Exploring the Influence on ATM Service Quality with Customer Satisfaction

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Abstract
The purpose of this paper is to examine the various dimensions of ATM service quality and its impact on customer satisfaction. This study was conducted in Tirupur district, Tamilnadu. The researchers adopted questionnaire method for collecting data from the ATM customers. In the study, eight dimensions of ATM service quality emerged. These are: Trust, Ease of use, Appearance, Security, Accuracy, Grievance handling, Fulfilment and Responsiveness. Among the identified dimensions, Appearance was viewed as the most vital dimensions and it has a positive impact on customer satisfaction. This study may help the Bank officials in formulating and framing suitable policies in relation ATM service quality.

Keywords: Trust, Responsiveness, Conflict handling, Appearance, Accuracy.

Introduction
In the banking, industry like in other service industries, providing superior service quality increases customer satisfaction and contributes profitability, superior service quality reduces customer defection, enhances customer loyalty, provides opportunities for cross-selling, increases word-of-mouth recommendation and augments corporate image (Arasli et al, 2005a; Baumann et al, 2007; Cronin et al, 2000; Ehiogie 2006; Jun and Cai 2001; Wang et al, 2003). Service quality is a measure of how well the service level delivered matches customer expectations. Delivering quality service means conforming to customer expectations on a consistency basis (Lewis and Booms, 1983), perceived service quality refers to consumer judgement about a service provider’s overall excellence (Parasuraman et al, 1988).

(Parasuraman et al, 1988), put forward that five service quality dimensions: Tangibles, Reliability, Empathy, Responsiveness and Assurance to measure the gap between service quality expectations and perceptions. In the changing business environment, to protect market shares, organizations need to outperform competitors in offering satisfaction to customers (Reichheld and Sasser, 1990; Reichheld 1996; Gronroos, 2000; Marwa 2005). As regards banks, customer loyalty, customer longevity can only be achieved through delivering high quality services (Berry et al, 1985; Capon et al, 1990; Berry and Parasuraman, 1991; Anderson et al, 1994; Rust et al, 1995). Banks need to understand the customers’ service requirements and comprehend the impact of service delivery performance on customer attitudes (Gerrard and Cunningham 2001; Beckett, 2000). Consumer adoption of electronic banking has been researched from various perspectives: from the consumer perceptions and expectations of service quality to measuring customer satisfaction using SERVQUAL (Lewis 1991; Holmmond and Kock, 1996: Aladwani, 2001; Jun and Cai 2001). Consumer motives and acceptance of techno-based banking services (Barczak et al, 1997).

Researchers have categorized electronic banking mostly into internet banking, telephone banking and automated teller machines (Joseph and Stone, 2003; Ibrahim et al 2006). The introduction of these electronic delivery channels in the banking industry has gained academic and practitioner interest (Joseph et al, 1999; Zeithaml et al 2002; Lee and Lin 2005; Ibrahim et al, 2006). Numerous studies, has been conducted with regard to ATM, Internet and telephone banking as the principal e-banking channels (Joseph et al 1999; Joseph and stone, 2003). A study conducted by Joseph and Stone (2003) identified that customer convenient location, secure services, special services for disabled, user friendliness and personalisation were the dimensions of ATM service quality. Khan (2010) established reliability, ease of use, privacy, convenience, efficiency and responsiveness as the key dimensions of ATM service quality. A study conducted by Katono (2011) recognized that tangibles, card issues, reliability and location are the important service quality evaluation dimensions of ATMS.

The remaining part of the paper is structured as follows: The second section has the literature reviews on ATM Service Quality. In the third section, the methodology of the study is presented. The fourth section deals with the Data Analysis. The fifth section deals with Conclusion and Managerial implications of the study.

Literature Review
Several studies have been conducted with regard to service quality. Studies by Parasuraman et al., (1988, 1991) expost that positive relationship between customers’ perceptions of service quality and their willingness to recommend the company. The relationship between overall
service quality and certain dimensions of customers’ behavioural intentions have been studied by Cronin and Taylor (1992) and Boulding et al., 1993. Cronin and Taylor (1992) focused solely on repurchase intentions whereas Boulding et al., (1993) focused on both repurchase intentions and willingness to recommend the service. Service quality is defined as the customer’s impression of the relative inferiority/superiority of a service provider and its services (Bitner and Hubert 1994) and also considered similar to the customer’s overall attitude towards the company (Parasuraman et al., 1988; Zeithaml, 1988, Bitner, 1990). Cronin and Taylor (1992) examined the impact of perceived service quality on customer satisfaction in banking, pest control, dry-cleaning and fast food and found a positive relationship between service quality and customer satisfaction. Furthermore, Brady et al., (2005) studied service consumers in the USA, Australia, The Netherlands, Hong Kong and Morocco and found that service quality has direct impact on satisfaction.

Tamimi and Amiri (2003) used SERVQUAL framework to banks to examine that all dimensions had a significant impact on overall service quality. Furthermore, Natalisa and Subroto (1998) adopted SERVQUAL dimensions to study airline service quality and found that assurance had the strongest impact on consumer’s satisfaction. Alexandris et al., (2002) in their study on Greece Hotels, establish that tangibles received the highest mean value followed by the assurance dimension.

In the service marketing Literature, strong stress is placed on the importance of service quality perceptions and the relationship between service quality and customer satisfaction. (Cronin and Taylor, 1992; Taylor and Baker, 1994). Few researchers establish that customer satisfaction is an antecedent of service quality (Parasuraman et al., 1985, 1988, 1991, 1994, Carman, 1990, Bitner, 1990) and some researchers have claimed that service quality as an antecedent of customer satisfaction. (Cronin and Taylor, 1992, 1994; Bolton and Drew, 1991; Anderson and Sullivan, 1993), and that service quality is not equivalent to satisfaction.

Even though several studies have been conducted with regard to ATM service quality, most of the studies have been conducted in western perspectives. Only few studies have been conducted in Indian perspectives. Therefore the researchers intend to fill the gap by way of conducting research.

**RESEARCH MODEL**

![Diagram](image-url)
Objectives Of The Study
Based on a relevant literature review of ATM service quality, the research objectives are:

a) To identify the various dimensions of ATM service quality of Banks.

b) To examine the impact of ATM service quality dimensions on customer satisfaction.

Methodology
The scope of the study is confined only to the ATM users in Tirupur District, Tamil Nadu. In Tirupur District, there are 9 taluks. These are: Tirupur North, Tirupur South, Avinashi, Uthukuli, Palladam, Dharapuram, Kangayam, Udumalpet and Madathukulam. The researchers identified Ten ATMs in these taluks. From each ATM 30 customers were identified by convenience sampling methods. Therefore the total number of sample came to 270 customers. The researcher used questionnaire method for collecting data from the respondents. The questionnaire consisted of three sections. The first part elicited demographic profile of the respondents, the second part of the questionnaire consisted questions related to ATM service quality and third part of the questionnaire consists of variables relating to customer satisfaction. This study was conducted for the period of March 2015 to June 2015. Before conducting the study, Pilot study was conducted from the ATM users. Based on their opinion, a slight modification was made in the questionnaire. Before finalising the questionnaire, the content validity of the questionnaire was verified. Even though researcher made several efforts to collect the data from the respondents, the researchers was able to collect only 50 percent of the valid response. Therefore, the response rate of the study is 50 percent.

Proposed Hypothesis
The researcher approached the study with following hypothesis.

Ho1: Trust will have no significant impact on Customer Satisfaction.

Ho2: Ease of use will have no significant impact on Customer Satisfaction.

Ho3: Appearance will have no significant impact on Customer Satisfaction.

Ho4: Security will have no significant impact on Customer Satisfaction.

Ho5: Accuracy will have no significant impact on Customer Satisfaction.

Ho6: Grievance Handling will have no significant impact on Customer Satisfaction.

Ho7: Fulfilment will have no significant impact on Customer Satisfaction.

Ho8: Responsiveness will have no significant impact on Customer Satisfaction.

Frame Work Of Analysis
In order to identify the ATM service quality dimensions factor analysis has been administered. Then the factor score was obtained from the identified ATM service quality that was used as independent variables for further analysis. The multiple regression was used to find out the impact of ATM service quality to customer satisfaction.

Instrument Development
The variables relating to the present study are drawn from the previous works of AL-Hawari et al., (2005), Lee and Lin (2005), Khan (2010), Katono (2011), Joseph and Stone (2003), Kumbhar (2010), Wolfinbarger and Gilly (2003), Parasuraman et al., (2005), Chong et al., (2010), and Collier and Bienstock (2006). Appropriate modification has been made in the existing questionnaire to suit the requirements of the present study.

Reliability Of The Proposed Scale
The coefficient alpha scores were calculated for assessing reliability of the ATM service quality scale, which are listed in dimension wise in Table: I
The coefficient alpha value for Trust, Ease of Use, Appearance, Security, Accuracy, Grievance Handling, Fulfilment and Responsiveness were well above the criterion of 0.80 as recommended by Nunally (1978) for assessing reliability of the scale.

**Descriptive Statistics**
The sample is fairly distributed between male customers and female customers are 56 percent and 44 percent respectively. Around 46 percent of the respondents were aged between 35 to 45. 48 percent of the respondents had undergraduate as educational qualification. Around 48 percent of the respondents earned Rs. 40,000/- to Rs. 50,000/- as monthly salary. 26 percent of respondents indicated dealing with the current bank of more than four years.

**Data Analysis**
A principal component factor analysis with varimax rotation was performed on 35 items that assessed the perceived ATM service quality of banks. The statistical test result (KMO = 0.657, Bartlett’s Test of Sphericity = 874.482 significance = 0.000) revealed that factor analysis method was appropriate. The eight dimensions and the percent of variance explained are listed in Table: II.

<table>
<thead>
<tr>
<th>ASQD</th>
<th>No. of Variables Included</th>
<th>Eigen Value</th>
<th>Percent of Variance Explained</th>
<th>Cumulative Percent of Variation Explained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td>4</td>
<td>4.594</td>
<td>7.836</td>
<td>7.836</td>
</tr>
<tr>
<td>Ease of Use</td>
<td>5</td>
<td>2.895</td>
<td>7.832</td>
<td>15.668</td>
</tr>
<tr>
<td>Appearance</td>
<td>4</td>
<td>1.874</td>
<td>7.522</td>
<td>23.189</td>
</tr>
<tr>
<td>Security</td>
<td>4</td>
<td>1.635</td>
<td>6.302</td>
<td>29.492</td>
</tr>
<tr>
<td>Accuracy</td>
<td>5</td>
<td>1.472</td>
<td>6.178</td>
<td>35.670</td>
</tr>
<tr>
<td>Grievance Handling</td>
<td>5</td>
<td>1.363</td>
<td>6.167</td>
<td>41.837</td>
</tr>
<tr>
<td>Fulfilment</td>
<td>4</td>
<td>1.221</td>
<td>5.795</td>
<td>47.632</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>4</td>
<td>1.178</td>
<td>5.689</td>
<td>53.321</td>
</tr>
<tr>
<td>KMO Measures of sampling Adequacy 0.657</td>
<td>Bartlett's test of sphericity: Chi-Square Value: 874.482</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Factor 1, which was labelled as Trust, was composed of four items and accounted for 7.836 per cent of the variance. Factor 2, comprised of five items that related to the Ease of use of ATM service quality accounted for an additional 7.832 per cent of the variance. Factor 3, was labelled as Appearance that included four items and it accounted for the additional 7.522 per cent of the variance. Factor 4, was the Security factor that contained four items which accounted for the additional 6.302 per cent of the variance. Factor 5, was interpreted as Accuracy factor and comprised five variables, it accounted for an additional 6.178 per cent of the variance. Factor 6 was labelled as Grievance Handling factor, it consisted of five items and accounted for an additional 6.167 per cent.
Factor 7 and 8 was labelled as fulfilment and responsiveness which consists of four variables each.

To study the influence of ATM service quality on customer satisfaction, multiple regression was administered. The mean scores of the eight ATM service quality factors obtained from the factor analysis (Trust, Ease of Use, appearance, Security, Accuracy, Grievance Handling, Fulfilment and Responsiveness) represented the independent variables, whereas customer satisfaction represented the dependent variable.

The fitted regression equation is,

\[ Y = \alpha + x_1 + x_2 + x_3 + x_4 + x_5 + x_6 + x_7 + x_8 + e \]

where, \( Y \) = mean score on customer satisfaction.

\( x_1 \) = mean score on trust.
\( x_2 \) = mean score on ease of use.
\( x_3 \) = mean score on appearance.
\( x_4 \) = mean score on security.
\( x_5 \) = mean score on accuracy.
\( x_6 \) = mean score on grievance handling.
\( x_7 \) = mean score on fulfillment.
\( x_8 \) = mean score on responsiveness.
\( \alpha \) – alpha.
\( e \) – error term.

Table: III - Influence of ATM Service Quality on Customer Satisfaction

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Standardized coefficient</th>
<th>t-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>--</td>
<td>1.415</td>
<td>0.1600</td>
</tr>
<tr>
<td>Trust</td>
<td>0.224</td>
<td>3.561</td>
<td>0.001</td>
</tr>
<tr>
<td>Ease of Use</td>
<td>0.150</td>
<td>2.514</td>
<td>0.33</td>
</tr>
<tr>
<td>Appearance</td>
<td>0.265</td>
<td>4.618</td>
<td>0.000</td>
</tr>
<tr>
<td>Security</td>
<td>0.037</td>
<td>0.643</td>
<td>0.521</td>
</tr>
<tr>
<td>Accuracy</td>
<td>0.136</td>
<td>2.306</td>
<td>0.043</td>
</tr>
<tr>
<td>Grievance Handling</td>
<td>0.239</td>
<td>4.515</td>
<td>0.000</td>
</tr>
<tr>
<td>Fulfilment</td>
<td>0.262</td>
<td>4.534</td>
<td>0.000</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>0.195</td>
<td>3.608</td>
<td>0.000</td>
</tr>
<tr>
<td>R Square</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-Value</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of regression analysis for the ATM service quality are presented in Table III. The results for ATM service quality indicated that R square is equal to 0.716. This reveals that 71.6 percent of variance in customer satisfaction is explained by ATM service quality dimensions, F statistics is 84.921 which is significant at the 1 per cent level. The results show that Appearance has a positive impact on customer satisfaction for ATM service quality \((\beta = 0.265, t = 4.618 \ P <0.01)\). This was followed by the fulfilment of ATM service quality \((\beta = 0.262, t = 4.534 \ P <0.01)\), Grievance handling \((\beta = 0.239, t = 4.534 \ P <0.01)\), Trust \((\beta = 0.224, t = 3.561 \ P <0.01)\), Responsiveness \((\beta = 0.195, t = 3.608 \ P <0.01)\). The result revealed that there is no significant impact on Ease of Use, Security, and Accuracy with customer satisfaction.
Testing Of Hypotheses

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Beta</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho1: Trust will have no significant impact on Customer Satisfaction.</td>
<td>0.224</td>
<td>Supported</td>
</tr>
<tr>
<td>Ho2: Ease of use will have no significant impact on Customer Satisfaction.</td>
<td>0.150</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Ho3: Appearance will have no significant impact on Customer Satisfaction.</td>
<td>0.265</td>
<td>Supported</td>
</tr>
<tr>
<td>Ho4: Security will have no significant impact on Customer Satisfaction.</td>
<td>0.037</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Ho5: Accuracy will have no significant impact on Customer Satisfaction.</td>
<td>0.136</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Ho6: Grievance Handling will have no significant impact on Customer Satisfac-</td>
<td>0.239</td>
<td>Supported</td>
</tr>
<tr>
<td>tion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ho7: Fulfilment will have no significant impact on Customer Satisfaction.</td>
<td>0.262</td>
<td>Supported</td>
</tr>
<tr>
<td>Ho8: Responsiveness will have no significant impact on Customer Satisfaction.</td>
<td>0.195</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Conclusion

In the study, eight dimensions of ATM service quality emerged. These are namely Trust, Ease of Use, Appearance, Security, Accuracy, Grievance Handling, Fulfilment and Responsiveness. Among the dimensions, Fulfilment and Responsiveness were regarded as the most important dimensions by the customers and it has a positive impact upon customer satisfaction. In terms of the impact of ATM service quality on customer satisfaction, the findings showed that Security, Accuracy and Ease of use were weak in explaining the variance of customer satisfaction.

Limitations Of The Study And Scope For Future Research:

This study was focused on ATM service quality in Tirupur. In future similar study can be conducted in other district also. The researcher collected samples through convenience sampling method. Even though convenience sampling is common in management studies, (Brady et al., 2002, Wang et al., 2004, Semeijn et al., 2005) variables like location and Sample unrepresentativeness may influence the findings. This study considers only the limited variables. In future several variables can be included. This study considers customer satisfaction as the dependent variable; similarly, many dependent variables like customer loyalty, word-of-mouth, and intention to revisit can also be included.

Managerial Implications Of The Study

The findings of the study have important implications for managers of bank and bank officials. In particular, bank officials should be aware that, among the various ATM service quality dimensions, Appearance, Fulfilment, Grievance Handling, Trust and Responsiveness were particularly significant in fostering customer satisfaction. Therefore bank officials could enhance customer satisfaction by maintaining or improving the Appearance, Fulfilment, Grievance Handling, Trust, Responsiveness dimensions of ATM service quality.

References


