

Article info

Received on: 10.03.2026

Accepted on: 10.04.2026

Published on: 09.05.2026

doi: <https://doi.org/10.52688/ASP65315>

Research Article

Factors Affecting Customer Loyalty: An Analytical Study Using Logistic Regression Analysis (An Application to a Group of Branches of Rafidain Bank)

Fayyadh Abdullah Ali^{1,*}, Ghadeer JasimChalloob², Kamal Oudah Fadhil³^{1,2} Osol AL-Elm University College*fayyadh@ouc.edu.iq

ABSTRACT

This study aims to identify the factors influencing customer loyalty in a group of variables by applying logistic regression analysis. The study investigates the impact of four independent variables—service quality, customer satisfaction, trust and perceived value on customer loyalty. Data were collected through a structured questionnaire and analyzed using the SPSS software. The results showed that service quality, trust, and satisfaction have a significant positive effect on customer loyalty, while perceived value, had no significant influence. The study recommends that public organizations focus on enhancing service quality and building customer trust to increase loyalty and long-term engagement.

Keywords: Customer loyalty, logistic regression, service quality, trust, customer satisfaction

INTRODUCTION

Customer loyalty is considered one of the most important indicators of an institution's success in light of the increasing competition in markets. Retaining existing customers and ensuring the continuity of their dealings with the institution represent an essential element for sustaining performance and achieving competitive advantage. Therefore, understanding the factors affecting customer loyalty is an important step in building effective marketing strategies. From an analytical perspective, logistic regression analysis represents an accurate statistical tool for measuring the relationship between a set of independent variables and a binary dependent variable representing the customer's decision to remain loyal or not.

RESEARCH PROBLEM

Many service institutions face increasing challenges in maintaining customer loyalty due to growing customer expectations and intensified competition among public and private institutions regarding service quality. Despite the efforts made to improve performance and develop services, customer loyalty levels remain inconsistent, indicating the existence of multiple factors influencing loyalty to varying degrees.

RESEARCH OBJECTIVES

- Identifying the main factors affecting customer loyalty in service institutions.
- Using logistic regression analysis to estimate the direction and strength of relationships between variables.
- Providing practical recommendations to improve the performance of Rafidain Bank branches in customer service.

IMPORTANCE OF THE RESEARCH

- The importance of this research lies in combining the practical administrative aspect (customer loyalty) with the analytical statistical aspect (logistic regression), which helps decision-makers identify the most important determinants of loyalty and direct efforts toward them.

*Corresponding author

Fayyadh Abdullah Ali,
Osol AL-Elm University College
e-mail: fayyadh@ouc.edu.iq

- Assisting service administrations in identifying the key factors that ensure customer satisfaction, loyalty continuity, and improvement of public service quality.

RESEARCH HYPOTHESES

The main hypotheses of the research are as follows:

- **H1:** There is a statistically significant relationship between service quality and customer loyalty.
- **H2:** There is a statistically significant relationship between customer satisfaction and customer loyalty.
- **H3:** There is a statistically significant relationship between customer trust and customer loyalty.
- **H4:** There is no statistically significant relationship between perceived value and customer loyalty.

RESEARCH METHODOLOGY

The study adopted the descriptive analytical approach. A questionnaire [6] was designed containing a set of items representing the study variables and distributed to a random sample of 120 customers from several branches of Rafidain Bank.

The data were analyzed using **SPSS Version 26**, where binary logistic regression analysis was employed to measure the effect of independent variables on customer loyalty.

THEORETICAL FRAMEWORK

CONCEPT OF CUSTOMER LOYALTY

According to Wisal (2025) [4], loyalty is defined as a behavioral phenomenon resulting from a high level of satisfaction achieved through the experience of using a particular brand. This creates a positive attitude and strong attachment toward the brand by the customer, leading to behavioral responses represented by repeat purchases of the same brand when needed (brand loyalty).

Different types of loyalty can be distinguished as follows [4]:

- **Emotional Loyalty:** The characteristics of the product or service enable customers to remember it. Institutions seek to create a good reputation and improve their image through continuous review of market feedback.
- **Name Loyalty:** Loyalty to a specific name or brand itself, such as loyalty to a particular bank, where the bank becomes an essential part of customers' lives.
- **Attribute-Based Loyalty:** Customer loyalty linked to the perceived value of key product or service attributes. Encouraging customers to try the product is a way to gain future loyalty.
- **Switching-Cost Loyalty:** Customers remain loyal because the cost of switching to another institution is high compared with the expected benefits.
- **Convenience Loyalty:** Loyalty based on ease of dealing with the institution and the level of convenience provided.
- **Relational Loyalty:** Loyalty resulting from the customer's feeling that continued interaction provides additional benefits.
- **Habitual Loyalty:** Loyalty resulting from long-term habitual use of a product or service.

IMPORTANCE OF CUSTOMER LOYALTY IN SERVICE INSTITUTIONS

Customer loyalty has strategic importance in governmental service institutions because it contributes to improving beneficiary satisfaction and enhancing the institution's image. It also reduces service delivery costs due to continued interaction with the same customer. The importance of customer loyalty can be summarized as follows [4]:

- **Reducing Marketing Costs:** Retaining current customers costs less than attracting new ones.
- **Source of Institutional Stability:** Loyal customers generate more stable revenues.
- **Attracting New Customers:** Loyal customers positively promote the institution through word-of-mouth communication.
- **Providing Time to Respond to Competitors:** Loyal customers are less likely to switch to competitors.

FACTORS AFFECTING CUSTOMER LOYALTY

Marketing literature indicates that customer loyalty is influenced by several variables depending on the nature of the service and organizational context. The most prominent factors are as follows [2]:

*Corresponding author
Osol AL-Elm University College
e-mail: fayyadh@ouc.edu.iq

Variable	Number of Items	Cronbach's Alpha	Reliability Level
Service Quality	6	0.86	High
Customer Satisfaction	4	0.88	High
Trust	5	0.90	Very High
Perceived Value	4	0.82	Good
Total Questionnaire	19	0.89	Very High

Table (1) shows that all values are greater than 0.70, indicating very good internal consistency and confirming the reliability of the questionnaire for statistical analysis.

DESCRIPTIVE STATISTICS

Table 2. Descriptive Statistics

Variable	Mean	Standard Deviation	Response Level
Service Quality	3.97	0.61	High
Customer Satisfaction	4.12	0.55	Very High
Trust	4.08	0.58	Very High
Perceived Value	3.76	0.67	Moderate to High

Table (2) indicates that the means of all variables are relatively high (except perceived value), while customer satisfaction and trust received the highest evaluations among the independent variables.

CORRELATION MATRIX

Table 3. Correlation Matrix

Variable	Customer Loyalty	Service Quality	Customer Satisfaction	Trust	Perceived Value
Customer Loyalty	1				
Service Quality	0.62	1			
Customer Satisfaction	0.70	0.65	1		
Trust	0.74	0.68	0.72	1	
Perceived Value	0.48	0.53	0.56	0.51	1

The correlation coefficients shown in Table (3) are all positive and statistically significant at the 0.01 significance level, indicating a strong positive relationship between the four factors and customer loyalty.

MODEL FIT TEST

Table 4. Model Fit

Statistic	Value
Cox & Snell R ²	0.51
Nagelkerke R ²	0.62
Hosmer and Lemeshow Test	0.43

Table (4) shows that according to the Cox & Snell criterion, the model explains 51% of the variance in loyalty, while the Nagelkerke criterion indicates that the model explains 62% of the variance in loyalty. The Hosmer and Lemeshow Test value (0.43 > 0.05) indicates that the model fits the data adequately.

REGRESSION COEFFICIENTS

Table 5. Regression Coefficients

Variable	B	S.E.	Wald	Sig.	Exp(B)
Service Quality	0.86	0.36	5.67	0.017	2.36
Customer Satisfaction	1.12	0.39	7.83	0.004	3.06
Trust	1.45	0.42	11.98	0.001	4.27
Perceived Value	0.21	0.22	0.90	0.34	1.23
Constant	-3.25	0.89	13.29	0.000	—

Table (5) shows, based on the Wald statistic, that all logistic regression coefficients are statistically significant except for perceived value, which is not statistically significant ($p > 0.05$).

*Corresponding author
Osol AL-Elm University College
e-mail: fayyadh@ouc.edu.iq

The odds ratios $\text{Exp}(B)$ are greater than 1, indicating that all independent variables positively affect loyalty to varying degrees. Trust has the strongest effect, with an odds ratio of 4.27, meaning that a one-unit increase in trust increases the odds of customer loyalty by 4.27 times. Meanwhile, the perceived value coefficient is close to one, indicating no significant effect on customer loyalty.

RECOMMENDATIONS

- Developing sustainable programs to strengthen trust between the institution and customers.
- Adopting a periodic feedback system to measure and improve customer satisfaction.
- Investing in employee training to improve service quality.
- Reconsidering pricing policies to enhance perceived value.
- Utilizing logistic regression analysis results in formulating targeted marketing strategies.

REFERENCES

- [1] Al-Asadi, M. K. J. (2011). The impact of service quality on customer loyalty: An analytical study in a sample of private banks in Karbala Governorate (Master's thesis). Administrative Technical College, Baghdad.
- [2] Al-Hadid, A. Y. (2014). Factors affecting customer loyalty in the Jordanian banking sector: A field study. *Dirasat: Administrative Sciences*, 41(2).
- [3] Dalal, F. (2025). The effect of viral marketing on gaining customer loyalty: A case study of Algerian institutions. *Journal of Contemporary Economic Studies*, 10(1).
- [4] Wisal, N. (2025). The effect of relationship marketing dimensions on customer loyalty (Master's thesis). Faculty of Economic, Commercial and Management Sciences, Department of Commercial Sciences, University of May Guelma, Algeria.
- [5] Evangelos Grigoroudis, E., & Yannis Siskos, Y. (2010). *Customer Satisfaction Evaluation: Methods for Measuring and Implementing Service Quality*. Springer, New York. [10.1007/978-1-4419-1640-2](https://doi.org/10.1007/978-1-4419-1640-2).
- [6] Lloyd C. Harris, L. C., & Mark M. H. Goode, M. M. H. (2004). The four levels of loyalty and the pivotal role of trust: A study of online service dynamics. *Journal of Retailing*, 80(2), 139–158. [10.1016/j.jretai.2004.04.002](https://doi.org/10.1016/j.jretai.2004.04.002).
- [7] Robert Johnston, R., Graham Clark, G., & Michael Shulver, M. (2013). *Service Operations Management: Improving Service Delivery*. Pearson Education Limited, England.

APPENDIX

*Corresponding author
Osol AL-Elm University College
e-mail: fayyadh@ouc.edu.iq

Questionnaire Form**Dear Participants,**

Peace and blessings be upon you.

First, I would like to thank you for taking the time to answer this questionnaire. The aim of this research is to study the factors affecting customer loyalty through an analytical study using logistic regression analysis.

We assure you that all information provided will be used solely for scientific research purposes and will remain completely confidential and will not be used for any other purpose.

Please read each statement carefully and answer honestly and accurately.

Thank you for your cooperation.

Section One: General Information**1. Gender:**

Male Female

2. Age:

Less than 25

25–34

35–44

45–54

55 and above

3. Educational Level:

Below Secondary School

Secondary School

Diploma/Technical

Bachelor's Degree

Postgraduate Studies

Section Two: Measurement Items of the Variables

Please place a check mark (✓) under the number that best expresses your opinion for each statement.

Scale:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

A. Service Quality

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	Employees provide services efficiently and skillfully.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	The knowledge and information available to employees are sufficient to meet my needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Procedures and services are completed within the expected time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	The facilities (waiting area, cleanliness, equipment) are appropriate and comfortable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	The service is consistent and provided with the same quality every time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B. Customer Satisfaction

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I am satisfied with my overall experience with the institution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	The service I received meets my expectations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	I feel that my time was respected while receiving the service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	The rate of errors or problems during service delivery is low.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C. Trust in the Institution

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
-----	-----------	-------------------	----------	---------	-------	----------------

*Corresponding author

Osol AL-Elm University College

e-mail: fayyadh@ouc.edu.iq

1	I trust that the institution handles my requests credibly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	I believe that the information provided by the institution is accurate and reliable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	I feel reassured about the institution's data and information protection policies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	I believe that the institution operates with integrity and transparency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D. Perceived Value

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	The service I receive is worth the time and effort I spend.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	I consider the service valuable compared to what I provide (time or effort).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	I obtain clear benefits from using this service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E. Customer Loyalty — Emotional and Behavioral Measurement

1. Will you continue using the services of this institution during the coming year?

Yes No

2. Have you ever recommended this institution's services to another person?

Yes No