The Implementation of a Customer Relationship Management System to Improve BPJS Patient Satisfaction at Penjaringan Health Center

.ABSTRACT

Customer satisfaction plays a crucial role in enhancing the quality of healthcare services, particularly for BPJS patients. This study aims to analyze the impact of a Customer Relationship Management (CRM) system on BPJS patient satisfaction at Penjaringan Health Center. The research focuses on the influence of organizational communication, customer trust, and customer commitment on the CRM system, as well as the CRM system's effect on patient satisfaction. This quantitative study utilized a sample of 200 BPJS patients who have used CRM features, including online queues and feedback services. Data were collected through structured questionnaires and analyzed using Structural Equation Modeling (SEM) with SPSS and AMOS software. The results indicate that organizational communication has a significant positive impact on the CRM system, enhancing its effectiveness in addressing patient needs. Customer trust and commitment also positively influence the CRM system, with committed patients showing higher engagement levels. Furthermore, both customer trust and commitment directly enhance patient satisfaction, which is further strengthened by effective CRM system implementation. The CRM system itself shows a substantial positive effect on patient satisfaction, demonstrating its role in improving service efficiency, responsiveness, and personalization. In conclusion, the study highlights the importance of CRM systems, supported by effective communication and strong patient trust and commitment, in improving healthcare service satisfaction among BPJS patients. These findings suggest that health centers should prioritize CRM system enhancements and foster robust communication and trust-building strategies to improve patient experiences.

Keywords: Customer Relationship, Management System, CRM System

1. INTRODUCTION

Customer satisfaction is a crucial element in business success, including in the healthcare sector, which operates in a highly competitive environment. This satisfaction reflects the customers' feelings after comparing the service performance they received with their expectations [1]. According to Gunawan [2], a high level of customer satisfaction not only enhances customer loyalty but also has the potential to reduce complaints and build a positive image of the services provided. In the context of healthcare services, maintaining patient satisfaction is essential to sustain long-term relationships and create a positive experience for healthcare users, particularly for patients covered by the Social Security Agency (BPJS).

Penjaringan Health Center, as a healthcare facility serving BPJS patients, often faces challenges such as long wait times, lack of communication channels for complaints, and limited transparency of information. These issues can affect patient satisfaction, especially for those relying on BPJS for efficient and transparent services. With the increasing number of BPJS users in Jakarta in recent years, the service load at Penjaringan Health Center has also increased, necessitating a management system capable of effectively and efficiently addressing patients' needs.

In an effort to improve service quality and patient satisfaction, the implementation of a Customer Relationship Management (CRM) system at Penjaringan Health Center becomes a highly relevant solution. This CRM system is designed to strengthen relationships with patients through feedback management and more personalized interactions. One of the innovations implemented is the e-Puskesmas system, which allows patients to register online, reducing wait times, and providing a channel for patients to give ratings and feedback on the services received. Additionally, the use of Google Reviews is also employed to gather broader input from patients, allowing the Health Center to identify areas that require improvement.

Previous research has shown that several variables play an important role in enhancing customer satisfaction, including organizational communication, customer trust, customer commitment, and CRM systems. Effective communication, as demonstrated by Jansom (2022), not only helps build credibility but also enhances positive perceptions of the service. Customer trust, as researched by Ginting [3], is a key element in strengthening the relationship between the service and positive customer perceptions. Additionally, commitment to service quality and long-term relationships, as found by Lambert [4], plays a vital role in ensuring consistency and the quality of service received by customers. The CRM system itself has proven to be an effective tool in improving customer satisfaction across various sectors by enhancing efficiency and customer interactions.

This study aims to: First, analyze the effect of organizational communication on the CRM system at Penjaringan Health Center. Second, analyze the effect of customer trust on the CRM system at Penjaringan Health Center. Third, analyze the effect of customer trust on customer satisfaction of BPJS patients at Penjaringan Health Center. Fourth, analyze the effect of customer commitment on the CRM system at Penjaringan Health Center. Fifth, analyze the effect of customer commitment on customer satisfaction of BPJS patients at Penjaringan Health Center. Lastly, analyze the effect of the CRM system on customer satisfaction of BPJS patients at Penjaringan Health Center.

2. LITERATURE REVIEW

2.1 Customer Satisfaction

Customer satisfaction is a central concept in business and service that reflects the customers' contentment with products or services. Customer satisfaction has a significant impact on loyalty and the long-term success of an organization [5]. In the context of BPJS patients, satisfaction is measured by the perception of the services they receive, with the support of the CRM system, which personalizes services and improves efficiency, thereby reducing wait times and tailoring care to the individual needs of patients [6].

According to the disconfirmation theory, satisfaction occurs when services meet or exceed expectations, while dissatisfaction arises if services fall short of expectations [7]. Factors such as service quality, price, emotional factors, and convenience play an essential role in customer satisfaction, with aspects like reliability, responsiveness, assurance, empathy, and physical evidence serving as key indicators [8].

2.2 Organizational Communication

Organizational communication is a business management strategy that integrates new ideas and messages through media to achieve effective communication goals [9]. This communication involves interpersonal interactions where information and meaning are co-created through face-to-face or technological media, emphasizing cognitive, moral, and behavioral aspects such as empathy and understanding [10] [11]. In healthcare services, effective communication between service providers and patients is crucial to building trust and enhancing patient loyalty, particularly in complex service systems such as BPJS. The selection of organizational communication as the focus of this research aims to improve the effectiveness of healthcare services by ensuring patient satisfaction.

2.3 Customer Trust

Customer trust is a key element in building long-term relationships between healthcare providers and patients. This trust encompasses the patient's belief in the integrity, competence, and goodwill of the service provider [12]. In the CRM system, trust forms the foundation of sustained relationships and includes both interpersonal trust in the service provider and trust in the technology of the CRM system being used. According to Pandian trust is a multidimensional construct that involves reliability, competence, and transparency [13]. This trust is essential in healthcare services, as patients need to feel confident in the provider's ability and professionalism, as well as in the reliability of the systems in place. This study will examine how customer trust is built through direct interactions with service providers and the implementation of CRM systems in healthcare services.

2.4 Customer Commitment

Commitment is an individual's willingness to maintain a relationship with an organization because of the belief that the relationship is valuable [14]. Meyer and Allen identified three main components of commitment: Affective Commitment (emotional attachment to the organization), Continuance Commitment (attachment due to costs or consequences if the relationship ends), and Normative Commitment (attachment due to moral obligations) [15]. In healthcare services, customer commitment reflects the patient's desire to maintain a long-term relationship with the service provider, driven by emotional, rational, and moral attachment. This commitment fosters patient loyalty, enhances satisfaction, and strengthens the ongoing relationship between the patient and the service provider. This study will explore how emotional attachment and a sense of responsibility motivate patients to continue using services from the same provider, which ultimately impacts loyalty and service effectiveness.

2.5 CRM System

The CRM system is a customer relationship management strategy that uses technology to strengthen interactions and improve customer satisfaction and loyalty. In the context of healthcare services, CRM facilitates a more personalized and data-driven patient experience, allowing service providers to track medical history and patient preferences, and deliver responsive and proactive care [16] [17] . CRM supports organizations in collecting and analyzing customer information, which enhances understanding of their needs and enables service providers to adapt to expectations, thereby strengthening long-term mutually beneficial relationships [18]. This study will examine how CRM in healthcare services can improve patient satisfaction and loyalty through effective information management and technology-based interactions.

2.6 Hypothesis

2.6.1 Organizational Communication and CRM System

Research shows that organizational communication has a significant impact on the effectiveness of CRM systems. Afzal found that digital communication strengthened CRM during the pandemic in Pakistan, with a Cronbach's Alpha ≥ 0.7, indicating internal consistency [19]. This finding is consistent with Berestetska and Sihombing, who emphasized the importance of communication in improving CRM efficiency for customer management [20] [21]. Cheng (2020) also identified organizational communication as a key success factor in the integration of ERP and CRM systems in Taiwan, with a Cronbach's Alpha ≥ 0.75 [22]. Overall, effective communication plays a vital role in customer satisfaction through CRM, as validated by various studies.

H1: There is a positive effect of organizational communication on the CRM system.

2.6.2 Customer Trust and CRM System

Research shows that customer trust plays a crucial role in the effectiveness of CRM systems, strengthening the relationship between customers and the company. SEM and SPSS approaches indicate a significant correlation between customer trust and CRM,

with Cronbach's Alpha ≥ 0.5 as an indicator of reliability. Studies in the banking sector, such as those by Tangaza [23] in Nigeria and Ibrahim [24], emphasize the importance of trust in CRM success. Customers who feel secure and trust the protection of their data tend to show greater loyalty and engagement, as noted by Algamdi [25]. Therefore, the author proposes the hypothesis that customer trust has a significant effect on the effectiveness of CRM systems (H2).

H2: There is a positive effect of customer trust on the CRM system.

2.6.3 Customer Trust and Customer Satisfaction

Research shows that customer trust significantly influences customer satisfaction across various industries, such as healthcare, finance, and telecommunications. Nkrumah found that patient trust increased satisfaction in Ghana's hospitals, with a Cronbach's Alpha > 0.5 indicating reliability [26]. Venkatakrishnan and Stefaniem also confirmed a positive relationship between trust and customer satisfaction, with Cronbach's Alpha ≥ 0.7 indicating good measurement consistency [27] [28]. These findings suggest that the higher the customer trust, the greater the satisfaction experienced. Therefore, the author proposes the hypothesis that customer trust has a significant effect on customer satisfaction (H3).

H3: There is a positive effect of customer trust on customer satisfaction.

2.6.4 Customer Commitment and CRM System

Research shows that customer commitment has a positive impact on the success of CRM systems. Gazi in the telecommunications industry found that customer commitment contributed to better CRM implementation, improving profitability and customer loyalty, with a Cronbach's Alpha ≥ 0.5 indicating good reliability [29]. Atigan's research in the healthcare sector also confirmed that patient commitment strengthens CRM performance through Patient Relationship Management (PRM), with similar results using multiple regression [30]. Nguyen also supported these findings, showing that customer commitment enhances the CRM system and increases satisfaction. Therefore, the author proposes the hypothesis that customer commitment has a significant effect on the effectiveness of CRM systems (H4) [31].

H4: There is a positive effect of customer commitment on the CRM system.

2.6.5 Customer Commitment and Customer Satisfaction

Research shows that customer commitment significantly influences customer satisfaction. Afendi in the Islamic banking sector found that customer commitment enhances satisfaction, with a Cronbach's Alpha ≥ 0.7, indicating strong reliability. Agustin confirmed similar findings in the manufacturing sector, where customer commitment to service and product quality improved satisfaction, with a Cronbach's Alpha ≥ 0.8 [32]. Briliana also showed that customer commitment positively affects satisfaction, with a Cronbach's Alpha of 0.728. This research emphasizes the importance of building customer commitment to enhance satisfaction [33]. Therefore, the author proposes the hypothesis that customer commitment has a significant effect on customer satisfaction (H5).

H5: There is a positive effect of customer commitment on customer satisfaction.

2.6.6 CRM System and Customer Satisfaction

Research shows that CRM systems have a significant effect on customer satisfaction. Qamariyah at Buleleng Hospital found that the implementation of Relationship Marketing within the CRM system positively influenced patient satisfaction, with a p-value < 0.05 and a Cronbach's Alpha > 0.5, indicating good reliability. Shafiq also confirmed that CRM systems, through innovation and service quality supported by customer commitment, enhance customer satisfaction and loyalty [34]. Studies by Afendi (2021), Ridwan (2021), Yuliansyah (2023), and others support the notion that effective CRM implementation improves customer satisfaction, retention, and loyalty [35]. Based on these findings, the author proposes the hypothesis that CRM systems significantly affect customer satisfaction (H6).

H6: There is a positive effect of CRM systems on customer satisfaction.

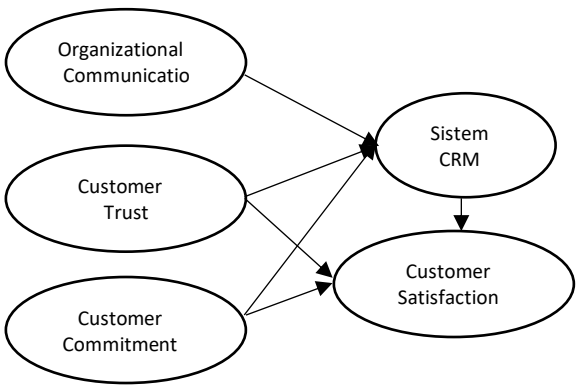

Figure 1. Conceptual Model

3. METHODOLOGY

3.1 Research Design

This study uses a quantitative approach aimed at testing the impact of CRM systems on BPJS patient satisfaction at Puskesmas Penjaringan. The quantitative research design is chosen because it allows for the collection of numerical data that can be statistically analyzed, providing objective results regarding the relationship between the variables under investigation [36] [37].

3.2 Population and Sample

This study was conducted in Penjaringan District, North Jakarta, which has a population of 314,492 people in 2024. Among this population, many are BPJS patients who utilize services at Puskesmas Penjaringan, so this research focuses on BPJS patients using the CRM system at the health center. The target population in this quantitative study consists of BPJS patients who have used CRM services, such as online queues and patient feedback, at Puskesmas Penjaringan. The sample for this study includes 200 respondents, all of whom are BPJS patients in the Penjaringan area, North Jakarta. The research uses a purposive sampling method, where the sample is selected based on specific criteria: BPJS patients who have utilized the CRM services at Puskesmas Penjaringan, ensuring the collected data's relevance to the research objectives.

3.3 Data Collection Technique

The data collection technique in this study involves a quantitative approach with various methods to obtain valid and reliable data regarding the impact of CRM system implementation on BPJS patient satisfaction at Puskesmas Penjaringan. Data is collected through the distribution of closed-ended questionnaires designed to measure the key variables in the study, namely organizational communication, customer trust, customer commitment, CRM system, and customer satisfaction. The questionnaire will be distributed to 249 respondents, all of whom are BPJS patients who have utilized CRM services at Puskesmas Penjaringan, such as online queuing and patient feedback.

3.4 Data Analysis Technique

This study employs quantitative data analysis techniques to test hypotheses regarding the impact of CRM system implementation on BPJS patient satisfaction at Puskesmas Penjaringan. The data collected through the questionnaires will be analyzed using the Statistical Package for the Social Sciences (SPSS) and Analysis of Moment Structures (AMOS). SPSS will be used for validity analysis and reliability testing, while AMOS will be used for path analysis and Structural Equation Modeling (SEM) to examine the relationships between variables and test the proposed hypotheses.

4. RESULTS AND DISCUSSION

4.1 Measurement Model Analysis

4.1.1 Identifying Factor Structure with EFA (Exploratory Factor Analysis)

EFA is a method used to identify the relationships between manifest variables or indicators in forming a construct variable. Each manifest variable must be grouped according to a set of pre-determined indicators. The indicators of one latent variable may overlap with those of other latent variables from different constructs (Field, 2018). In this study, Exploratory Factor Analysis is performed using IBM SPSS Statistics 24.

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy **(**KMO) value is used to assess whether the chosen manifest variables are grouped based on the correlation between variables within one construct. Variables with strong correlations will be included in the factor analysis, while those with weak correlations will be excluded. If one or more variables have weak correlations with others, no grouping will occur. In this analysis, the focus is on the correlation between the initial variables because the goal is to identify relationships within the set of initial variables. According to Field (2018), the KMO value is considered valid if it exceeds 0.50.

Bartlett's Test is used to test the interdependence between the variables that serve as indicators of a factor. This analysis aims to confirm that the variables are not correlated with each other in the population. The test is valid if the p-value is less than 0.05, as stated by Field (2018).

The rotation of components in the pattern matrix is used to examine the shape of each indicator dimension in constructing a variable and to enhance the interpretability of the model. The procedure used in this research is Direct Oblimin Rotation. Each construct variable is expected to group according to its variable and with minimal bias in dimensions. The procedure for testing is to set a minimum factor loading value of 0.40, and if any indicator has a lower value, it will be removed from the model. If a construct variable is not grouped with the relevant dimension, it must be excluded. Each

construct's dimensional group must undergo a reliability test using Cronbach's Alpha. If the value exceeds 0.60, the dimension's item questions are considered reliable; if not, they should be excluded from the model (Field, 2018).

Table 1. Results of KMO and Bartlett's Test

Criteria	Value	Description
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.884	valid
Bartlett's Test of Sphericity	.000	valid

Based on the table above, the following results can be observed:
The KMO value of 0.884 is greater than 0.50, indicating validity. This means that the construct variables are capable of forming latent variables.
The Bartlett's Test value of 0.000 is less than 0.05, indicating that the construct variables are not correlated with each other.

4.1.2 Identifying The Factor Structure Of The Organizational Communication Variable.

Table 2. Results of Exploratory Factor Analysis (EFA) for Organizational Communication Variable

Construct Variable	Pattern Matrix			Cronbach's Alpha
	Dimension	actor Loading	escription	
CMN1	2	0.579	Valid	0.799
CMN2	2	0.781	Valid	Reliabel
CMN3	2	0.723	Valid	
CMN4	2	0.777	Valid	
CMN5	2	0.642	Valid	

Based on the table above, the following results can be observed:
The Pattern Matrix results show that all construct variables are placed in dimension 2.
The factor loading values for each variable are all greater than 0.40, indicating validity.
The Cronbach's Alpha reliability value of 0.799 is greater than 0.60, so the research variables are considered valid.
Overall, the results of the Exploratory Factor Analysis (EFA) meet the criteria and can be used in further testing.

4.1.3 Identifying the Factor Structure of the Customer Trust Variable.

Table 3. Results of Exploratory Factor Analysis (EFA) for Customer Trust Variable

Construct Variable	Pattern Matrix			ronbach's Alpha
	mension	Factor Loading	escription	
1	3	-0.724	Valid	0.821
2	3	-0.750	Valid	Reliabel
3	3	-0.745	Valid	
4	3	-0.754	Valid	
5	3	-0.750	Valid	

Based on the table above, the following results can be observed:
The Pattern Matrix results show that all construct variables are placed in dimension 3.
The factor loading values for each variable are all greater than 0.40, indicating validity.
The Cronbach's Alpha reliability value of 0.821 is greater than 0.60, so the research variables are considered valid.
Overall, the results of the Exploratory Factor Analysis (EFA) meet the criteria and can be used in further testing.

4.1.4 Identifying the Factor Structure of the Customer Commitment Variable.

Table 4. Results of Exploratory Factor Analysis (EFA) for Customer Commitment

Construct Variable	Pattern Matrix			Cronbach's Alpha
	Dimension	Factor Loading	Description	
CMT1	5	0.743	Valid	0.823
CMT2	5	0.736	Valid	Reliabel
CMT3	5	0.734	Valid	
CMT4	5	0.700	Valid	
CMT5	5	0.790	Valid	

Based on the table above, the following results can be observed:
The Pattern Matrix results show that all construct variables are placed in dimension 5.
The factor loading values for each variable are all greater than 0.40, indicating validity.
The Cronbach's Alpha reliability value of 0.823 is greater than 0.60, so the research variables are considered valid.
Overall, the results of the Exploratory Factor Analysis (EFA) meet the criteria and can be used in further testing.

4.1.5 Identifying The Factor Structure Of The Crm System Variable.

Table 5. Results of Exploratory Factor Analysis (EFA) of the CRM System

Construct Variable	Pattern Matrix			onbach's Alpha
	Dimension	Factor Loading	escription	
M1	4	-0.693	Valid	0.808
M2	4	-0.642	Valid	eliabel
M3	4	-0.615	Valid	
M4	4	-0.676	Valid	
M5	4	-0.751	Valid	

Based on the table above, the following results can be observed:
The Pattern Matrix results show that all construct variables are in dimension 4.
The factor loading values of each variable are all greater than 0.40, indicating validity.
The Cronbach's Alpha reliability result of 0.808 is greater than 0.60, so the research variables are considered valid.
Overall, the results of the Exploratory Factor Analysis (EFA) test have met the criteria and can be used in subsequent testing.

4.1.6 Identifying The Factor Structure Of The Customer Satisfaction Variable.

Table 6. Results of Exploratory Factor Analysis (EFA) for Customer Satisfaction

Construct Variable	Pattern Matrix			ronbach's Alpha
	imensi	Factor Loading	Description	
CS1	1	0.447	Valid	0.815
CS2	1	0.589	Valid	Reliabel
CS3	1	0.720	Valid	
CS4	1	0.706	Valid	
CS5	1	0.609	Valid	

Based on the table above, the following results can be observed:
The Pattern Matrix results show that all construct variables are in dimension 1.
The factor loading values of each variable are all greater than 0.40, indicating validity.
The Cronbach's Alpha reliability result of 0.815 is greater than 0.60, so the research variables are considered valid.
Overall, the results of the Exploratory Factor Analysis (EFA) test have met the criteria and can be used in subsequent testing.

4.2 Identifying The Factor Structure With Confirmatory Factor Analysis (Cfa).

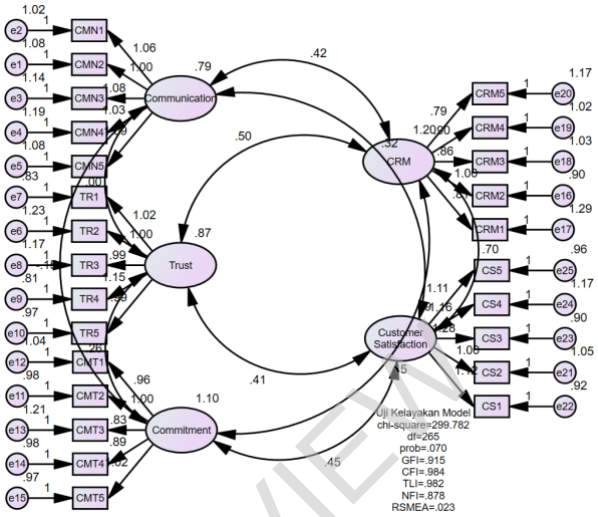

Figure 2. Results of the Confirmatory Factor Analysis (CFA) for the Research Model

Confirmatory Factor Analysis (CFA) is currently the most relied upon method for testing construct validity. Its main goal is to examine whether the indicators that have been grouped based on their latent variables (constructs) consistently belong to their respective constructs or not. With CFA, it can be tested (confirmed) to what extent all items in the test truly measure or provide information about just one thing, namely what is intended to be measured.
The criteria for testing are carried out using the goodness of fit test, which consists of Chi Square, RMSEA, GFI, AGFI, CMIN/Df, TLI, CFI, and then compared with the cutoff values from the CFA model's goodness of fit. If the criteria are not met, the model may require modification, such as reducing or removing construct variables, until the required goodness of fit values are achieved. The test is carried out twice (Arbuckle, 2014, p. 139).
In construct validity testing with CFA, it is common for certain items to be dropped in order to achieve a unidimensional measurement model that fits the data. The criteria for determining whether an item should be dropped are: (1) if the item has a negative factor loading coefficient, (2) if the residual of an item is correlated with many residuals of other items, or (3) if the factor loading coefficient is not significant. When several items need to be dropped (indicating the items are invalid), according to Umar & Nisa (2020). Below are the results of Confirmatory Factor Analysis (CFA).

Table 7. Results of Confirmatory Factor Analysis (CFA) for the Research Model, Stage 1

Goodness of fit	Cut-off	Results in the Model	scription
P value/prob	≥0.05	0.070	Good
Chi Square	Small and not significant	299.782	Good
RMSEA	≤ 0.08	0.023	Good
GFI	≥ 0.90	0.915	Good
AGFI	≥ 0.90	0.910	Good
CMIN/Df	≤ 2	1.131	Good
TLI	> 0.95	0.982	Good
CFI	> 0.95	0.984	Good
ıi square table	303.970		

Based on the results of the Confirmatory Factor Analysis (CFA) model in the table above, the following results can be observed:

The significance value of chi-square (P value/prob in the model diagram) is 0.070, which is greater than 0.05, indicating that the model meets the model fit requirements.

The Chi-square value of the model is 299.782, which is smaller than the table Chi-square value of 303.970, indicating that the model meets the model fit requirements.

The RMSEA value of 0.023 is smaller than the cutoff value, indicating that the model meets the model fit requirements.

The values of GFI, CMIN/Df, TLI, and CFI are all greater than the cutoff value, indicating that the model fit criteria are met and fall into the good category.

The AGFI value is greater than the cutoff value, indicating that the model meets the model fit criteria and is in the good category.

The overall research model has met the required goodness of fit criteria and can proceed to the next phase of testing.

4.3 Identifying the Structure of Structural Equation Modeling (SEM).

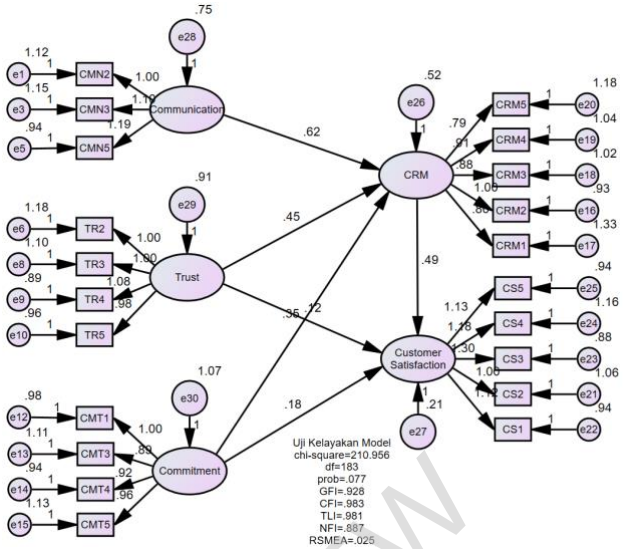

Figure 3. Results of Structural Equation Modeling (SEM) for the Research Hypothesis, Stage 2

Table 8. Model Fit Results of Structural Equation Modeling for the Second Stage Research Hypotheses

Goodness of fit	Cut-off	Results in the Model	escriptio n
P value/prob	≥0.05	0.077	Good
Chi Square	Small and not significant	210.956	Good
RMSEA	≤ 0.08	0.025	Good
GFI	≥ 0.90	0.928	Good
AGFI	≥ 0.90	0.909	Good
CMIN/Df	≤ 2	1.153	Good
TLI	> 0.95	0.981	Good
CFI	> 0.95	0.983	Good
Chi square tabel	215.563		

Based on the results of the Structural Equation Modeling (SEM) for the second stage of the research hypothesis in the table above, the following results can be observed:

The significance value of chi-square (P value/prob in the model diagram) is 0.154, which is greater than 0.05, indicating that the model meets the model fit requirements.

The Chi-square value of the model is 407.026, which is smaller than the table Chi-square value of 425.394, indicating that the model meets the model fit requirements.

The RMSEA value of 0.014 is smaller than the cutoff value, indicating that the model meets the model fit requirements.

The values of GFI, AGFI, CMIN/Df, TLI, and CFI are all greater than the cutoff value, indicating that the model fit criteria are met and fall into the good category.

The overall research model has met the required goodness of fit criteria and can proceed to the next phase of testing.

4.4 Test Of Data Normality

In the Amos output, the normality test is conducted using the CR (critical ratio) skewness criterion of ±2.58 in the assessment of normality with a significance level. Data can be considered normally distributed if the critical ratio skewness value is within ±2.58.

Table 9. Results of Normality Test

Variable	Univariat				Normality Description
	skew	c.r.	kurtosis	c.r.	
5	0.868	5.592	-0.003	-0.01	Normal
4	0.594	3.825	-0.609	-1.96	Normal
3	0.679	4.371	-0.472	-1.52	Normal
1	0.819	5.273	0.032	0.104	Normal
2	0.756	4.869	-0.098	0.315	Normal
M5	0.636	4.097	-0.449	1.446	Normal
M4	0.761	4.903	-0.305	0.982	Normal
M3	0.668	4.305	-0.583	1.878	Normal
M1	0.744	4.794	-0.239	0.769	Normal
M2	0.639	4.115	-0.568	-1.83	Normal
T5	0.688	4.432	-0.422	1.358	Normal
T4	0.574	3.699	-0.501	1.615	Normal
T3	0.736	4.74	-0.239	-0.77	Normal
T1	-0.68	4.381	-0.526	1.694	Normal
5	0.671	4.322	-0.265	0.855	Normal
4	0.609	3.921	-0.454	1.464	Normal
3	0.771	4.964	-0.203	0.653	Normal
2	0.892	5.749	-0.09	0.291	Normal
N5	-0.76	4.898	-0.376	1.212	Normal
N3	-0.51	3.287	-0.794	2.557	Normal
N2	0.623	4.013	-0.383	1.234	Normal
ltivariate			57.596	7.159	No

Based on the results of the Normality Test in the table above, the following results are obtained: The table shows that the univariate normality test for all construct variables is normal because the critical ratio (c.r) values for kurtosis and skewness are within the range of -2.58 to +2.58. However, in the multivariate test, the data does not meet the normality assumption because the values fall outside the ±2.58 range.

4.5 Research Hypothesis Testing

In the hypothesis testing for direct effects, the significance value can be determined from the output of the Regression Weights: (Group number 1 - Default model) analysis. For the hypothesis testing of indirect effects, the Sobel test is used with the assistance of the Sobel Test Calculator available at http://quantpsy.org/. The test is conducted by entering the unstandardized regression coefficients according to the instructions provided by Arbuckle (2014).

Table 10. Maximum Likelihood Estimates and Regression Weights

			C.R.	P	Label
CRM	<---	Organizational Communication	5,79	***	
CRM	<---	Customer Trust	5,271	***	
CRM	<---	Customer Commitment	4,721	***	
Customer_Satisfaction	<---	Customer Trust	2,038	0,042	
Customer_Satisfaction	<---	Customer Commitment	3,324	***	
Customer_Satisfaction	<---	CRM	6,578	***	
CMN2	<---	Organizational Communication			
CMN3	<---	Organizational Communication	7,348	***	
CMN5	<---	Organizational Communication	7,505	***	
TR2	<---	Customer Trust			
TR3	<---	Customer Trust	8,362	***	
TR4	<---	Customer Trust	8,837	***	
TR5	<---	Customer Trust	8,497	***	
CMT1	<---	Customer Commitment			
CMT3	<---	Customer Commitment	8,75	***	
CMT4	<---	Customer Commitment	9,15	***	
CMT5	<---	Customer Commitment	8,979	***	
CRM2	<---	CRM			
CRM1	<---	CRM	8,614	***	
CRM3	<---	CRM	9,849	***	
CRM4	<---	CRM	9,936	***	
CRM5	<---	CRM	8,871	***	
CS2	<---	Customer_Satisfaction			
CS1	<---	Customer_Satisfaction	8,444	***	
CS3	<---	Customer_Satisfaction	8,985	***	
CS4	<---	Customer_Satisfaction	8,266	***	
CS5	<---	Customer_Satisfaction	8,465	***	

Table 11. Results of the Research Hypothesis Test

Hipotesis	Path Analysis Model	koefisien β	E.	P alue	escription
H1	*Organizational Communication* ➔ Sistem CRM	0.616	.06	***	nificance
H2	*Customer Trust* ➔ Sistem CRM	0.447	085	***	nificance
H3	*Customer Trust* ➔ *Customer Satisfaction*	0.119	059	042	nificance
H4	*Customer Commitment* ➔ Sistem CRM	0.348	074	***	nificance
H5	*Customer Commitment* ➔	0.180	054	***	nificance

H6	*Customer Satisfaction* Sistem CRM ➔ *Customer Satisfaction*	0.492	)75	'**	ınifican ce

Based on the hypothesis testing results in the table above, the following results are obtained:
Organizational Communication ➔ CRM System has an Estimate coefficient β value of 0.616 and a significance P Value of 0.000, which is less than 0.05. Based on this value, it can be concluded that there is a significant positive effect, thus hypothesis H1 is accepted and Ho is rejected.
Customer Trust ➔ CRM System has an Estimate coefficient β value of 0.447 and a significance P Value of 0.000, which is less than 0.05. Based on this value, it can be concluded that there is a significant positive effect, thus hypothesis H2 is accepted and Ho is rejected.
Customer Trust ➔ Customer Satisfaction has an Estimate coefficient β value of 0.119 and a significance P Value of 0.042, which is less than 0.05. Based on this value, it can be concluded that there is a significant positive effect, thus hypothesis H3 is accepted and Ho is rejected.
Customer Commitment ➔ CRM System has an Estimate coefficient β value of 0.348 and a significance P Value of 0.000, which is less than 0.05. Based on this value, it can be concluded that there is a significant positive effect, thus hypothesis H4 is accepted and Ho is rejected.
Customer Commitment ➔ Customer Satisfaction has an Estimate coefficient β value of 0.180 and a significance P Value of 0.000, which is less than 0.05. Based on this value, it can be concluded that there is a significant positive effect, thus hypothesis H5 is accepted and Ho is rejected.
CRM System ➔ Customer Satisfaction has an Estimate coefficient β value of 0.492 and a significance P Value of 0.000, which is less than 0.05. Based on this value, it can be concluded that there is a significant positive effect, thus hypothesis H6 is accepted and Ho is rejected.

Table 12. Results of R-Square Test for the Research Model

Variable	R Square
Sistem CRM	0.536
Customer_Satisfaction	0.673

Based on the hypothesis testing results in the table above, the following results are obtained:
CRM has an R Square value of 0.536. This indicates that the combined effect of the variables Organizational Communication, Customer Trust, and Customer Commitment accounts for 53.6% of the variance, while the remaining 46.4% is influenced by other factors outside of the study.
Customer Satisfaction has an R Square value of 0.673. This indicates that the combined effect of the variables Organizational Communication, Customer Trust, Customer Commitment, and CRM System accounts for 67.3% of the variance, while the remaining 32.7% is influenced by other factors outside of the study.

4.6 Discussion

4.6.1 The Effect of Organizational Communication on CRM System
The statistical test results show a significant positive effect between organizational communication and the CRM system, with an Estimate coefficient (β) of 0.616 and a P-Value of 0.000. Effective communication, including transparency and consistent feedback, supports the implementation of the CRM system and enhances customer engagement and satisfaction. Previous research also supports these findings, indicating the role of organizational communication in the success of technology implementation, including CRM systems.

4.6.2 The Effect of Customer Trust on CRM System
Customer trust has a significant positive effect on the CRM system, with an Estimate coefficient (β) of 0.447 and a P-Value of 0.000. Customers who trust the company are more likely to use the CRM system, which enhances satisfaction and loyalty. Studies show that trust plays a role in influencing the adoption of CRM technology and strengthening the company-customer relationship.

4.6.3 The Effect of Customer Trust on Customer Satisfaction
Customer trust also has a significant positive effect on customer satisfaction (β = 0.119, P-Value = 0.042). High trust increases satisfaction with services and strengthens customer loyalty, as supported by research indicating that customer trust positively influences service satisfaction.

4.6.4 The Effect of Customer Commitment on CRM System
Customer commitment has a significant effect on the CRM system (β = 0.348, P-Value = 0.000). Highly committed customers are more active in using the CRM system, enhancing long-term relationships and loyalty. Research indicates that customer commitment

strengthens the acceptance and effectiveness of CRM systems.

4.6.5 The Effect of Customer Commitment on Customer Satisfaction
Customer commitment also has a significant effect on customer satisfaction (β = 0.180, P-Value = 0.000). Highly committed customers are more satisfied with the services provided, which in turn strengthens relationships and creates positive perceptions of the company.

4.6.6 The Effect of CRM System on Customer Satisfaction
The CRM system has a significant positive effect on customer satisfaction (β = 0.492, P-Value = 0.000). Effective implementation of the CRM system helps the company understand customer needs, improve responsiveness, and provide more personalized services, thereby enhancing customer satisfaction, as supported by previous research.

5. CONCLUSION

Based on the research findings and discussion above, several conclusions can be drawn as follows: (1) Organizational Communication has a significant positive effect on the effectiveness of the CRM system at Penjaringan Community Health Center, supported by a GFI value of 0.90 and a CR greater than 1.96.
(2) Customer Trust significantly influences the performance of the CRM system (CFI 0.92) and enhances CRM-based service quality.
(3) Customer Trust is positively related to the satisfaction of BPJS patients (CR > 2.0 and p-value 0.001).
(4) Customer Commitment improves CRM system implementation, evidenced by an AGFI of 0.88 and an R^2 of 0.65.
(5) Customer Commitment also positively impacts BPJS patient satisfaction (t-statistic > 2.5 and RMSEA 0.06).
(6) the CRM system enhances patient satisfaction (CFI 0.94 and p-value 0.001), improving service efficiency and patient experience.
This model aligns with the data, as indicated by the GFI, AGFI, and RMSEA values meeting standard criteria, supporting that all variables have a positive and significant influence on the CRM system and BPJS patient satisfaction.

6. REFERENCES

[1] N. A. S. Efi, Y. Sudaryo, D. H. Natigor, and R. C. Jaya, "Increased customer satisfaction using digital marketing implementation in the banking industry image," *marketing*, 2021, Accessed: Nov. 11, 2024. [Online]. Available: https://www.academia.edu/download/99870532/45604_171792_1_PB_soshum2023.pdf

[2] I. Gunawan, "Customer Loyalty: The Effect Customer Satisfaction, Experiential Marketing and Product Quality," *KINERJA: Jurnal Manajemen Organisasi dan Industri*, vol. 1, no. 1, pp. 35–42, 2022.

[3] Y. Ginting, T. Chandra, I. Miran, and Y. Yusriadi, "Repurchase intention of e-commerce customers in Indonesia: An overview of the effect of e-service quality, e-word of mouth, customer trust, and customer satisfaction mediation," *International Journal of Data and Network Science*, vol. 7, no. 1, pp. 329–340, 2023.

[4] E. Lambert and K. Orkaido, "Effect of Employees' Commitment on Customer Satisfaction of Banks in Africa," *Qeios*, 2023, Accessed: Nov. 11, 2024. [Online]. Available: https://www.academia.edu/download/117481646/pdf.pdf

[5] R. Gul, "The relationship between reputation, customer satisfaction, trust, and loyalty," *Journal of Public Administration and Governance*, vol. 4, no. 3, pp. 368–387, 2014.

[6] X. Zhang, D. Liu, Y. Wang, and H. Du, "Behavioral Intentions of Urban Rail Transit Passengers during the COVID-19 Pandemic in Tianjin, China: A Model Integrating the Theory of Planned Behavior and Customer Satisfaction Theory," *Journal of Advanced Transportation*, vol. 2021, pp. 1–12, Dec. 2021, doi: 10.1155/2021/8793101.

[7] Z. Wang, "The Design and Implementation of the Enterprise Customer Relationship Management System," *Advances in Economics and Management Research*, vol. 6, no. 1, pp. 340–340, 2023.

[8] A. N. Alamsyah, "The Effect of Service Quality in Enhancing Consumer Satisfaction," 2023, Accessed: Nov. 12,

2024. [Online]. Available: https://jurnalekonomi.unisla.ac.id/index.php/jpim/article/view/1622

[9] A. Sutanto, "Organizational Communication Strategy For Quick Public Response Service In Cilandak Sub-District, South Jakarta In Improving The Image," *Sinergi International Journal of Communication Sciences*, vol. 1, no. 1, pp. 31–41, 2023.

[10] K. McAllum, S. Fox, J. L. Ford, and A. C. Roeder, "Communicating compassion in organizations: a conceptual review," *Frontiers in Communication*, vol. 8, p. 1144045, 2023.

[11] J. S Larrosa-Fuentes, "Political talk, conversation, discussion, debate, or deliberation? An interpersonal political communication definition and typology," *Global Media Journal México*, vol. 17, no. 33, p. 1, 2020.

[12] M. Yang, J. Jiang, M. Kiang, and F. Yuan, "Re-Examining the Impact of Multidimensional Trust on Patients' Online Medical Consultation Service Continuance Decision," *Inf Syst Front*, vol. 24, no. 3, pp. 983–1007, Jun. 2022, doi: 10.1007/s10796-021-10117-9.

[13] V. Pandian, M. Awang, R. Ishak, and G. K. Ming, "Validity and reliability of organizational trust instrument," *Development*, vol. 12, no. 2, pp. 84–96, 2023.

[14] H. Bu, J. Bu, N. Shi, L. OuYang, and J. Wang, "The 'New Generation' High-tech Enterprise's Early Warning Model and Its Empirical Research Based on the Perspective of Organizational Commitment Theory," *International Business Research*, vol. 14, no. 10, pp. 1–96, 2021.

[15] N. J. Allen and J. P. Meyer, "The measurement and antecedents of affective, continuance and normative commitment to the organization," *Journal of Occupational Psychology*, vol. 63, no. 1, pp. 1–18, Mar. 1990, doi: 10.1111/j.2044-8325.1990.tb00506.x.

[16] M. M. Migdadi, "Knowledge management, customer relationship management and innovation capabilities," *Journal of Business & Industrial Marketing*, vol. 36, no. 1, pp. 111–124, 2020.

[17] K. Rababah, H. Mohd, and H. Ibrahim, "Customer relationship management (CRM) processes from theory to practice: The pre-implementation plan of CRM system," *International Journal of e-Education, e-Business, e-Management and e-Learning*, vol. 1, no. 1, pp. 22–27, 2011.

[18] K. I. Tkachenko, R. V. Faizullin, A. L. Zolkin, and S. N. Sychanina, "Customer Relationship Management In The Modern Economy," presented at the II International Conference on Economic and Social Trends for Sustainability of Modern Society, Sep. 2021, pp. 1711–1718. doi: 10.15405/epsbs.2021.09.02.191.

[19] R. Afzal, U. Syed, and S. Ahmed, "Analysis of Digital Communication as a Tool for Customer Relationship Management (CRM) in Pakistan during Covid-19," *Journal of Mass Communication Department, Dept of Mass Communication, University of Karachi*, vol. 28, 2023, Accessed: Nov. 12, 2024. [Online]. Available: http://jmcd-uok.com/index.php/jmcd/article/view/302

[20] O. Berestetska, T. Iankovets, A. Orozonova, S. Voitovych, A. Parmanasova, and K. Medvedieva, "Using CRM systems for the development and implementation of communication strategies for digital brand management and internet marketing: EU experience," *International Journal of Professional Business Review: Int. J. Prof. Bus. Rev.*, vol. 8, no. 4, p. 36, 2023.

[21] R. C. P. Sihombing and N. A. Windasari, "Improvement for 360˚ Marketing Communication Strategy Using Customer Relationship Management (CRM) Approach To Increase Digital Banking Platform Utilization: A Case of Kopra in PT. Bank Mandiri (Persero), Tbk," *Jurnal Studi Manajemen dan Bisnis*, vol. 10, no. 1, pp. 67–78, 2023.

[22] J. M. S. Cheng, E. S. T. Wang, P. Y. Hsu, and C. C. Y. Tsai, "Effective communication as a critical success factor for the integration of ERP and CRM systems: the case of Taiwan," *IJTMKT*, vol. 2, no. 2, p. 183, 2007, doi: 10.1504/IJTMKT.2007.014792.

[23] M. A. Tangaza and A. S. Bello, "Customer Relationship Marketing and The Challenge of System Trust in the Nigerian Retail Banking Context," *Journal of Management and Economic Studies*, vol. 3, no. 3, pp. 102–114, 2021.

[24] A. Ibrahim, "Social Customer Relationship Management as a Communication Tool for Academic Communities in Higher Education Institutions through Social Media," *International Journal of Advanced Computer Science and Applications*, vol. 13, no. 5, 2022

[25] A. Algamdi, S. K. M. Brika, I. Laamari, and K. Chergui, "CRM system and potential customer loyalty trends: Some evidence of customer engagement," *International Journal of Advanced and Applied Sciences*, vol. 8, no. 5, pp. 44–52, 2021.

[26] G. Abekah-Nkrumah, M. Yaa Antwi, S. M. Braimah, and C. G. Ofori, "Customer relationship management and patient satisfaction and loyalty in selected hospitals in Ghana," *International Journal of Pharmaceutical and Healthcare Marketing*, vol. 15, no. 2, pp. 251–268, 2021.

[27] J. Venkatakrishnan, R. Alagiriswamy, and S. Parayitam, "Web design and trust as moderators in the relationship between e-service quality, customer satisfaction and customer loyalty," *The TQM Journal*, vol. 35, no. 8, pp. 2455–2484, 2023.

[28] C. Stefaniem and C. M. Firdausy, "Pengaruh Perceived Value, Trust, Dan Customer Satisfaction Terhadap Customer Loyalty Pengguna Aplikasi M-Banking BCA Di Jakarta Barat," *Jurnal Manajerial Dan Kewirausahaan*, vol. 3, no. 3, pp. 620–629, 2021.

[29] M. A. I. Gazi, A. Al Mamun, A. Al Masud, A. R. bin S. Senathirajah, and T. Rahman, "The relationship between CRM, knowledge management, organization commitment, customer profitability and customer loyalty in telecommunication industry: The mediating role of customer satisfaction and the moderating role of brand image," *Journal of Open Innovation: Technology, Market, and Complexity*, vol. 10, no. 1, p. 100227, 2024.

[30] F. ATIGAN, "The Mediating Role of Perceived Service Quality in the Effect of Patient Relationship Management Practices on Institutional Commitment", Accessed: Nov. 12, 2024. [Online]. Available: https://www.ijassjournal.com/2020/V3I1/4146575160.pdf

[31] D. N. Le, H. T. Nguyen, and P. H. Truong, "Port logistics service quality and customer satisfaction: Empirical evidence from Vietnam," *The Asian Journal of Shipping and Logistics*, vol. 36, no. 2, pp. 89–103, 2020.

[32] E. B. Agotilla and J. A. R. Agustin, "A Baseline Assessment of the Total Quality Management Pillars of Commitment to Quality, Customer Satisfaction and Continuous Improvement in a Manufacturing Concern," *American Journal of Economics and Business Innovation*, vol. 1, no. 3, pp. 82–92, 2022.

[33] T. M. Putri and V. Briliana, "Pengaruh Trust, Commitment, Brand Image, Service Quality, dan Customer Value terhadap Customer Satisfaction: Studi Kasus pada Nasabah BSI di Jakarta," *Media Bisnis*, vol. 15, no. 2, pp. 279–296, 2023.

[34] M. A. Shafiq, M. M. A. Khan, M. S. e Ali, and S. Asim, "Assessment of service quality and innovation in developing customer loyalty; the mediating role of customer commitment and satisfaction," *Pakistan Journal of Humanities and Social Sciences*, vol. 11, no. 1, pp. 243–257, 2023.

[35] A. Yuliansyah and R. Khadafi, "The Influence of Trust, Customer Value and Customer Relationship Management (CRM) on Loyalty Through Customer Satisfaction of Republic of Indonesia

Employee Cooperatives University of Jember," *Indonesian Journal of Economic & Management Sciences*, vol. 1, no. 4, pp. 577–596, 2023.

[36] M. Fitrah, *Metodologi penelitian: penelitian kualitatif, tindakan kelas & studi kasus*. CV Jejak (Jejak Publisher), 2018.

[37] S. W. Purwanza, *Metodologi penelitian kuantitatif, kualitatif dan kombinasi*. Cv. Media Sains Indonesia, 2022.