

Evaluation of Service Quality in Card Banking – Application of SERVQUAL Model

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ABSTRACT

In this study an attempt has been made to evaluate the service quality in card banking. In this study the systematic sampling method has been applied to collect the sample data from 400 respondents who are availing card banking service in the districts of Burdwan, Purulia, Bankura and Birbhum. The study shows that there exists a noteworthy gap between mean of perceived score and the mean of expected score of all the attributes for all the dimensions of service quality of card banking. The average unweighted and weighted SERVQUAL gap score in card banking are negative which indicates that the services delivered by the card banking are not up to the expectation and the bank should give more attention to reduce these gap scores in the seven dimensions of service quality in card banking.

Key words: *Service Quality, SERVQUAL gap score, Card banking*

1. Introduction

Banks issue different card to the customers so that the customers can perform different banking activities without going to the bank physically. Some of the most common cards are debit cards, credit cards, prepaid cards, and charge card *etc.* [Dingra, (2018)]. These card banking services provide the facility for users to avail different services like withdrawal and deposit of cash, payment of different bills *etc.* For getting these services, technology is considered as one of the most significant drivers to attract more customers and to provide better services to them. [Boon-itt (2015)]. Quality in services support to maintain the customers' confidence [Berry *et al.* (1994)]. Gerrard and Cunningham (2005) opined that business firms providing better service must have high customer satisfaction, reduced defection, increased retention of customers and greater market share with high profitability. Thus, service quality plays a key role in any business. So, evaluation of service quality is an essential market strategy for the banks like any other type of business firms. The SERVQUAL model has been first developed by Parsuraman *et al.* (1988) to measure the service quality, afterward, several researchers used this model in various service sectors by modifying the dimension [Stafford (1996), Bahia & Nantel (2000), Woo and Ennew (2004), Tilenget *al.* (2013) *etc.*]. In this study an attempt has been made to evaluate the service quality in card banking.

2. Objectives of the Study

The objectives of the study are:

- (i) To evaluate the service quality of card banking by using modified SERVQUAL model,
- (ii) To examine the difference between expectations and perceptions of customers in different dimensions of service quality in card banking.

3. Review of Literature

Theresia and Tan (2021) have evaluated the quality of the services of the credit card with the help of e-SERVQUAL model. The model considers the dimensions of system availability, privacy, efficiency, fulfilment, compensation, responsiveness and contact. The authors have evaluated the experience of the customers by considering the areas of satisfaction, efficiency, learnability and effectiveness in card

banking. Using the usability testing scale the satisfaction of the customers has been obtained by the authors. With the use of House of Quality method, the authors have designed the improvement of the model. Aslam *et al.* (2019) have applied the structured equation model, exploratory factor analysis, confirmatory factor analysis in order to investigate the factors of ATM service quality of the customers in Pakistan. Some of the main components of ATM service quality are ease of use, privacy, security, reliability and fulfilment, moreover, convenience and responsiveness and these factors are positively related with the satisfaction level of the customers and the customers' satisfaction positively influences the loyalty of the customers. Wanninayake *et al.* (2019) have opined that there has been an immense competition among the banks now a days and this has paved the way for development of new technologies and improvement in the procedures for retaining the customers. However, in order to achieve the loyalty of the customers within the banking industries the service quality plays a vital role and it is considered to be one of the most remarkable factors. According to the authors, in the banking sector there is a key area called the credit card sector and the success of the credit card positively depends on the perceived customers' service quality and there has been a positive interconnection between the various aspects of the service quality and the loyalty of the customers. Out of the five factors tangible, assurance and responsiveness are the three key factors of the service quality which are the leading determinants of the loyalty of the customers. Narteh (2015, 2013) has examined the perceived service quality and satisfaction of self-service technology with the help of SERVQUAL. The author has identified ease of use, responsiveness, convenience, fulfilment, reliability, privacy and security as the dimensions of service quality. Khan (2010) has observed that reliability, efficiency, ease of use, privacy, convenience responsiveness and efficiency are the factors of ATM service quality. But the author didn't consider fulfilment as the important dimension of service quality. From the above mentioned literatures, it is observed that except few Indian studies most of the studies are associated with the service quality of card banking in the developed countries. In the present study an effort has been made to evaluate the service quality of card banking by applying modified SERVQUAL model.

4. Database

In this study the systematic sampling method has been applied to collect the sample data from 400 respondents who are availing card banking service in the districts of Burdwan, Purulia, Bankura and Birbhum. In this method every 2nd customer who set foot out of the bank branches of State Bank of India, Bank of Maharashtra, UCO Bank, Bank of Baroda, Bank of India, Punjab National Bank, Union Bank of India, Axis Bank, ICICI Bank, HDFC Bank, Kotak Mahindra Bank, IDBI Bank, YES Bank and IndusInd Bank, after getting their services from their respective branches, are approached on every 1st and 3rd Saturday during June 2021 to November 2021 from 11 am to 2 p.m. and they were surveyed if they adopted card banking services for the last two years. These banks are selected on the basis of conveniences. The modified SERVQUAL model has been used to collect the data on the different dimensions of service quality. Service quality perception and expectation are measured on a five-point Likert-type scale ranging from 1 'strongly disagree' to 5 'strongly agree.'

5. Methodology

On the basis of extensive literature review, in the present study the basic SERVQUAL model has been augmented by adding more additional dimensions and omitting few dimensions so that the Modified SERVQUAL Model is suitable to measure the service quality in card banking services. The modified SERVQUAL model consists of twenty eight attributes and seven dimensions: namely reliability, responsiveness, assurance, efficiency, empathy, security and system availability. After getting the perceived score and expected score of twenty eight attributes under seven broad service quality dimensions for all the respondents a gap score has been computed. After that mean gap score for each attribute has been computed for each of the seven dimensions of card banking. Then mean gap score of

each seven dimensions has been calculated and ultimately average unweighted SERVQUAL gap score and average weighted SERVQUAL gap score are computed for card banking. For finding out the weight of each seven dimensions, the normalized to scaled sum unity has been followed. Cronbach's Alpha test has been applied to test the reliability of the modified SERVQUAL model. To test the significant differences between perceived score and expected score of different attributes in modified SERVQUAL model, Mann-Whitney U test has been applied.

6. Analysis and Interpretation of the Results

The results of gap analysis of Modified SERVQUAL Model for card banking are presented in Table 1 to 7. Table 1 exhibits that the average gap score of reliability dimension is -1.31259. Among the attributes in this dimension, the highest gap score (-1.5657) is observed in the attribute, "Debit cards can be used universally to deposit money", and the lowest gap score (-1.2543) is observed in the attribute, "Debit cards can be used universally to withdraw cash". The values of Mann-Whitney Test are statistically significant at 1 % level and it implies that there is a significant difference between mean of perceived score and mean of expected score of all the attributes in the dimension of reliability.

Table 2 displays that the average gap score of responsiveness dimension is -1.21028. Among the attributes in this dimension, the highest gap score (-1.44768) is observed in the attribute, "Bank officers take the debit card related queries seriously", and the lowest gap score (-1.07469) is observed in the attribute, "Bank employees inform exactly when services will be performed". The values of Mann-Whitney Test are statistically significant at 1 % level and it implies that there is a significant difference between mean of perceived score and mean of expected score of all the attributes in the dimension of responsiveness.

Table 3 shows that the service quality on assurance dimension has a negative value (-1.26343) which implies that this dimension does not fulfil the expectation of the customers. Among the attributes in this dimension, the highest gap score (-1.50761) is observed in the attribute, "The behaviour of the bank employees increases the confidence of customers", and the lowest gap score (-1.11066) is observed in the attribute, "Customers feel safe for using debit cards in their transactions". There is also a significant difference between mean of perceived score and mean of expected score of all the attributes in the dimension of assurance as all Mann-Whitney Test statistics are statistically significant at 1 % level.

Table 4 demonstrates that the service quality on efficiency dimension has a negative value (-1.33283) which infers that customers' perception of this service is still below the expected value. Among the attributes in this dimension, the highest gap score (-1.53665) is observed in the attribute, "The speed of login and logout is very fast", and the lowest gap score (-1.36588) is observed in the attribute, "The website is available in multi-language". There is also a significant difference between mean of perceived score and mean of expected score of all the attributes in the dimension of efficiency as all Mann-Whitney Test statistics are statistically significant at 1 % level.

Table 5 reveals that the service quality on empathy dimension has a negative value (-1.23721) which infers that customers' perception of this service is still below the expected value. Among the attributes in this dimension, the highest gap score (-1.43983) is observed in the attribute, "Continuous efforts are made to provide best debit card services", and the lowest gap score (-1.06224) is observed in the attribute, "Problems addressing mechanism in debit card provides 24*7 hours service". There is also a significant difference between mean of perceived score and mean of expected score of all the attributes in the dimension of empathy as all Mann-Whitney Test statistics are statistically significant at 1 % level.

Table 6 exhibits that the security dimension gets a negative value (-1.25934) which assumes that customers' perception of this service is still below the expected value. Among the attributes in this dimension, the highest gap score (-1.60443) is observed in the attribute, "Customers feel safe with online transactions", and the lowest gap score (-1.02905) is observed in the attribute, "The banks always send OTP for every transaction in registered mobile number and email". The mean of perceived score and mean of expected score of all the attributes in the dimension of security are significantly different.

Table 7 reveals that the system availability dimension has a negative value (-1.05325) which assumes that customers' perception of this service is still below the expected value. Among the attributes in this dimension, the highest gap score (-1.31674) is observed in the attribute, "After entering information, pages at the site do not freeze", and the lowest gap score (-0.93223) is observed in the attribute, "The server and website are supported by latest software". The mean of perceived score and mean of expected score of all the attributes in the dimension of system availability are significantly different.

Table 8 tells average unweighted and weighted SERVQUAL gap scores in card banking. The upper panel of this table shows that the average unweighted SERVQUAL gap score in card banking is negative (-1.23842) which indicates that the services provided by the card banking are not up to the expectation of the customers. Among the seven dimension, efficiency dimension shows highest gap score (-1.33283) and the lowest gap score (-1.05325) is observed in the system availability dimension. Average weighted SERVQUAL gap score in card banking is also negative (-0.17866) which is presented in the lower panel of Table 4.15. However, the ranking of dimensions of service quality changes in the weighted SERVQUAL gap score. In the weighted SERVQUAL gap score, assurance has the highest gap score followed by responsiveness, reliability, security, empathy and efficiency. The system availability dimension has the lowest gap score in card banking.

7. Major Findings and Conclusion

All the values of Mann-Whitney Test are statistically significant at 1 % level and it implies that there is a significant difference between mean of perceived score and the mean of expected score of all the attributes for all the dimensions of service quality of card banking. The average unweighted and weighted SERVQUAL gap score in card banking are negative which indicates that the services provided by the card banking are not up to expectation of the users. It may be concluded from the major findings of the study that according to the weighted SERVQUAL gap score, assurance has the highest gap score followed by responsiveness, reliability, security, empathy and efficiency and system availability dimension in card banking and the bank should give more attention to reduce these gap scores in the seven dimensions of service quality in card banking.

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Table 1: SERVQUAL Score of Reliability Dimension in Card Banking

Statements	Mean of Perceived Score (P)	Mean of Expected Score (E)	Gap Score (P-E)	Mann-Whitney Test
ATM has the ability to function all the time and provides error free and consistent services.	3.367911	4.662517	-1.29461	85232.50***
Debit cards can be used universally to withdraw cash	3.435685	4.69018	-1.2545	88624.50***
Debit cards can be used universally to deposit money	2.647303	4.213001	-1.5657	60798.00***
Debit cards are very reliable to use at any point of sale	3.493776	4.629322	-1.13555	121494.00***

Average Gap Score of Reliability Dimension	-1.31259
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Note: ***implies significant at 1 % Level

Source: Survey evidences, 2021

Table 2: SERVQUAL Score of Responsiveness Dimension in Card Banking

Statements	Mean of Perceived Score (P)	Mean of Expected Score (E)	Gap Score (P-E)	Mann-Whitney Test
Bank officers provide prompt solution to debit card related problems	3.427386	4.655602	-1.22822	10640***
Bank officers take the debit card related queries seriously	2.970954	4.418637	-1.44768	55707.5***
Bank employees are ready to deliver services at any time	3.065007	4.155556	-1.09055	101670.5***
Bank employees inform exactly when services will be performed	3.073306	4.147994	-1.07469	107957***
Average Gap Score of Responsiveness Dimension	-1.21028			

Note: ***implies significant at 1 % Level

Source: Survey evidences, 2021

Table 3: SERVQUAL Score of Assurance Dimension in Card Banking

Statements	Mean of Perceived Score (P)	Mean of Expected Score (E)	Gap Score (P-E)	Mann-Whitney Test
Customers feel safe in using debit cards in their transactions	3.495146	4.605809	-1.11066	116475***
Bank employees have adequate knowledge to handle debit card related queries	3.201936	4.410788	-1.20885	81470.5***
The behaviour of the bank employees increases the confidence of customers	2.777317	4.284924	-1.50761	53512.5***
Debit cards are blocked by the employees in case of emergency	3.381743	4.608333	-1.22659	84005.5***
Average Gap Score of Assurance Dimension	-1.26343			

Note: ***implies significant at 1 % Level

Source: Survey evidences, 2021

Table 4: SERVQUAL Score of Efficiency Dimension in Card Banking

Statements	Mean of Perceived Score (P)	Mean of Expected Score (E)	Gap Score (P-E)	Mann-Whitney Test
The speed of login and logout is very fast	3.001383	4.538036	-1.53665	60338***
Customers are able to complete their transactions quickly	3.071923	4.538036	-1.46611	66820***
The website is available in multi-language	2.900415	4.266297	-1.36588	81530***
It is very easy to navigate on the website	3.035961	3.998617	-0.96266	134671.5***
Average Gap Score of Efficiency Dimension	-1.33283			

Note: ***implies significant at 1 % Level

Source: Survey evidences, 2021

Table 5: SERVQUAL Score of Empathy Dimension in Card Banking

Statements	Mean of Perceived Score (P)	Mean of Expected Score (E)	Gap Score (P-E)	Mann-Whitney Test
Debit card related problems are addressed by personalized attention of the bank employees	3.330567	4.562932	-1.23237	84118.5***
Customers get personalized services from employees	3.056708	4.271093	-1.21438	100731.5***
Continuous efforts are made to provide best debit card services	2.769018	4.208852	-1.43983	57435.5***
Problems addressing mechanism in debit card provides 24*7 hours service	3.655602	4.717842	-1.06224	82466.5***
Average Gap Score of Empathy Dimension	-1.23721			

Note: ***implies significant at 1 % Level
Source: Survey evidences, 2021

Table 6: SERVQUAL Score of Security Dimension in Card Banking

Statements	Mean of Perceived Score (P)	Mean of Expected Score (E)	Gap Score (P-E)	Mann-Whitney Test
Card banking doesn't misuse customer's personal information	3.276625	4.609959	-1.33333	90084***
The banks always send OTP for every transaction in registered mobile number and email.	3.748271	4.777317	-1.02905	87767.5***
Customers feel safe with online transactions	2.82296	4.427386	-1.60443	66427.5***
Customers get transaction details through SMS service and email service	3.569848	4.640387	-1.07054	78915.5***
Average Gap Score of Security Dimension	-1.25934			

Note: ***implies significant at 1 % Level
Source: Survey evidences, 2021

Table 7: SERVQUAL Score of System Availability Dimension in Card Banking

Statements	Mean of Perceived Score (P)	Mean of Expected Score (E)	Gap Score (P-E)	Mann-Whitney Test
After entering information, pages at the site do not freeze	3.121715	4.438451	-1.31674	66061***
The website is functioning technically correct	3.57953	4.609959	-1.03043	89284.5***
Customers always get server response during transactions	3.753804	4.687414	-0.93361	111769***
The server and website are supported by latest software	3.69018	4.622407	-0.93223	96528.5***
Average Gap Score of System Availability Dimension	-1.05325			

Note: ***implies significant at 1 % Level
Source: Survey evidences, 2021

Table 8: Average Unweighted and Weighted SERVQUAL Gap Scores in Card Banking

Dimensions		Average Gap Score	
Average Gap Score of Reliability Dimension		-1.31259	
Average Gap Score of Responsiveness Dimension		-1.21028	
Average Gap Score of Assurance Dimension		-1.26343	
Average Gap Score of Efficiency Dimension		-1.33283	
Average Gap Score of Empathy Dimension		-1.23721	
Average Gap Score of Security Dimension		-1.25934	
Average Gap Score of System Availability Dimension		-1.05325	
Average Unweighted SERVQUAL Gap Score in Card Banking		-1.23842	
Dimensions	Average Gap Score	Weight	Weight Score
Reliability	-1.31259	0.15625	-0.20509
Responsiveness	-1.21028	0.1875	-0.22693
Assurance	-1.26343	0.21875	-0.27638
Efficiency	-1.33283	0.09375	-0.12495
Empathy	-1.23721	0.125	-0.15465
Security	-1.25934	0.15625	-0.19677
System Availability	-1.05325	0.0625	-0.06583
Average Weighted SERVQUAL Gap Score in Card Banking		-0.17866	

Source: Survey evidences, 2021

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