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Effect of Service Quality Dimensions on Customers' Satisfaction: The Case of Selected Commercial Banks in Hawassa, Ethiopia

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Service quality is playing an important role to deliver service for customer satisfaction. The aim of this study was to analyze effect of service quality on customers' satisfaction in the Case of selected Commercial Banks in Hawassa, Ethiopia. This Research was conducted by using a cross-sectional research design to gather a quantitative data. By applying multi-stage random sampling technique, a sample size of 393 customers from three sample branches namely Hawassa branch, Tabor branch, and Atotate branch were selected and data were collected using interview schedule. Ordinal logit regression models were employed to identify the effect of service quality dimensions on customer satisfaction. Out of the five hypothesized explanatory variables, three variables namely reliability, tangibility and assurance were found to have significant effect in customers satisfaction. Therefore, the findings of this imply that service quality has a positive relationship with customer satisfaction.

Keywords: *Quality; dimension; service; customer; satisfaction; Hawassa; Ethiopia.*

1. INTRODUCTION

“Banking plays an important role in the economy of any country. They are the main intermediaries between those with excess money (depositors) and those individuals and businesses with viable projects but requiring money for their investment (creditors). Banks have at least the following functions: lending money, depositing others’ money, transferring money locally or abroad and working as paying agent” [1].

“Customer satisfaction is crucial in banking sector because of the special nature of the service which is characterized by intensive contact with customers who have different needs and require customized solutions and it is known to be one of the most important and serious issues towards success in today’s competitive business environment, as it affects company market shares and customer loyalty” [2].

“The proper identification of customer satisfaction helps to retain customers and to increase brand awareness, profitability and effectiveness of bank’s services. It is when customers are satisfied that organizations achieve higher sales, profit and market share” [3].

“However, there are a number of problems hindering the smooth delivery of the banking services. There is customer’s dissatisfaction over the service offered and the available services don’t match the expectation of the customer” [4]. “Research suggests that customer dissatisfaction is still the major reason of bank customers’ switch to other banks [5]. This dissatisfaction could be because of a variety of reasons. The causes of dissatisfaction are not well known empirically however from rational point of view; the probable factors may include network problem and temporary failures in the quality banking services.” Liu and Jang [6] argued that “service failure occurs when customer perceptions do not meet customer expectations. The problem with service failure is that it may lead to a destroyed relationship between the customer and the organization. Thus, the importance of customer satisfaction in today’s dynamic corporate environment is obvious as it greatly influences customer’s repurchase intentions whereas dissatisfaction has been seen as a primary reason for customer’s intentions to switch” [7,8].

“Several studies have been conducted on satisfaction of bank customers. In a study

intended to assess the perceived service quality and its dimensions in private banks in India, the study revealed that the quality of banking service, service charge and perceived value were the important factors that influence customers’ satisfaction” [9]. Moreover, “studies on commercial banks in Tanzania found that customer satisfaction is affect by factors like timeliness and reliability” [10].

“Another study in Shashemene district, Ethiopia revealed the direct influence of service quality on customers’ satisfaction and loyalty” [11]. “In Mekelle, northern Ethiopia, study on Wegagen bank by Kibrom [12] conducted that customer satisfaction and service loyalty this study revealed that the dimensions of service quality vary in the degree to which they drive customer satisfaction and service loyalty. However, this study identified methodological gaps of above-mentioned studies.” Mokonnen (2019) conducted that the effect of service quality on customer satisfaction is not distinguished clearly by appropriate models. The study used multiple linear regression to analyze the effect of service quality on customer satisfaction. The multiple linear regression model is important to analyze continuous response variables. Hence, the study lacks the right way of measuring the categorical dependent variable. Abdissa Gemechu [13] conducted the impact of service quality on customer satisfaction analyzed by multiple linear regression models. But the study missed the correct model to measure the impact of service quality. The impact is measured by a propensity score matching model to know the treated and untreated groups. Hence, this study looked at these gaps and tried to fulfill the gaps by ordinal logit regression model. Therefore, the aim of this study attempts to analyze the effect of service quality on customer satisfaction in case of selected commercial banks in Hawassa, southern Ethiopia.

The following are the study's hypotheses, which are based on the phenomenon indicated above:

- H₁:** Tangibility has a positive and significant effect on customer satisfaction.
- H₂:** Reliability has a positive and significant effect on customer satisfaction.
- H₃:** Responsiveness has a positive and significant effect on customer satisfaction.
- H₄:** Assurance has a positive and significant effect on customer satisfaction.

H₅: Empathy has a positive and significant effect on customer satisfaction.

process by taking all necessary measures help to maintain its quality.

2. RESEARCH METHODOLOGY

2.3 Methods of Data Analysis

2.1 Research Design, Sampling Techniques and Sample Size Determination

Ordinal logit regression used to examine the effect of service quality dimensions on customer satisfaction. In this study, the dependent variable is customer satisfaction, while the independent variables are tangibility, reliability, responsiveness, empathy and assurance. The ordinal logistic regression model is one of a number of models that fall under the extended linear models for ordinal data rubric. Observing a given score or less is the event of interest in ordinal logistic regression. All of the odds are of the form

This study was utilized cross-section survey method to analyze the effect of service quality on customer satisfaction. The target population of this study is individual customers of Commercial Bank of Ethiopia who were receiving the service in Hawassa branch, Tabor branch and Atote branch. In order to select the representative sample a *multi-stage random sampling technique* was applied. Hence, to select the three branches out of the 28 branches in the district the researcher used random sampling technique. In the second stage, the participant's Commercial Bank of Ethiopia user customers were selected by using a *systematic random sampling technique* from Hawassa branch, Tabor branch and Atote branch list. The selection procedure in such a design begins by selecting a random position in the list, and then every nth member is chosen until the target number is reached. "In order to determine the representative sample sizes for the total target population of this study, the researcher used the formula developed" by Yamane [14]. According to Yemane, having a confidence level of 95% with a sampling error of 5%, the sample size "n" was determined as follows:

$$\theta_j = \frac{\text{prob}(\text{score} \leq j)}{1 - \text{prob}(\text{score} > j)} = \frac{\text{prob}(\text{score} \leq j)}{[1 - \text{prob}(\text{score} \leq j)]} = e^{\alpha_j + \beta x}$$

If multiple explanatory variables are applied to the ordinal regression model, is replaced by the linear combination of $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_k X_k$ and the logit is

$$\text{logit} \left[p \left(y \leq \frac{j}{x} \right) \right] = \alpha_j + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_k X_k.$$

The threshold (α_j) and the regression coefficient (β_j) are unknown parameters to be estimated by means of the maximum likelihood method.

The present study used ordinal logit regression model, Y has ordinal distribution.

$$n = \frac{N}{1 + N(e)^2} \quad n = \frac{22,300}{1 + 22,300(0.05)^2} \quad n = 393$$

Where "n" is sample size, "N" is the total population and "e" is the level of precision. Accordingly, the total sample size for this study is 393.

As an example, in a sample of 393 individuals measured: Y = customer satisfaction; X₁ = Tangibility; X₂ = reliability; X₃ = responsiveness; X₄ = Assurance; X₅ = Empathy. Y is the categorical response variable ("dependent") while X₁, X₂, ..., X_k as the predictor variables ("independent"). The details are presented in Table 1.

2.2 Methods of Data Collection

Indicators of service quality developed by Steven and Patton [15] a Tool for Measuring Service Quality in Hospital "Cornell Hospital" (in Fuad [16]).

A questionnaire was used to collect primary data from selected respondents. The questionnaires include Likert scale questions with five-point ratings. It was prepared in English language. The researchers were managed the data collection

Table 1. Operational definition of study variables

Variable	Definition	Indicators
Customer Satisfaction (Y)	Customer satisfaction is the feeling of pleasure or disappointment that arises because someone compares the perceived performance of a product (or outcome) to his expectations (Kotler, 2000)	<ol style="list-style-type: none"> 1. Satisfaction on the ability to carry out promised services with accuracy and reliability 2. Satisfaction on the ability to assist customers and provide responsive services 3. Satisfaction on the knowledge, capability, courtesy, and credibility skills of bank staff 4. Satisfaction on the ease of creating relationships, good communication, personalized attention and understanding the needs of the customer 5. Satisfaction on the appearance of physical facilities, equipment, employees, and means of communication (developed from Agung Utama's research, 2003)
Tangibility (X ₁)	Physical evidence is a service that can be seen, smelled and touched, and tangibles dimension is important in-service measurement.	<ul style="list-style-type: none"> • Parking space • a comfortable customer waiting tables • modern equipment • Consultation room • list of service types • books quality, • material associated with the service
Reliability (X ₂)	Reliability is a dimension that measures the reliability of the company in providing services to its customers.	<ul style="list-style-type: none"> • Quickly make corrections • Reliable and consistent • Providing services as needed • provide services at the promised time.
Responsiveness (X ₃)	Responsiveness is the most dynamic dimension of service quality. The customer's expectation of the speed of service will almost certainly change with the trends over time.	<ul style="list-style-type: none"> • Speedy response • respond to customers request • A fast response in fulfilling customer's wishes • provide prompt services • always willing to help customers
Assurance (X ₄)	Assurance is a quality dimension related to the company's ability and front-line staff behavior in instilling trust and confidence in its customers.	<ul style="list-style-type: none"> • instill confidence in customers • make customers feel safe in their transaction • have a knowledge to answer customer questions • employees are consistently
Empathy (X ₅)	Empathy is the fifth dimension of service quality. In general, this dimension is perceived as less important than the dimensions of reliability and responsiveness in the eyes of most customers.	<ul style="list-style-type: none"> • understand the individual needs for their customers • giving customers individual attention • employees have the customer's being interest at heart • employees deal with customers in caring fashion • Bank has hours convenient to all customers

3. RESULTS AND DISCUSSION

The analysis of ordinal logit regression data obtained using the program SPSS Version 20 is given in Table 2 to determine the extent to which the regression coefficient of each independent variable and the direction of the influence on the dependent variable. Table 2: Results of Ordinal Logistic Regression Model Using customer satisfaction as Response with five Categories (5= Excellent, 4= Good, 3= Satisfactory, 2= Poor, 1 = Very Poor).

Based on regression results from Table 2 above, the results of this study showed that the effect of service on customer satisfaction in multiple dimensions. Among service quality dimensions; tangibility, reliability and assurance have significant effects on customers' satisfaction whereas responsiveness and empathy were not. "This result is supported by Leni et al. [17] and Tibebe [18]. This means that although all mentioned service quality dimensions are important to explaining customers' satisfaction."

The tangibility regression coefficient has positive and significant effect on the customer satisfaction. The results of the regression coefficient ($\beta = 0.474, p < 0.001$) indicates that the ordered logit coefficient is that for a one unit increase in tangibles the customer satisfaction level is expected to change by 47.4% in the ordered log-odds scale while the other variables in the model are held constant. "In connection to

this finding, the result of Leni et al. [17] is consistent with this finding. Leni et al. [17] argued that tangibility has positive and statistically significant effect on customer satisfaction in hospital."

In line with this variable, Table 2 shows that reliability has positive and significant effect on the customer satisfaction. The results of the beta coefficient ($\beta = .666, p < 0.001$) indicates that other things constant, is an improvement related to reliability given to the customers, leads a 66.6% in the ordered log-odds scale while increase in the customer satisfaction at selected commercial bank branches. "In connection to this finding Tibebe [18] indicated that reliability has a positive effect on the customer satisfaction in alcohol and liquor factory, South Africa."

In linking to this variable, Table 2 shows that assurance has positive and significant effect on the customer satisfaction. The results of the beta coefficient and p-value ($\beta = 0.280, p < 0.001$) indicates that the ordered logit coefficient is that for a one unit increase in assurance the customer satisfaction level is expected to change by 28% in the ordered log-odds scale while the other variables in the model are held constant. This implies that assurance service quality was satisfying the customers those were receiving service from selected Commercial Banks of Ethiopia. Similarly, this finding, Tibebe [18] indicated that assurance is positively affect customer satisfaction.

Table 2. Results of Ordinal Logistic Regression Model Using customer satisfaction as Response with five Categories (5= Excellent, 4= Good, 3= Satisfactory, 2= Poor, 1 = Very Poor)

		Parameter Estimates						
		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[Satisfaction = 1.00]	.036	.403	.008	1	.929	-.755	.827
	[Satisfaction = 2.00]	1.049	.400	6.886	1	.009	.266	1.833
	[Satisfaction = 3.00]	1.954	.409	22.792	1	.000	1.152	2.756
	[Satisfaction = 4.00]	3.646	.439	69.047	1	.000	2.786	4.507
Location	Tangibles (X_1)	.474	.103	21.107	1	.000	.272	.677
	Reliability (X_2)	.666	.107	39.053	1	.000	.457	.875
	Responsiveness (X_3)	-.004	.069	.004	1	.951	-.140	.131
	Assurance (X_4)	.280	.128	4.753	1	.029	.532	.028
	Empathy (X_5)	-.125	.123	1.032	1	.310	-.366	.116

Link function: Logit. Own primary survey results (2021)

Table 3. Summary of hypothesis testing

No	Hypothesis	Result
1	H ₁ : Tangibility has a positive and significant effect on customer satisfaction.	Accepted
2	H ₂ : Reliability has a positive and significant effect on customer satisfaction.	Accepted
3	H ₃ : Responsiveness has a positive and significant effect on customer satisfaction.	Rejected
4	H ₄ : Assurance has a positive and significant effect on customer satisfaction.	Accepted
5	H ₅ : Empathy has a positive and significant effect on customer satisfaction.	Rejected

3.1 Hypothesis Testing

The hypotheses that were proposed on this study in relation with the service quality and its effect on customer satisfaction were analyzed in this section. The hypothesis is accepted or rejected based on the understanding obtained from coefficient table. Table 3 indicates the effect of each independent variable on the dependent variable and the level of significance. Accordingly, the hypotheses proposed in this thesis are summarized as Table 3.

4. CONCLUSION AND RECOMMENDATIONS

The objective of this study to analyze the effect of service quality dimensions (tangibles, Reliability, responsiveness, assurance, and empathy) on customer satisfaction at selected Commercial Bank branches in Hawassa, Ethiopia. From the multiple linear regression statistical results, the following hypotheses were tested to answer the problem statement and consequently address the objective of the study. H₁ Tangibles dimension has a positive and significant effect on customer satisfaction at selected commercial bank branches. H₂ Reliability has a positive and significant effect on customer satisfaction at selected commercial bank branches. H₄ Assurance has a positive and significant effect on customer satisfaction at selected commercial bank branches. Based on the results obtained from five testing hypotheses three (H₁, H₂, and H₄) can concluded that customer service has a positive effect on customer satisfaction at selected commercial bank branches.

Among five factors, only reliability has the greatest effect on customer satisfaction, which reached 0.666, while tangibility was found to have a significant next effect on customer satisfaction, which reached 0.474. Therefore, for commercial bank Ethiopia, how to improve customer satisfaction is vital. Based on the results, discussion and conclusion, the following recommendations can be drawn at policy level

and also at the district level of the commercial bank Ethiopia.

The Banks operators better to allocate resources to improve service quality (assurance, responsiveness, reliability, tangibility and empathy) dimensions respectively. Since tangibility and reliability have better significant effect on the customer satisfaction than other variables.

- The Banks recommended to recruit employees who fulfil the customers' wants, interests and provide different training options to their employees.
- The Banks should improve their services delivery by establishing modern technologies and customer handling management system related to service quality.
- Bank managers' better to review their service quality regularly without any compromising in order to improve customers' satisfaction, and the banks has to incorporate output of this study so as to create a more enjoyable experience for their customers' satisfaction.

Banks should improve their service quality by examining their customers' needs and wants on a regular basis and upgrading their customer service training programs for their workers at least once a year.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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