

The Effect of Customer Relationship Management (CRM), Service Quality, and Value Creation on Customer Satisfaction among Customers of PT Pegadaian (Persero) Cisalak Branch, Depok

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ABSTRACT

The research is aimed for identifying the impact of the Customer Relationship Management (CRM) (X₁), the Service Quality (X₂), and the Value Creation (X₃) on Customer Satisfaction (Y) Customer in PT.Pegadaian (Persero) Cisalak Depok. The period of research is within Desember 2012 to February 2013. The method used is a method of analysis using the calculations Statistical Product and Service Solutions (SPSS) using regression and correlation. The population to be predicted in the research is customer of the PT.Pegadaian (Persero) Cisalak Depok, using 125 samples, which are carefully chosen to ensure so that the samples reflect the population. Measurement of the variables is done using the research instrument with a Likert scale. Used to test the validity of construct validity, test reliability while using a formula Cronbach Alpha. From the calculation results obtained that the number of variables X₁ correlation of Y is 0,487 indicates a quite strong correlation of these two variables, the correlation rate of the Y variable X₂ is 0,590 indicates a strong correlation of these two variables, the correlation of variables X₃ digit of Y is 0,556 showing strong correlation between the two variables, correlation numbers X₁, X₂, and X₃ of Y is 0,647 showing a strong relationship between the two variables. Based on the analysis of the obtained regression equation is $Y = 2,665 + 0.106 X_1 + 0,160 X_2 + 0,268 X_3$. Where Y is Customer Satisfaction, X₁ is the Customer Relationship Management, the Service Quality X₂, and X₃ are the Value Creation. Then from the calculated coefficients Standardized Coefficients column / Beta is obtained that the magnitude of the effect on Customer Relationship Management of Customer Satisfaction in PT.Pegadaian (Persero) Cisalak amounted to 23,7% for the remaining 76,3% is determined by other variables. The magnitude of the influence of Service Quality on Customer Satisfaction of customer in PT.Pegadaian (Persero) Cisalak was 34.8% for the rest of 65,2% determined by other variables. The magnitude of the influence of Value Creation on Customer Satisfaction of customer in PT.Pegadaian (Persero) Cisalak is 31% for the remaining 69% is determined by other variables. The magnitude of the influence of Customer Relationship Management, Service Quality and Value Creation reforms together on Customer Satisfaction of customer in PT.Pegadaian (Persero) Cisalak was 44,4% for the remaining 55,6% is determined by other variables.

Keywords: Customer Relationship Management (CRM), Service Quality, Value Creation, Customer Satisfaction, PT.Pegadaian (Persero) Cisalak Depok

JEL Classifications: JEL Classifications codes.

1. INTRODUCTION

Background

In an increasingly competitive financial services industry, organizations are required to continuously enhance their performance and adaptability in order to survive and grow. This challenge is particularly relevant for state-owned enterprises such as PT Pegadaian (Persero), which operates in the pawnshop industry and plays a dual role as both a commercial entity and a provider of public financial services. As a financial institution that primarily serves micro and retail customers, Pegadaian is expected to maintain not only financial sustainability but also service quality and accessibility for the wider community.

The pawnshop industry has undergone significant transformation in recent years, driven by globalization, technological advancement, and shifts in consumer behavior. The development of digital financial services has increased customer expectations regarding speed, convenience, and transparency. At the same time, the relatively low barriers to entry in the pawnshop business have intensified competition, as private institutions can easily enter the market and offer similar services. This has led to a more fragmented industry structure, where differentiation is no longer based solely on pricing but also on service quality and customer experience.

In this context, customer satisfaction has become a key determinant of organizational success. In service-based industries, customer satisfaction is not only an outcome but also a strategic objective that influences customer loyalty, retention, and long-term profitability. Organizations that fail to meet customer expectations risk losing their competitive position, particularly in markets where customers have multiple alternatives. Therefore, understanding the factors that influence customer satisfaction is essential for developing effective managerial strategies.

One of the primary factors influencing customer satisfaction is service quality. Service quality reflects the organization's ability to deliver services that meet or exceed customer expectations in terms of reliability, responsiveness, assurance, empathy, and tangibility. High service quality enhances customer trust and perceived value, which in turn contributes to higher levels of satisfaction. In the context of Pegadaian, service quality is particularly important due to the nature of its services, which involve financial transactions and customer assets as collateral.

In addition to service quality, Customer Relationship Management (CRM) plays a crucial role in shaping customer satisfaction. CRM focuses on building and maintaining long-term relationships with

customers by understanding their needs, preferences, and behaviors. Effective CRM strategies enable organizations to deliver personalized services, improve communication, and foster customer loyalty. In highly competitive industries, strong customer relationships can serve as a key differentiator that enhances organizational performance.

Another important factor is value creation, which refers to the organization's ability to deliver benefits that are perceived as valuable by customers. Value creation goes beyond the core service and includes additional benefits such as convenience, trust, security, and emotional satisfaction. In the pawnshop industry, where customers often prioritize security and reliability, the perceived value of services becomes a critical factor in determining customer satisfaction.

Furthermore, changes in the broader economic and social environment have also influenced customer expectations. As education levels and financial literacy increase, customers become more selective and demanding in choosing financial service providers. They expect not only efficient services but also transparency, fairness, and accountability. This shift in customer behavior requires organizations to adopt more customer-oriented strategies and continuously innovate their service delivery processes.

PT Pegadaian (Persero), particularly the Cisalak Branch, operates within this dynamic and competitive environment. To remain competitive and relevant, the organization must continuously improve its service strategies by integrating CRM practices, enhancing service quality, and delivering superior value to customers. Failure to do so may result in declining customer satisfaction and reduced competitiveness in the industry.

Given the importance of these factors, this study seeks to examine the influence of Customer Relationship Management (CRM), service quality, and value creation on customer satisfaction at PT Pegadaian (Persero) Cisalak Branch. By analyzing both individual and simultaneous effects, this research aims to provide a comprehensive understanding of how these variables contribute to customer satisfaction and organizational performance.

Problem Formulation

Based on the background above, the research problems are formulated as follows:

Descriptive:

- How is Customer Relationship Management (CRM) implemented at PT Pegadaian (Persero) Cisalak Branch?
- How is service quality perceived by customers?
- How is value creation perceived by customers?
- How is customer satisfaction at PT Pegadaian (Persero) Cisalak Branch?

Verificative:

- Does CRM influence customer satisfaction?
- Does service quality influence customer satisfaction?
- Does value creation influence customer satisfaction?
- Do CRM, service quality, and value creation simultaneously influence customer satisfaction?

Research Objectives

This study aims to:

- Analyze the effect of Customer Relationship Management (CRM) on customer satisfaction.
- Examine the effect of service quality on customer satisfaction.
- Evaluate the effect of value creation on customer satisfaction.
- Determine the simultaneous effect of CRM, service quality, and value creation on customer satisfaction at PT Pegadaian (Persero) Cislak Branch.

Research Significance

This study is expected to provide both practical and academic contributions.

From a practical perspective, the findings are expected to provide insights for management in improving service quality and strengthening customer satisfaction strategies. In particular, the results may assist PT Pegadaian (Persero) Cislak Branch in enhancing its competitiveness in the financial services industry.

From an academic perspective, this study contributes to the development of knowledge in the fields of Customer Relationship Management, service quality, value creation, and customer satisfaction. It also provides a reference for future research examining similar variables in different organizational contexts

Conceptual Framework and Hypotheses

The conceptual framework of this study is based on the assumption that Customer Relationship Management (CRM) plays a strategic role in enhancing customer satisfaction by strengthening relationships with customers and creating competitive advantages that are difficult for competitors to replicate. Through effective CRM implementation, companies are able to better understand customer needs, improve service interactions, and foster long-term loyalty.

In addition, service quality is considered a key mechanism through which CRM influences customer satisfaction. High-quality service delivery—characterized by reliability, responsiveness, assurance, empathy, and tangible aspects—enhances

customer perceptions and overall experience. Alongside service quality, value creation also contributes significantly to customer satisfaction by delivering benefits that are perceived as meaningful, including convenience, trust, and added value beyond the core service.

Therefore, this study proposes that Customer Relationship Management (CRM), service quality, and value creation are important determinants of customer satisfaction. These variables are expected to have both individual (partial) and simultaneous effects on customer satisfaction at PT Pegadaian (Persero) Cislak Branch.

Hypotheses

Based on the conceptual framework, the hypotheses of this study are formulated as follows:

- **H1:** Customer Relationship Management (CRM) has a significant effect on customer satisfaction.
- **H2:** Service quality has a significant effect on customer satisfaction.
- **H3:** Value creation has a significant effect on customer satisfaction.
- **H4:** Customer Relationship Management (CRM), service quality, and value creation simultaneously have a significant effect on customer satisfaction.

2. LITERATURE REVIEW

Customer Relationship Management (CRM)

Customer Relationship Management (CRM) has emerged as a strategic approach in response to increasing global competition and changing consumer behavior. The shift from transactional marketing to relationship marketing reflects a paradigm change from product-oriented strategies to customer-centric approaches (Barnes, 2003). In this context, companies are required to focus on building long-term relationships with customers rather than merely conducting short-term transactions.

CRM is defined as an integrated strategy that combines people, processes, and technology to understand customer behavior and create value-driven relationships (Barnes, 2003; Buttle, 2004). It enables organizations to enhance customer satisfaction, improve loyalty, and increase profitability through both offensive strategies (e.g., increasing revenue and customer retention) and defensive strategies (e.g., preventing customer loss due to competitors) (Buttle, 2004).

From a managerial perspective, CRM can be viewed at three levels: strategic, operational, and analytical. Strategic CRM emphasizes the development of a customer-centric organizational culture, operational CRM focuses on the automation of marketing, sales,

and service processes, while analytical CRM utilizes customer data to enhance decision-making and customer value (Buttle, 2004). These three dimensions are interrelated and essential for achieving effective CRM implementation.

Furthermore, CRM is widely recognized as a process of building and maintaining long-term profitable relationships with customers by delivering superior value and satisfaction (Kotler & Armstrong, 2004). It also involves identifying, differentiating, and retaining valuable customers to maximize long-term organizational performance (Strauss & Frost, 2001).

CRM Implementation

The implementation of CRM involves several key stages, including acquiring new customers, enhancing the value of existing customers, and retaining profitable customers (Kalakota et al., 2001). Organizations are encouraged to focus not only on attracting new customers but also on maintaining long-term relationships, as retaining existing customers is often more cost-effective and profitable.

Effective CRM implementation requires several core activities, such as building a comprehensive customer database, developing detailed customer profiles, analyzing customer profitability, and delivering personalized and targeted services (Hamidin, 2008). These activities enable organizations to better understand customer needs and design appropriate service strategies.

Additionally, CRM provides several benefits, including increased customer loyalty, reduced operational costs, improved efficiency, faster time-to-market, and higher revenue generation (Tunggal, 2000). By leveraging customer data and technology, companies can improve service delivery and enhance customer experience.

CRM Dimensions

The successful implementation of CRM is supported by several key dimensions, including leadership and organizational culture, data and information technology, human resources, and business processes (Buttle, 2004).

Leadership and organizational culture play a crucial role in fostering a customer-centric environment. Top management commitment is essential to ensure that CRM strategies are aligned with organizational goals and effectively implemented. A strong customer-oriented culture encourages employees to prioritize customer satisfaction and deliver superior service.

Data and information technology are fundamental components of CRM, as they enable organizations to collect, store, and analyze customer data. The use of integrated information systems allows companies to develop a “single view of the customer,”

facilitating better decision-making and personalized service delivery.

Human resources are considered one of the most critical factors in CRM success. Employees are responsible for designing, implementing, and managing CRM strategies, as well as interacting directly with customers. Therefore, organizations must ensure that employees possess the necessary skills, knowledge, and attitudes to support CRM initiatives.

Finally, business processes must be designed to create and deliver customer value effectively and efficiently. CRM-related processes include marketing, sales, and service activities, which should be integrated and aligned to enhance customer satisfaction and organizational performance.

Service Quality

Concept of Quality

In today’s highly competitive and dynamic business environment, organizations are required to adopt a customer-oriented strategy in order to survive and sustain their competitive advantage. Service quality plays a crucial role in achieving customer satisfaction, as customers are the central focus in evaluating both service performance and organizational success.

The concept of quality is inherently relative and depends on the perspective used to define it. In general, quality can be viewed from three interrelated orientations: customer perception, product (or service), and process. In service industries, these dimensions are often inseparable, as the service product is simultaneously produced and consumed through the service delivery process. Therefore, maintaining consistency across these dimensions is essential for achieving customer satisfaction, employee satisfaction, and long-term organizational profitability.

From a managerial perspective, quality contributes to both external and internal benefits. Externally, high service quality leads to positive customer perceptions, satisfaction, and loyalty. Internally, a strong focus on quality improves operational efficiency through better process design, reduced errors, and cost minimization (Sviokla). This dual impact highlights the strategic importance of quality as a driver of both customer value and organizational performance.

Furthermore, quality can also be analyzed from a cost perspective. According to Juran, quality involves both avoidable costs (such as rework, product failure, and customer complaints) and unavoidable costs (such as inspection and quality control processes). Organizations that effectively manage quality can reduce avoidable costs while maintaining necessary control mechanisms, thereby improving overall efficiency.

Service Quality

Service quality is commonly defined as the extent to which a service meets or exceeds customer expectations (Lewis & Booms, 1983). It is determined by comparing customers' expectations (expected service) with their perceptions of the actual service received (perceived service) (Parasuraman et al., 1985). When perceived service meets or exceeds expectations, service quality is considered satisfactory or even ideal; otherwise, it is perceived as poor.

Service quality is a critical determinant of customer satisfaction and loyalty. High-quality service creates positive customer experiences, strengthens emotional bonds, and reduces switching behavior. In contrast, poor service quality can lead to dissatisfaction and customer loss. Therefore, organizations must continuously strive to understand and meet customer expectations in order to remain competitive.

Customer perceptions of service quality are influenced by both intrinsic and extrinsic cues. Intrinsic cues relate to the core service performance, while extrinsic cues include supporting elements such as price, physical facilities, and brand image. Due to the intangible and variable nature of services, customers often rely on these cues to evaluate service quality, making service management more complex compared to tangible products.

Customer Expectations

Customer expectations play a central role in evaluating service quality and satisfaction. Expectations serve as a benchmark against which actual service performance is assessed. These expectations are dynamic and influenced by multiple factors, including personal needs, past experiences, word-of-mouth communication, and company-generated communications (Zeithaml et al., 1993).

Various types of expectations have been identified in the literature, such as ideal expectations, desired expectations, predicted expectations, and minimum tolerable expectations. The difference between desired and minimum expectations forms the "zone of tolerance," within which service performance is considered acceptable. If service performance falls outside this zone, customers are likely to perceive dissatisfaction.

Organizations must understand that customer expectations are not static but evolve over time. Therefore, companies need to actively manage expectations through realistic promises, effective communication, and consistent service delivery. Failure to align service performance with expectations may lead to negative perceptions and reduced customer satisfaction.

Dimensions of Service Quality

Numerous researchers have proposed different dimensions for measuring service quality. However, one of the most widely accepted models is the SERVQUAL framework developed by Parasuraman, Zeithaml, and Berry (1988). This model identifies five key dimensions of service quality.

Reliability refers to the ability to deliver services accurately and dependably as promised. Responsiveness reflects the willingness to help customers and provide prompt service. Assurance relates to the knowledge, courtesy, and credibility of employees in building customer trust. Empathy emphasizes individualized attention and understanding of customer needs. Tangibles represent the physical facilities, equipment, and appearance of personnel that support service delivery.

These dimensions collectively capture both the functional and relational aspects of service delivery. Reliability and responsiveness emphasize operational performance, while assurance and empathy focus on interpersonal interactions. Tangibles serve as physical evidence of service quality, particularly important in intangible service contexts.

The SERVQUAL model remains widely applied across various industries, including financial services. By improving these dimensions, organizations can enhance customer satisfaction, strengthen competitive advantage, and achieve sustainable performance.

Concept of Customer Value

The concept of customer value has been widely discussed in marketing literature and is interpreted in various ways. According to Zeithaml, customers perceive value through multiple perspectives. Some view value as obtaining the lowest price, while others define it as receiving the desired benefits from a product or service regardless of cost. Another perspective considers value as the trade-off between quality and price, whereas a more comprehensive view defines value as the balance between all benefits received and all sacrifices made.

In general, customer value can be defined as the customer's perception of the balance between benefits and sacrifices in acquiring and using a product or service (Buttle, 2004). Benefits may include functional, emotional, and social advantages, while sacrifices may involve monetary costs, time, effort, and risk. This perception-based nature of value implies that different customers may evaluate the same service differently depending on their expectations and experiences.

Sources of Value Creation

Customer value is primarily created through a company's value proposition, which is delivered via the marketing mix. Traditionally, this is represented by the 4Ps: product, price, promotion, and place. However, in service industries, this framework has been expanded into the 7Ps to accommodate the unique characteristics of services, namely intangibility, inseparability, heterogeneity, and perishability.

Product refers to the overall service offering, including core benefits, expected features, and potential enhancements that differentiate the service from competitors. Price plays a critical role in shaping perceived value, as it reflects both the monetary sacrifice and the perceived quality of the service. Promotion involves communication strategies used to inform, persuade, and remind customers, while place relates to the service delivery system and accessibility.

In addition to these elements, people are essential in service delivery, as employees directly influence customer experience and satisfaction. Physical evidence represents the tangible aspects of the service environment, such as facilities and equipment, which help customers evaluate intangible services. Process refers to the procedures and activities involved in delivering the service, including efficiency, consistency, and flexibility.

By effectively managing these seven elements, organizations can enhance customer value, differentiate their offerings, and build stronger relationships with customers.

Customer Satisfaction

Concept of Customer Satisfaction

Customer satisfaction has become a central concept in both business and academic contexts due to its strong relationship with organizational performance. It is closely linked to financial indicators such as profitability, return on investment (ROI), and long-term business sustainability. Satisfied customers are more likely to remain loyal, engage in repeat purchases, and contribute to positive word-of-mouth communication.

Customer satisfaction is generally defined as a post-consumption evaluation of a product or service, where perceived performance is compared with prior expectations (Oliver, 1997; Kotler et al., 2004). If performance meets or exceeds expectations, satisfaction occurs; otherwise, dissatisfaction arises. This evaluation process highlights the importance of expectation management in delivering satisfactory customer experiences.

Customer satisfaction provides numerous strategic benefits. It enhances customer loyalty, increases future revenue opportunities through cross-selling and up-selling, reduces transaction and marketing costs, and strengthens the company's

competitive position. Additionally, satisfied customers tend to be less sensitive to price changes and more receptive to new products or services.

Models of Customer Satisfaction

Several theoretical models explain how customer satisfaction is formed. The contrast theory suggests that customers compare actual performance with expectations and react accordingly. The assimilation theory proposes that customers may adjust their perceptions to align with their expectations to reduce cognitive dissonance. Meanwhile, the assimilation-contrast theory combines both perspectives, suggesting that the level of discrepancy determines whether assimilation or contrast effects dominate.

The disconfirmation model further explains satisfaction as the result of the gap between expected and actual performance. Positive disconfirmation occurs when performance exceeds expectations, leading to satisfaction. Simple confirmation results in neutral feelings, while negative disconfirmation leads to dissatisfaction.

Customer satisfaction can also vary in form, ranging from active satisfaction (demanding satisfaction) to passive or resigned satisfaction, as well as different levels of dissatisfaction. These variations reflect differences in customer expectations, emotional responses, and behavioral intentions.

Measurement of Customer Satisfaction

Measuring customer satisfaction is essential for evaluating service performance and improving business strategies. Several methods are commonly used, including complaint and suggestion systems, mystery shopping (ghost shopping), lost customer analysis, and customer satisfaction surveys.

Complaint systems allow organizations to gather direct feedback from customers, while mystery shopping provides insights into service quality from a customer perspective. Lost customer analysis helps identify reasons for customer attrition, and surveys remain the most widely used method for systematically measuring satisfaction levels.

In this study, customer satisfaction is measured based on three main variables: Customer Relationship Management (CRM), Service Quality, and Value Creation. These variables are expected to influence overall customer satisfaction and provide valuable insights for managerial decision-making, particularly in improving service performance and customer experience.

Research Object and Methodology

Research Object

This study was conducted at PT Pegadaian (Persero) Cisalak Branch, located on Jalan Raya

Bogor KM 31 No. 4, Cimanggis, Depok, West Java. The research focuses on examining the influence of Customer Relationship Management (CRM), Service Quality, and Value Creation on Customer Satisfaction among customers of the institution.

The selected research location is considered strategically advantageous due to its proximity to Cisalak Market, access to the Cijago toll road, and availability of public transportation. This strategic positioning facilitates customer accessibility and supports the institution's ability to attract and serve a diverse customer base. As a result, the branch provides an appropriate setting for analyzing customer perceptions and service performance.

Research Location and Time

The research was conducted at PT Pegadaian (Persero) Cisalak Branch in Depok, West Java. Data collection was carried out over a specific period, namely from December 17 to December 22, 2012. This timeframe was selected to ensure efficient data gathering while maintaining relevance to the research objectives.

Data and Data Sources

This study utilizes both primary and secondary data to ensure comprehensive analysis. Primary data were collected directly from respondents, namely customers of PT Pegadaian (Persero) Cisalak Branch, through structured questionnaires. These data include both qualitative and quantitative information, capturing respondents' perceptions, opinions, and evaluations related to CRM, service quality, value creation, and customer satisfaction.

Secondary data were obtained from various sources, including company documents, organizational reports, archives, academic literature, journals, previous studies, and online resources. These data support the research framework, provide contextual understanding, and strengthen the validity of the findings.

The combination of primary and secondary data enables a more robust analysis by integrating empirical evidence with theoretical perspectives.

Data Collection Method

The primary method of data collection in this study is the questionnaire method. A structured set of questions was designed to capture respondents' perceptions regarding the variables under study. The questionnaire was distributed directly to customers, who were asked to provide responses based on their actual experiences.

The use of questionnaires is considered efficient and effective, particularly when the researcher has clearly identified the required information and variables. The collected responses

were then quantified and analyzed to test the research hypotheses.

To measure respondents' perceptions, this study employs a Likert scale ranging from 1 to 5. The scale represents levels of satisfaction, from "strongly dissatisfied" to "strongly satisfied." This measurement approach allows for the transformation of qualitative perceptions into quantitative data suitable for statistical analysis.

Population and Sample

The population of this study consists of all customers who utilized the services of PT Pegadaian (Persero) Cisalak Branch during the period from July 2011 to June 2012, totaling 8,419 customers. This population represents a diverse group of customers across different occupational backgrounds, including traders, employees, and others.

Due to practical limitations such as time, cost, and resources, a sample was selected to represent the population. Sampling was conducted using two approaches. The first approach applied the Yamane formula, which resulted in a minimum sample size of approximately 100 respondents. The second approach followed the recommendation by Hair et al., suggesting that the sample size should be five times the number of research indicators. Based on 25 indicators, this approach yielded a sample size of 125 respondents.

Considering the adequacy and robustness of the second approach, this study adopts a total sample of 125 respondents. This sample size is deemed sufficient to ensure representativeness and reliability in statistical analysis, particularly for examining relationships between variables.

Sampling Technique

The sampling technique applied in this study is simple random sampling, where each customer who meets the research criteria has an equal probability of being selected as a respondent. This approach ensures representativeness and reduces sampling bias, allowing the results to be generalized to the population.

Operational Variables

Based on the research framework, this study consists of three independent variables and one dependent variable. The independent variables include Customer Relationship Management (CRM) (X_1), Service Quality (X_2), and Value Creation (X_3), while Customer Satisfaction (Y) is the dependent variable.

Each variable is measured using multiple indicators derived from established theoretical frameworks. CRM is measured through organizational culture, technology utilization, human resources capability, and service processes. Service Quality

adopts the SERVQUAL dimensions, while Value Creation is measured using elements of the extended marketing mix (7Ps). Customer Satisfaction is assessed through indicators such as trust, relationship closeness, and overall satisfaction.

The measurement scale used is a Likert scale ranging from 1 (strongly dissatisfied) to 5 (strongly satisfied), allowing qualitative perceptions to be transformed into quantitative data.

Data Analysis Methods

Validity Test

Validity testing is conducted using the Pearson Product-Moment correlation to determine whether each item accurately measures the intended construct. The formula is expressed as:

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

Where:

r_{xy} = correlation coefficient

N = number of samples

X = item score

Y = total score

An item is considered valid if $r_{count} > r_{table}$ at a significance level of 5%.

Reliability Test

Reliability is measured using Cronbach's Alpha to assess the consistency of the instrument. The formula is:

$$r_{11} = \frac{k}{k-1} \left(1 - \frac{\sum \sigma_b^2}{\sigma_t^2} \right)$$

Where:

r_{11} = reliability coefficient

k = number of items

$\sum \sigma_b^2$ = total variance of items

σ_t^2 = total variance

A variable is considered reliable if Cronbach's Alpha > 0.60.

Descriptive and Inferential Analysis

Descriptive statistics are used to summarize data through measures such as mean, median, and standard deviation. Inferential statistics are applied to test hypotheses and generalize findings from the sample to the population.

Classical Assumption Tests

To ensure the robustness of the regression model, several classical assumption tests are conducted. Multicollinearity is assessed using tolerance and Variance Inflation Factor (VIF), where:

Tolerance < 0.10 or VIF > 10 indicates multicollinearity.

Heteroscedasticity is tested using Spearman rank correlation, while autocorrelation is assessed using the Durbin-Watson (DW) statistic:

$-2 < DW < 2$ indicates no autocorrelation.

Normality is tested using Kolmogorov-Smirnov or Shapiro-Wilk tests, where:

$p > \alpha$ indicates normal distribution.

Correlation Analysis

Correlation analysis is used to determine the strength and direction of relationships between variables. The correlation coefficient ranges from -1 to +1, where:

$r = +1$: perfect positive correlation

$r = -1$: perfect negative correlation

$r = 0$: no correlation

Regression Analysis

Simple Linear Regression

Simple regression is used to examine the effect of one independent variable on the dependent variable, formulated as:

$$Y = a + bX$$

Where:

Y = dependent variable

a = constant

b = regression coefficient

X = independent variable

The coefficients are calculated as:

$$b = \frac{N\sum XY - (\sum X)(\sum Y)}{N\sum X^2 - (\sum X)^2}$$

$$a = \bar{Y} - b\bar{X}$$

Multiple Linear Regression

To analyze the simultaneous influence of multiple independent variables, the following model is used:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

Where:

Y = Customer Satisfaction

X_1 = CRM

X_2 = Service Quality

X_3 = Value Creation

Hypothesis Testing

t-test (Partial Test)

The t-test is used to examine the partial effect of each independent variable:

$$t = \frac{b_j}{SE(b_j)}$$

Where:

b_j = regression coefficient

$SE(b_j)$ = standard error

Decision rule:

If $t_{count} > t_{table}$, then the hypothesis is accepted.

F-test (Simultaneous Test)

The F-test is used to evaluate the joint effect of all independent variables:

$$F = \frac{R^2/k}{(1 - R^2)/(n - k - 1)}$$

Where:

R^2 = coefficient of determination

k = number of independent variables

n = sample size

Decision rule:

If $F_{count} > F_{table}$, then the independent variables simultaneously influence the dependent variable.

All statistical analyses in this study are performed using SPSS version 20, ensuring accuracy and reliability in data processing.

4. RESULTS AND DISCUSSION

General Overview

Company Background

PT Pegadaian (Persero) Cisalak Branch was established on December 1, 2008. Initially operating as a sub-branch office, it has since developed into a full branch office with seven supporting service units (Unit Pembantu Cabang), namely Radar Auri, Kemakmuran, Cimanggis, Pekapuran, Nangka, Cibubur Junction, and Tapos.

The branch is strategically located on Jalan Raya Bogor KM 31 No. 4, Cisalak, Cimanggis, Depok, West Java. Its proximity to Cisalak Market and the Cijago toll access, as well as its accessibility via public transportation, enhances customer reach and operational effectiveness.

The company's vision focuses on becoming a leading institution in micro and small-scale financing based on pawn and fiduciary systems, particularly for middle- to lower-income communities. Its mission emphasizes supporting economic welfare through accessible financial services, maintaining good corporate governance, and optimizing organizational resources.

Respondent Profile

The study involved 125 respondents, determined using Hair et al.'s formula:

$$n = \text{number of indicators} \times 5 = 25 \times 5 = 125$$

This sample size meets the minimum requirement for multivariate analysis.

In terms of gender distribution, the majority of respondents were female (72%), while male respondents accounted for 28%. This indicates that female customers dominate pawn service usage in this branch.

From an educational perspective, most respondents had a high school background (48.8%), followed by undergraduate degree holders (24%) and diploma graduates (20%). This suggests that the primary customer segment consists of individuals with moderate educational attainment.

Age distribution shows that the dominant group falls within the 31–40 years category (36%), followed by 21–30 years (30.4%). This indicates that productive-age individuals are the primary users of Pegadaian services.

In terms of occupation, the largest groups were private employees (35.2%) and housewives (35.2%), followed by civil servants and other occupations. This reflects that Pegadaian services are widely utilized by both working individuals and household financial managers.

Validity Test

Validity testing was conducted using corrected item-total correlation with the following formula:

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

An item is considered valid if:

$$r_{count} > r_{table} (\alpha = 5\%, df = n - 2)$$

The critical value obtained was $r_{table} = 0.3061$.

The results indicate that several items across variables (CRM, Service Quality, Value Creation, and Customer Satisfaction) initially did not meet the validity threshold. These invalid items were removed through iterative testing.

After refinement, all remaining items in each variable demonstrated $r_{count} > r_{table}$, indicating that the measurement instruments are valid and capable of accurately capturing the constructs under study.

Reliability Test

Reliability was assessed using Cronbach's Alpha:

$$\alpha = \frac{k}{k - 1} \left(1 - \frac{\sum \sigma_b^2}{\sigma_t^2} \right)$$

A construct is considered reliable if:

$$\alpha > 0.70$$

The results show:
 CRM: $\alpha = 0.721$
 Service Quality: $\alpha = 0.833$
 Value Creation: $\alpha = 0.798$
 Customer Satisfaction: $\alpha = 0.812$

All variables exceed the recommended threshold, indicating strong internal consistency and reliability of the measurement instruments.

The findings confirm that the measurement model used in this study is both valid and reliable, providing a solid foundation for further statistical analysis. The elimination of invalid items ensures that only relevant indicators contribute to each construct, thereby improving measurement accuracy.

The respondent profile highlights that Pegadaian services are predominantly utilized by productive-age individuals, particularly women and those with moderate educational backgrounds. This aligns with the company's positioning as a financial service provider for middle- to lower-income segments.

Moreover, the high reliability scores across all variables suggest that customer perceptions regarding CRM, service quality, and value creation are consistently captured. This strengthens the credibility of subsequent regression and hypothesis testing results.

Overall, the data quality supports the robustness of the research model and allows for meaningful interpretation of the relationships between CRM, service quality, value creation, and customer satisfaction.

Customer Satisfaction Frequency Distribution

The frequency distribution analysis shows that the dominant response category is "Satisfied" (mean = 59.75; 47.8%), followed by "Very Satisfied" (mean = 35.5; 28.4%), and "Moderately Satisfied" (mean = 29.5; 23.6%). Responses indicating dissatisfaction are negligible (0.2%), and no respondents selected "Very Dissatisfied."

Overall, positive evaluations (satisfied and very satisfied) account for 76.2% of responses, indicating a generally high level of customer satisfaction.

At the indicator level, the strongest perception is reflected in customers' intention to reuse Pegadaian services, with 81.6% expressing agreement or strong agreement. In contrast, relatively lower evaluations are found in trust toward services and perceived service quality, where around 27–28% of respondents rated them only moderate. This suggests that while behavioral loyalty is strong, cognitive trust and perceived quality still require improvement.

Correlation Analysis

The Pearson correlation coefficient is used to examine the relationships between variables:

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

The results indicate that all relationships are positive and statistically significant ($p < 0.05$).

CRM has a positive correlation with customer satisfaction ($r = 0.487$), indicating a moderately strong relationship. Service quality shows a stronger relationship with customer satisfaction ($r = 0.590$), while value creation also demonstrates a strong correlation ($r = 0.556$).

Among independent variables, CRM is strongly correlated with service quality ($r = 0.647$), moderately with value creation ($r = 0.459$), and service quality is strongly correlated with value creation ($r = 0.507$). These findings indicate that improvements in one dimension tend to be associated with improvements in others.

All correlations are significant at the 1% level ($p = 0.000$), confirming the robustness of the relationships.

Simple Regression Analysis

Effect of CRM on Customer Satisfaction

The regression model is:

$$Y = 6.707 + 0.479X_1$$

The positive coefficient indicates that CRM significantly increases customer satisfaction. Hypothesis testing using the t-test shows:

$$t_{count} = 6.186 > t_{table} = 1.657$$

$$p = 0.000 < 0.05$$

Thus, CRM has a significant effect on customer satisfaction.

The coefficient of determination is:

$$R^2 = 0.237$$

This indicates that CRM explains 23.7% of the variance in customer satisfaction.

Effect of Service Quality on Customer Satisfaction

The regression equation is:

$$Y = 5.983 + 0.266X_2$$

Service quality has a significant positive effect:

$$t_{count} = 8.109 > t_{table} = 1.657$$

$$p = 0.000 < 0.05$$

The coefficient of determination:

$$R^2 = 0.348$$

This means service quality explains 34.8% of customer satisfaction, making it the strongest predictor among the three variables.

Effect of Value Creation on Customer Satisfaction

The regression model is:

$$Y = 7.167 + 0.456X_3$$

The t-test result:

$$t_{count} = 7.425 > t_{table} = 1.657$$

$$p = 0.000 < 0.05$$

This confirms a significant positive effect.

The coefficient of determination:

$$R^2 = 0.310$$

indicates that value creation explains 31% of customer satisfaction.

Multiple Regression Analysis

Before estimating the model, classical assumption tests were conducted. The normality test using Kolmogorov–Smirnov shows p-values greater than 0.05, indicating normal distribution. Multicollinearity is not present as tolerance values are above 0.1 and VIF values are below 10. The scatterplot shows no heteroscedasticity, and the Durbin–Watson value (1.956) indicates no autocorrelation.

The multiple regression model is:

$$Y = 2.665 + 0.106X_1 + 0.160X_2 + 0.268X_3$$

The coefficients indicate that all variables positively influence customer satisfaction, with value creation having the largest coefficient, followed by service quality and CRM.

However, in the simultaneous model, CRM is not statistically significant ($p = 0.238$), while service quality ($p = 0.000$) and value creation ($p = 0.000$) remain significant predictors.

Hypothesis Testing (F-test)

The F-test evaluates the joint effect of all independent variables:

$$F = 32.161 > F_{table} = 2.68$$

$$p = 0.000 < 0.05$$

Thus, CRM, service quality, and value creation simultaneously have a significant effect on customer satisfaction.

Model Fit and Determination

The correlation coefficient is:

$$R = 0.666$$

indicating a strong relationship between all independent variables and customer satisfaction.

The coefficient of determination:

$$R^2 = 0.444$$

This means that 44.4% of customer satisfaction is explained by CRM, service quality, and value creation, while the remaining 55.6% is influenced by other factors not included in the model.

The results highlight that service quality and value creation are the most influential factors in driving customer satisfaction. Although CRM shows a significant individual effect, its influence becomes weaker when combined with other variables, suggesting overlapping effects or indirect influence.

The relatively high explanatory power (44.4%) indicates that the model is robust, yet still leaves room for other variables such as trust, brand image, or pricing fairness.

Overall, the findings reinforce the importance of delivering high-quality service and creating customer value as key strategies to enhance satisfaction in financial service institutions like Pegadaian.

5. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study aims to examine the effects of Customer Relationship Management (CRM), Service Quality, and Value Creation on Customer Satisfaction at PT Pegadaian (Persero) Cicalak Branch.

The findings indicate that all variables are positively related to customer satisfaction. CRM shows a moderate positive relationship with customer satisfaction ($r = 0.487$), while service quality ($r = 0.590$) and value creation ($r = 0.556$) demonstrate strong relationships. These results imply that improvements in these variables are associated with higher levels of customer satisfaction.

Furthermore, significant positive relationships are also found among the independent variables. CRM is strongly correlated with service quality ($r = 0.647$), moderately with value creation ($r = 0.459$), and service quality is strongly related to value creation ($r = 0.507$). This suggests that these variables are interconnected and mutually reinforcing in influencing customer satisfaction.

All correlations are statistically significant at the 5% significance level ($p < 0.05$), indicating that the relationships observed in this study are reliable and not due to random chance.

Overall, the results confirm that service quality and value creation are the most dominant factors affecting customer satisfaction, while CRM also contributes, although to a relatively lesser extent in the combined model.

Recommendations

Based on the findings, several recommendations can be proposed to enhance customer satisfaction:

First, the company should continuously improve service quality through innovation, supported by effective CRM implementation and enhanced value creation. This strategy is expected to increase customer satisfaction and loyalty, which in turn can generate positive word-of-mouth and attract new customers.

Second, strengthening organizational culture, particularly values related to innovation, service excellence, and professionalism, is essential to ensure consistent service delivery and improve customer experience.

Third, the adoption of modern technology and communication systems should be optimized to provide faster, more efficient, and more convenient services for customers.

Fourth, the company should improve organizational structure and human resource capabilities to ensure responsiveness to environmental changes and maintain service competitiveness.

Fifth, enhancing internal control systems, risk management practices, and corporate governance is necessary to improve operational efficiency and organizational credibility.

Sixth, product and service improvements should be continuously developed, including service innovations, better valuation of collateral, improved standard operating procedures, enhanced employee friendliness and integrity, and increased customer comfort during service processes.

Finally, future research is encouraged to explore additional variables that may influence customer satisfaction, such as trust, brand image, or pricing perception, to provide a more comprehensive understanding of customer behavior.

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