

Service Quality of Automated Teller Machine and Customer Satisfaction: A Case Study of State Bank of India, Patna (Bihar)

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ABSTRACT

This study attempts to find out whether ATM (Automated Teller Machine) provides service quality to the customers in context of State Bank of India, Patna. For this purpose SERVQUAL scale proposed by Parasuraman et. al. (1988) has been used. The primary data for the study has been collected through the questionnaire for the customers of State Bank of India, Patna. Tools used for the data analysis are : frequency distribution table, some basic descriptive analysis like mean and standard deviation and one sample t-test. Results of data analysis and hypothesis testing has shown that ATM offers service quality to the customers and customers are satisfied with the ATM services. But all the dimensions of the service quality of ATM are placed in the customer satisfaction level of 'satisfied'. So, there is need to further improve the service quality of ATM and popularize the various ATM services. The suggestions given for this purpose are related to security, awareness programme, education in technical skill, user-friendliness, cost factor and improvement in dimensions of Reliability and Responsiveness. Since this study is limited to the public sector bank located in the urban area, the future research can be done for comparing ATM service quality in rural and urban areas in different states of India. The comparison of public sector and private sector banks providing ATM services can also be done.

Keywords: Automated Teller Machine, Service quality, Customer Satisfaction.

INTRODUCTION:

In the present time, Information and Communication Technology (ICT) has influenced all sectors of the Indian economy. It has revolutionized the Indian banking sector. In India, Automated Teller Machine (ATM) is one of the earliest virtual banking product that is most popular and widely used by the customers. ATM is mechanical device that replaces human teller. It offers a wide range of banking and related services like cash withdrawal, balance enquiry, mini statement, pin change, fund transfer, bill payment, mobile top-up etc. It is also known as 'Anytime Money' because it allows customers to withdraw money from the bank at anytime. Now customers can access their account anytime and anywhere through ATM without visiting the brick and mortar bank branch. Banks initiated this delivery channel to provide quality banking and related services and increase the customer satisfaction. The satisfied customer becomes a loyal customer. By providing services quality to the customers, banks can attract and retain customers. Therefore, this study attempts to find out whether ATM provides service quality to the customers in context of State Bank of India, Patna. State Bank of India is the largest commercial bank of India and Patna is the capital of Bihar state of India.

OBJECTIVES:

The objectives of the study are as follows :

1. Demographic analysis of the ATM users.
2. To find out whether ATM offers service quality to the customers.

3. To give suggestions on the basis of the findings of the study.

REVIEW OF LITERATURE:

Available literature throws light on ATM services, service quality and customer satisfaction.

ATM Services:

Dilijones et. al. (2009) mentioned that adequate number of ATMs, convenient and secure location and user friendly system, speed, minimum errors, high uptime, cash backup, cost and service coverage are essential service quality aspects of ATM service.

Sachin Kumar (2011) found that enhanced popularity of ATM in India is due to the increase in the number of services (money transfer, mobile and electricity bill payment, income tax payment, cash deposit and air ticket booking) offered by banks through ATM.

Vijesh R. et. al. (2011) mentioned the benefits of providing valuable services through delivery channels. Deliver the services simpler, deliver the services fast, deliver the services securely, acquire new customers, retain their existing customers, keep customers highly satisfied on the services provided, lower operational cost, lower transaction processing cost, wider customer base irrespective of geographical barrier, higher profits on bottom line. Barnett (1998) findings proved that younger consumers are more comfortable in using e-banking.

Katy and Aspden (1997) findings explained that males were more likely to adopt e-banking than females.

Service Quality:

Excellent service quality is not an optional competitive strategy which may or may not be adopted to differentiate one bank from another. Today it is essential to corporate profitability and survival. The link between service quality and customer satisfaction has been submitted to intense scrutiny by leading service quality researchers, as well as the links between quality, customer satisfaction, customer retention and profitability (Storbacka et al, 1994). The connection between service quality and corporate profitability is now seen to depend on high levels of customer satisfaction, the successful targeting of “quality” customers and the retention of those customers.

Most of the researchers found that service quality is the antecedent of customer satisfaction (Bedi, 2010; Parasurama, et al., 1988). Quality customer service and satisfaction are recognised as the most important factors for bank customer acquisition and retention (Armstrong and Seng, 2000). Service quality is considered as one of the critical success factors that influence the competitiveness of an organisation. A bank can differentiate itself from competitors by providing high quality service. Service quality is one of the most attractive areas for researchers over the last decade in the retail banking sector.

Increase in service quality of the banks can satisfy and develop attitudinal loyalty which ultimately retains valued customers. There is a very strong relationship between quality of service and customer satisfaction (Parasuraman et al., 1985). The higher level of perceived service quality results in increased customer satisfaction. When perceived service quality is less than expected service quality, customer will be dissatisfied. Parasuraman, Zeithaml and Berry (1988) posited that if the expected quality of service is equal to or nearly equal to the actual perceived performance, then customer will be satisfied. But if negative discrepancy exists between perceptions and expectations, a performance-gap appears and causes customer dissatisfaction while a positive discrepancy leads to customer delight. The relationship between expectation, perceived service quality and customers satisfaction have been investigated in a number of researches (Zeithaml, et al., 1996). An expectation is minimum requirement of service quality by service providers to meet the customers’ wants and needs. According to Parasuraman et al. (1985,1988) perceived service quality is viewed as the degree and direction of discrepancy between customer’s perceptions and desires.

Berry (1990) mentioned that there are ten ‘Quality Values’ which influence satisfaction behaviour i.e. Quality, Value, Timeliness, Efficiency, Ease of Access, Environment, Inter-departmental Teamwork, Frontline Service Behaviour, Commitment to the Customer and Innovation.

Parasuraman et. al. (1988) developed SERVQUAL scale to measure service quality. This scale has five dimensions namely tangibles, reliability, responsiveness, assurance and empathy.

Customer Satisfaction:

Customer satisfaction is the state of mind that customers have about a company when their expectations have been met or exceeded over the lifetime of the product or service (Kevin Cacioppo, 1995). It is also feeling or attitude of a customer towards a product or service after it has been used. According to Oliver (1980)

satisfaction appears to mediate changes between pre-exposure and post-exposure attitudinal components. When customers pay money to buy a service he has some minimum expectations from the transaction. These expectations from the purchase have to be met substantially, if not entirely for the customer to become a loyal customer of the service. According to Tse and Wilton (1988) customer satisfaction is, “the consumers response to the evaluation of perceived discrepancy between prior expectations and the actual performance of the product perceived after its consumption.”

Consumer satisfaction is considered the primary intervening constructs in the area of service marketing because ultimately it leads to the development of consumer loyalty or re-patronation of a product or service (Ravichandran et al, 2010).

Banking institutions across the globe have recognized the importance of customer satisfaction and of developing and maintaining enduring relationship with their customers as two crucial parameters leading to increased business profits. At the same time, several banking institutions are experiencing increasing level of retail customer dissatisfaction. Research suggests that customers dissatisfaction is still the major reason of bank customers’ switch to other banks (Manrai and Manrai, 2007).

Customers satisfaction has been considered the essence of success in today’s highly competitive banking industry. Gee et al. (2008) pointed out that the cost of serving a loyal customer is five or six times less than a new customer. Loyalty is a direct outcome of customer satisfaction. Generally speaking, if the customers are satisfied with the provided goods or services, the probability that they use the services again increases. Also, satisfied customers will most probably talk enthusiastically about their buying or the use of a particular service; this will lead to positive advertising. On the other hand, dissatisfied customers will most probably switch to a different brand; this will lead to negative advertising. The significance of satisfying and keeping a customer in establishing strategies for a market and customer oriented organisation cannot be ignored.

Customer satisfaction measurement allows an organisation to understand the key drivers that create satisfaction or dissatisfaction and what is really driving their satisfaction during a service experience.

NEED OF THE STUDY:

The review of available literature shows that many studies have been done on ATM service quality. But human being is complex in nature. His perception changes with time. In this light, previous studies become less relevant and the need for fresh study arises. Further, no such study has been conducted in context of Patna, the capital of Bihar State of India. Therefore, this study attempts to find out whether ATM offers service quality to the customers. For this purpose SERVQUAL scale has been used.

HYPOTHESIS:

H₀: ATM does not offer service quality to the customer

H₁: ATM offers service quality to the customers.

Hypothesis framed:

H₀ : $\mu = 3$

H₁ : $\mu > 3$

Where, μ = Mean score of customer satisfaction level on service quality of ATM

Here,

SQ of ATM = f(T, R, RS, A, E) – From SERVQUAL scale

Where,

SQ = Service Quality

ATM = Automated Service Quality

T = Tangibles	} Dimensions of Service Quality
R = Reliability	
RS = Responsiveness	
A = Assurance	
E = Empathy	

RESEARCH METHODOLOGY:

The research methodology used only quantitative data to validate the study. Primary data has been used for the study. Primary data has been collected through the “Questionnaire for Customers” that were distributed through hand delivery. This questionnaire was for the customers of State Bank of India (i.e., account holders of SBI) branches located in the city of Patna. Using convenience sampling method, a total of 500 questionnaires were distributed to the account holders of SBI branches located in Patna. The total number of usable questionnaires was 357 i.e., 71.4%.

Tools used for the data analysis are :

1. Frequency distribution table.
2. Some basic descriptive analysis like mean and standard deviation.
3. One-sample t-test.

The questionnaire was divided into two main sections-first was related to the demographic details of the respondents and second was related to the customer satisfaction level on the ATM service quality. The second section contained 18 items. To measure the service quality of ATM, SERVQUAL scale developed by Parasuraman (1988), was used. This scale has five dimensions namely, tangibles, reliability, responsiveness, assurance and empathy. These five dimensions and the number of items included in each dimension for ATM service quality is shown below:

Sl. No.	Dimensions	Number of items
1.	Tangibles	3
2.	Reliability	4
3.	Responsiveness	2
4.	Assurance	4
5.	Empathy	5
Overall Customer Satisfaction (OCS)		18

The customers' satisfaction level on the service quality of ATM were captured on the basis of 5 point Likert scale. These five points and their respective score values in the scale are given as under:

Points of Scale	Assigned Score
Highly Satisfied	5
Satisfied	4
Neutral	3
Dissatisfied	2
Highly Dissatisfied	1

The Statistical Package of Social Science (SPSS 20) was used for reliability analysis and data analysis.

Reliability and Validity of the Scale:

SERVQUAL scale is a multi-items scale. So Cronbach alpha method was used to measure the reliability of the scale. According to Chawla and Sondhi (2011) when Cronbach alpha is 0.7 or more, it means that there is good reliability between the various items of a multiple item scale.

The following table shows that all dimensions and complete scale of ATM services have good reliability.

Table 1.1: Reliability Statistics ATM Services

S.N.	Dimensions	Items	Cronbach's Alpha
1	Tangibles	3	.783
2	Reliability	4	.815
3	Responsiveness	2	.782
4	Assurance	4	.867
5	Empathy	5	.859
	Overall Customer Satisfaction-ATM (Complete scale-ATM)	18	.955

(Source : Primary Data collected through the Customer Satisfaction Survey on ATM Services)

To ensure validity of the questionnaire, it was designed to obtain needed data by ensuring that the items are related to the respective dimensions and leads to research objectives and hypothesis. The items were made simple and concise making them easy to understand.

DATA ANALYSIS:

The sample size was 357. It was divided into two categories – ATM user and Non-user of ATM.

Table 1.2: Frequency Distribution of Respondents

Categories	Frequency	Percent
ATM user	331	92.7
Non-user of ATM	26	7.28
Total Sample size	357	100.00

Source: Primary data

Out of 357 respondents, 331 respondents i.e. 92.7% respondents were ATM users. This shows the popularity and acceptance level of ATM services by the customers.

Demographic Analysis of Respondents:

The demographic details of respondents of ATM user is described in the following table.

Table 1.3: Demographic Analysis of ATM User

Parameters	ATM user	
	Frequency	%
Gender		
Male	218	65.9
Female	113	34.1
Total	331	100.0
Age Group		
Less than 25 years	76	23.0
25-35 years	105	31.7
35-45 years	62	18.7
45-60 years	74	22.4
60 years and above	14	4.2
Total	331	100.0
Educational Qualification		
Below Intermediate level	14	4.2
Intermediate	28	8.5
Graduation	148	44.7
Post-graduation	121	36.6
Others	20	6.0
Total	331	100.0
Occupation		
Student	93	28.1
Service	141	42.6
Business	40	12.1
Profession	40	12.1
Retired	10	3.0
Housewife	7	2.1
Total	331	100.0

Source: Primary Data collected through Questionnaire

The results in the above table shows that ‘female’ constituted only 34.1% of total respondents of ATM users. Concerning the age group, ‘25-35 years’ contained the highest percentage of ATM users i.e. 31.7%. Thus, youth are the main user of ATM.

Educational qualification wise ‘Graduates’ constituted highest percentage of ATM users i.e. 44.7%. Lastly, in regard to occupation, respondents in ‘service’ category constituted the highest percentage in ATM i.e. 42.6%. Thus, the study revealed that various parameters like gender, age-group, educational qualification and occupation play an important role in the usage of ATM services.

Descriptive Statistics of ATM Services:

The descriptive statistics shown in the table given below, indicates the mean score of customers satisfaction along with customer satisfaction level relating to the five dimensions (i.e. Tangibles, Reliability, Responsiveness, Assurance, and Empathy) of Service Quality of ATM services. The table shows that mean score of customer satisfaction is maximum for the dimension of Tangibles (with mean score of 3.91) and minimum for dimension of Reliability (with mean score of 3.625). Although Tangibles (with mean score of 3.91), Assurance (with mean score of 3.86) and Empathy (with mean score of 3.84) dimensions show higher customers satisfaction than the dimensions of Reliability (with mean score of 3.625) and Responsiveness (with mean score of 3.635), all dimensions are placed in the Customer Satisfaction level of ‘Satisfied’.

Concerning Customer Satisfaction level, no dimension and no item of any dimension showed the customer satisfaction level of ‘dissatisfied’ or ‘highly dissatisfied’. All dimensions including the Overall Customer Satisfaction on ATM are placed in customer satisfaction level of ‘Satisfied’. Thus, overall customer satisfaction on ATM with mean score of 3.77 shows that customers are satisfied with the service quality of ATM services.

Table 1.4: Descriptive Statistics of ATM Services

	Service Quality Dimensions	N	Mean	Std. dev.	Customer Satisfaction level
I	Tangibles				
1.	ATM Network distribution	331	4.23	0.734	Highly Satisfied
2.	Security system	331	3.95	0.992	Satisfied
3.	Physical appearance and cleanliness of ATM lobby	331	3.55	1.070	Satisfied
	Sub-Total		3.91		Satisfied
II	Reliability				
4.	Fast and accurate service delivery	331	3.75	0.960	Satisfied
5.	No machine/ATM failure	331	3.19	1.153	Satisfied
6.	Availability of adequate cash	331	3.78	0.993	Satisfied
7.	Maintenance of error free records of customers	331	3.78	0.907	Satisfied
	Sub-Total		3.625		Satisfied
III	Responsiveness				
8.	ATM machine responds quickly to a customer request	331	3.75	0.942	Satisfied
9.	Bank handles complaints regarding ATM services promptly	331	3.52	1.107	Satisfied
	Sub-Total		3.635		Satisfied
IV	Assurance				
10.	Feeling of safety in transactions	331	3.87	1.024	Satisfied
11.	Provides relevant information	331	4.01	0.833	Highly Satisfied
12.	Prompt and courteous response	331	3.79	0.942	Satisfied
13.	Consistence of performance	331	3.80	0.958	Satisfied
	Sub-Total		3.8675		Satisfied
V	Empathy				
14.	Convenience of anytime transaction	331	3.81	1.00.	Satisfied
15.	Convenience of anywhere transaction	331	3.84	1.010	Satisfied
16.	Variety of transactions	331	3.85	0.857	Satisfied
17.	Cost effective	331	3.79	0.881	Satisfied
18.	User friendly service	331	3.94	0.995	Satisfied
	Sub Total		3.846		Satisfied
	Overall Total (Overall Customer Satisfaction)		3.7767		Satisfied

Source : Primary Data collected through the Customer Satisfaction Survey on ATM Services

Key: Mean range interpretation on the Customer Satisfaction Level	
0 – 1	Highly Dissatisfied
1 – 2	Dissatisfied
2 – 3	Neutral
3 – 4	Satisfied
4 – 5	Highly Satisfied

One-sample t-test:

One-sample t-test was performed on the sample of ATM services by using SPSS 20.

HYPOTHESIS TESTING:

The hypothesis was tested at 5% level of significance. The test value was chosen as 3.0 because the customer satisfaction level at Likert scale was 1 = highly dissatisfied, 2 = dissatisfied, 3 = Neutral, 4 = Satisfied, 5 = Highly satisfied

∴ Hypothesis framed

$$H_0 = \mu = 3.0$$

$$H_1 = \mu > 3.0$$

The hypothesis were tested separately for all five dimensions of service quality, namely, Tangible, Reliability, Responsiveness, Assurance and Empathy for ATM services. The details are present in the following table based on the five dimensions of service quality of ATM.

Table 1.5: One-sample t-test for ATM Services

Sample size = 331, degree of freedom (df) = 331 - 1 = 330

Level of significance = 0.05

Dimensions	Test value = 3.0				Decision
	t (Sample value)	df	sig. (2-tailed)	p value < ∞	
Tangibles	20.933	330	0.00	p value < ∞	Reject H ₀
Reliability	14.022	330	0.00	p value < ∞	Reject H ₀
Responsiveness	12.366	330	0.00	p value < ∞	Reject H ₀
Assurance	19.803	330	0.00	p value < ∞	Reject H ₀
Empathy	20.266	330	0.00	p value < ∞	Reject H ₀

∴ For all dimensions of service quality of ATM, H₀ is rejected

∴ ATM offers service quality to the customers

LIMITATIONS OF THE STUDY:

1. Sample size was limited to the customers of State Bank of India, Patna.
2. Time played a vital constraint in the study.
3. The methodology used only quantitative data to validate the study, excluding the qualitative data.
4. Biasness in the respondents response can not be ruled out.

FINDINGS AND DISCUSSIONS:

The data analysis and hypothesis testing shows that ATM offers service quality to the customers and customers are satisfied with the service quality of ATM.

Out of 357 respondents 331 respondents i.e. 92.7% respondents where ATM users. This shows that by and large ATM services have been accepted by the customers.

The demographic analysis of respondents showed that parameters like gender, age group, educational qualification and occupation influence the usage of ATM services. Gender wise – males, age group wise – young people (25-35 years), educational qualification – graduates and occupation – service holders were the main user of ATM services.

The customers or users of ATM services were ‘satisfied’ with all the five dimensions of the service quality of ATM. The overall customer satisfaction on ATM with mean score of 3.77 showed that the customers were ‘satisfied’ with the service quality of ATM services. The data indicate that bankers should pay attention to

increase the customer satisfaction level of dimensions of Reliability and Responsiveness and try to improve the overall customer satisfaction on ATM from 'satisfied' to 'highly satisfied' level.

CONCLUSION:

On the basis of above finding it can be concluded that ATM offers service quality to the customers and demographic parameters like genders, age-group, educational qualification and occupation influence the usage of ATM services.

Although customers are satisfied with the service quality of ATM, there is need to further improve the service quality of ATM because all the dimensions of service quality of ATM are placed in the customer satisfaction level of 'satisfied'.

SUGGESTIONS:

On the basis of this study, the suggestions for improving the service quality of ATM and popularizing the various ATM services are given below :

1. Security

- (a) There should be continuous upgradation in banks' technology for providing security. Biometric based ATM services that are more safe, should be encouraged.
- (b) Customers should be educated to be alert and take some precautionary measures like not disclosing bank details and pin code to anyone.

2. Awareness Programme

- (a) Awareness should be created about wide range of ATM services and its benefits by more publicity.
- (b) It should be propagated that the use of ATM services can help customers to avoid standing in long queues.
- (c) Awareness can also be facilitated by arranging special customers meet on regular basis for sharing knowledge and benefits of various ATM services among customers.

3. Education is the key

Customers (especially the older generation) should be educated on basic skills required to conduct ATM services.

4. User Friendly

Banks need to popularise the use of ATM services by making presentation at their own branches with respect to user friendliness of ATM services.

5. Cost factor

- (a) Transaction charges should be completely done away with or
- (b) Should be kept low enough so that the convenience of using ATM services outweighs the small additional charges.

6. Improvement in ATM service quality dimensions of Reliability and Responsiveness

(i) Reliability

- (a) The uptime of ATM (i.e. time during which ATM is operational) should be 100%.
- (b) There should not be cash-depletion in ATM at anytime.

(ii) Responsiveness

Bank should immediately attend the complaint related to ATM services. There should be prompt help from customer helpline for 24 x 7 hours in this regard.

DIRECTIONS FOR FUTURE RESEARCH:

Since this study is limited to the public sector bank located in the urban area, the future research can be done in the following directions :

- (i) Comparison of ATM service quality in rural and urban areas in different states of India.
- (ii) Comparison of public sector and private sector banks providing ATM services.

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