10	High
	Responsiveness	4.10	High
	Assurance	4.0	High
	Empathy	4.0	High
	Tangibles	4.03	High
<b>3</b>	<b>Customer Loyalty</b>	<b>4.06</b>	<b>High</b>
	Behavioral Loyalty	4.10	High
	Attitudinal Loyalty	4.10	High
	Cognitive Loyalty	4.10	High
	Affective Loyalty	4.00	High
	Conative Loyalty	4.00	High

Source: Primary data processed by the author, 2024

The research variables tested in this study consisted of CRM-based information systems, service quality, and customer loyalty. Respondents answered each item on CRM-based information systems (X1), service quality (X2), and customer loyalty (Y) from strongly agree (scale 5) to strongly disagree (scale 1). The result of the mean value of the research variables/ indicators in Table 2 below:

The table evaluates various indicators of CRM-based information, service quality, and customer loyalty, all rated highly. Regarding CRM-based details, the overall mean score is 4.15, with individual indicators such as customer data management (4.10), customer data analysis (4.12), customer interaction (4.13), process automation (4.20), and system integration (4.02) all receiving high ratings. This suggests that the organisation utilises CRM systems to manage and analyse customer data, ensuring efficient interaction and process automation. However, there is slight room for improvement in system integration.

The mean service quality score is 4.07, indicating a strong performance. The key dimensions of service quality—reliability (4.10), responsiveness (4.10), assurance (4.00), empathy (4.00), and tangibles (4.03)—are rated highly, emphasising the organisation's commitment to delivering reliable and responsive service with a slight opportunity for enhancing assurance and empathy.

Lastly, customer loyalty is assessed with a mean score of 4.06, showcasing high customer commitment. Among the five loyalty types, all receive high scores: behavioural loyalty (4.10), attitudinal loyalty (4.10), cognitive loyalty (4.10), affective loyalty (4.00), and conative loyalty (4.00). This reflects strong customer loyalty across different dimensions, though slight improvements can still be made in affective and conative loyalty. The data suggests that the organisation performs excellently in managing customer relationships, delivering quality service, and fostering loyalty. Next, the Coefficient determination test is presented in Table 3 below:

**Table 3. Coefficient of Determination Test Result**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.555 <sup>a</sup>	.308	.294	.74713

a. Predictors: (Constant), CRM\_X1, ServQual\_X2

Source: Primary data processed by the author, 2024

The results of testing the coefficient of determination show that customer loyalty is influenced by CRM-based information system variables and service quality

variables by 30.8%. Other variables outside the research framework influence the rest.

**Table 4. Multiple Regression Test Result**

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.904	.312		9.313	.000
CRM_X1	.651	.130	.461	5.014	.000
ServQual_X2	.519	.086	.558	6.060	.000

a. Dependent Variable: Loyalty\_Y

The results of the multiple regression analysis are also presented in Table 4, indicating support for all the hypotheses. Hypothesis 1 stated that CRM-based information systems significantly affect customer loyalty, which is statically significant at prob.  $0.00 < 0.05$  (t-statistic = 5.014). The statistical significance of hypothesis 1 confirms that process selection improves customer loyalty. Thus, hypothesis 1 is **confirmed**. This result indicates a strong relationship between CRM-based information systems and customer loyalty, suggesting that implementing and effectively using CRM systems can positively influence customers' commitment and retention. Improvements in CRM processes, such as data management, interaction, and

system integration, play a crucial role in enhancing customer loyalty (Manzuma-Ndaaba et al., 2016). Additionally, the findings support the idea that CRM systems, through their ability to automate processes, manage customer data effectively, and provide personalised interactions, significantly contribute to creating deeper emotional and cognitive connections with customers. These connections lead to higher levels of trust and satisfaction, essential customer loyalty drivers. The results also highlight the importance of integrating customer data across various touchpoints, enabling organisations to anticipate customer needs better and deliver tailored experiences, thereby increasing customer loyalty. This result is in line with

previous research conducted by (Galvão et al., 2018); (Alam et al., 2021)

Hypothesis 2 states that service quality significantly affects customer loyalty, which is statically significant at prob  $0.000 < 0.05$  (t-statistic = 6.060). The statistical significance of hypothesis 2 confirms that service quality significantly influences customer loyalty. Thus, hypothesis 2 is confirmed. Service quality, measured by key dimensions such as reliability, responsiveness, assurance, empathy, and tangibles, is crucial in shaping customer perceptions and subsequent loyalty to businesses (Sudirman & Suasana, 2018). Customers who experience high-quality service are more likely to feel valued, strengthening their trust and commitment to the brand.

In the context of MSMEs in Padang City, ensuring that service quality meets or exceeds customer expectations leads to higher satisfaction, strongly predicting customer loyalty. Service quality dimensions like responsiveness and empathy allow businesses to establish stronger emotional connections with customers, further fostering loyalty. Additionally, reliability and assurance ensure customers can depend on the service consistently, which is vital in maintaining long-term relationships (Sularso, 2020). Thus, MSMEs in Padang City focusing on improving their service quality—whether through better customer support, faster response times, or delivering tangible and reliable service—can expect increased customer retention and loyalty. The findings confirm that service quality is a key driver of customer loyalty in this sector. This suggests that MSMEs must prioritize delivering superior service to maintain a loyal customer base and sustain their competitive edge in the market. This result is in line with previous studies by (Khraiwish et al., 2022); (Bahadur et al., 2018)

#### 4. Conclusions

In conclusion, CRM-based information systems and service quality are pivotal in enhancing customer loyalty among MSMEs in Padang City. The study's findings reveal that CRM-based information systems significantly contribute to customer loyalty by improving customer data management, interaction, and personalization, fostering stronger, more committed customer relationships. The effective use of CRM systems enables MSMEs to better understand and anticipate customer needs, offering tailored experiences that increase satisfaction and long-term loyalty.

Furthermore, service quality, characterized by reliability, responsiveness, empathy, assurance, and tangibles, substantially impacts customer loyalty. High-quality service creates positive customer experiences, building trust and satisfaction, essential to customer

retention. MSMEs that consistently deliver superior service can differentiate themselves in the competitive market, cultivating loyal customers who are more likely to return and recommend the business to others.

CRM-based information systems and service quality complement each other in driving customer loyalty. MSMEs in Padang that invest in both these areas can enhance customer satisfaction, improve retention rates, and build a loyal customer base, ultimately contributing to their businesses' sustainable growth and success. Therefore, it is crucial for MSMEs to continuously refine their CRM strategies and focus on delivering exceptional service to ensure long-term customer loyalty and competitive advantage.

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