

An Analysis of Various Dimensions of ATM Banking Service Quality

Nitin Bansal¹

Research Scholar, Department of Management, Banasthali Vidhyapith, Jaipur, India

Abstract

Now a day banking institutions have adopted Self Service Technologies to provide financial and non-financial services to its customers regressively. Automated Teller Machine (ATM) is one of the means to provide Self Service banking. The purpose of this research paper is to analyze the various dimensions of ATM service quality on the basis of studies conducted in different part of the world and to analyze the relationship of ATMs service quality with the customer satisfaction. After in depth literature review of 8 studies, it has been observed that there is no consensus of various researchers on multiple dimensions of automated teller machine banking service quality and there is a positive relationship among various dimensions of ATM service quality and customer satisfaction. As a result this paper recommends that further research is required to develop a generally accepted scale to measure ATM banking service quality on various standardized dimensions.

Keywords: ATM Banking service quality, Customer Satisfaction, Self Service Technologies, Service Quality Dimensions.

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Introduction

Automated Teller Machine system is an inter-bank system which links the retail customers of various banking institutions at one platform and permits to transact various financial and non-financial transactions. These routine banking transactions include cash withdrawals, fund transfers, enquiries, request for banking accessories etc. (Dos Santos and Peffers, 1993). Even ATMs were introduced in 1970s in America and American banking system have adopted it as a part of its banking channels in 1970s (Dos Santos

¹ Corresponding author's email: bansal.nitin@rediffmail.com

and Peffers, 1993). For the past two decades most of the researchers, practitioners and managers of various service industry have emphasized on the service quality as it is having a strong impact on the business performance, cost efficiency, profitability, customer loyalty and satisfaction (Seth et al., 2006). To understand the quality of service, various models have been developed by various researchers and analysts. According to Kantrow (1989) the proficiency of ATMs are higher than humans and the transaction cost through ATM is also low in comparison to humans. Even there is huge amount required to set up an ATM as a fixed cost but due to large number of transactions process possibility, the per transaction cost is low. It is also stated that ATMs can be a good substitute of humans which can help the banking institutions to reduce its operational cost by establishing more ATM systems.

Jayawardhena (2004) stated that the usage of information technology to deliver the financial services to the customers has attracted the various researchers and analysts to identify and monitor the quality issues related to e-banking services.

All over the world, the financial institutions are adopting various advanced technologies to provide financial and non-financial services to its customers through self-service technologies with the help of multiple electronic channels. These self-services through electronic channels provide tremendous growth opportunities to banks and customers. Banks are in a position to reduce its operating cost and reduces the work pressure on the bank's employees. Banks are utilizing its resources in optimum manner and enhanced its profitability whereas customers can transact the permitted financial and non-financial transactions anytime and anywhere. Self Service Technologies include credit card, mobile banking, ATMs, online banking, electronic clearing system etc. Among all these options most of the customers prefer to use ATM for transactions as a convenient way to transact. It is believed that ATMs have improved the operational efficiency of the banking institution. Banker and Kauffman (1988) revealed that ATMs have no effect on the bank's market share. The study related to the early adoption of advance technology revealed that all the people who adopted the technology in initial stage, could not improve their human resource proficiency and observed that in some cases, even the efficiency decreased up to a significant level. After adoption of ATM service technology, banks offer various choices to customers and monitoring the customer's acceptability and linking it with service quality. Customer's acceptability of ATM banking service is growing at a faster pace and many academic studies are focused on measuring the service quality. Past studies have revealed the various scales and multiple service quality dimensions of ATM banking.

Literature review

This study have reviewed 8 research studies on ATM banking service quality conducted in various countries across the globe during last 10 years as mentioned below.

Lovelock (2000) stated that secure location, convenient location, adequate numbers of ATMs, functionality of ATMs and easy to use system are the various dimensions of service quality of ATM banking and effective delivery in ATM banking enhances the performance and quality excellence.

Joseph and Stone (2003) examined the various technical roles of service quality in the US banking sector and the impact of technology in delivery of banking service. This study designed a grid for bank managers which is concerned with the decision making process at the time of implementation of service-oriented technology. It is an empirical study of the perception of bank's customers of US about advanced technology on quality of service delivery. The study examined the US customer's perception of ATM service quality and observed that secure positions, easy to use, well-located location and the no. of ATM provided by the banking institutions are the crucial dimensions of ATM service quality.

Al-Hawari et al., (2005) designed a model for multiple delivery channels of banking services like online banking, Phone Banking and ATM. This model is having substantial influence on the quality issues and works as an automated service quality model. This model was empirically tested for unidimensionality, reliability, and validity using confirmatory factor analysis. The study compiled a list of prominent dimensions of service quality of ATM based on studies conducted in past. These dimensions are convenient location, functions of ATM, secure locations, user-friendliness of the ATM system. These various dimensions were tested and verified by conducting an empirical study also.

Dilijonas et al., (2009) mentioned a framework for the self-service systems quality management and for its evaluation. This framework focused on the enhancement of service quality of marketing, operational and resource services for self service banking clients. This study was conducted in Baltic States for crucial aspects of service qualities of ATM. Authors identified various essential resources like convenient location, adequate number of ATMs, secure location and easy to use systems; prominent dimensions for operation of ATM i.e. minimum errors, cash back up, maximum speed and high uptime; and other value aspects like maximum offers to meet the maximum requirements of the customers and to provide service quality at a reasonable cost.

Khan (2010) examined the multiple dimensions of service quality of ATM in Pakistan and evaluated the impact of these dimensions on customer satisfaction. In study 500 national and international bank customers have filled a questionnaire. Author has collected the data on the basis of convenient sampling method and applied regression tool to analyze the data. Results indicated that security, reliability, privacy, efficient operation, responsiveness and convenience are significant dimensions of service quality of ATM. It is also mentioned that positive and significant service quality of ATM also contributes positiveness for customer satisfaction.

Narteh and Owusu-Frimpong (2011) determined the various dimensions of service quality of ATM in Ghana and examined the relationship of these dimensions with customer satisfaction. Authors applied a convenience and systematic sampling method to collect the data for study and considered 650 users of ATM of 15 national banks in Ghana. The results indicate that handiness, easy to use, accuracy, trust and responsiveness are crucial dimensions of service quality of ATM. It is also revealed that service quality of self-service technologies like ATM is having a positive relationship with customer service satisfaction. Even for an individual, only convenience, reliability and accuracy have a considerable effect on customer satisfaction. This study suggested that the banking

institutions should focus on convenience, reliability and accuracy of ATMs to enhance the service experience of customers towards ATM.

Kumbhar (2011) identified the various significant factors which are having influence on customer satisfaction in service quality of ATM rendered by banking institutions. In this study multiple dimensions of service quality such as cost effectiveness, convenience, contact, security, system availability, responsiveness, realization and effectiveness, easy to use and problem handling have been considered. Schedule was used to collect the primary data related to the identification of various factors which affects customer satisfaction. Author has used correlation, factor analysis and regression analysis. Results showed that easiness, cost effectiveness, responsiveness and security are the crucial factors which are having major impact on customer satisfaction.

Katano (2011) studied the most important dimensions of electronic service quality in Uganda with special focus on automatic teller machines (ATMs). This study was conducted in Uganda Christian University on the basis of triangulation approach, using quantitative as well as qualitative methods based on a convenience sample. Instrument development was based on the qualitative study's results. The exploratory factor analysis was used to assess the psychometric properties of this instrument followed by cross-validation using confirmatory factor analysis. After that hierarchical linear regression was used to identify the most crucial dimensions of e-service quality. The study resulted that card issues, location, tangibles and reliability are the most important dimensions of service quality of ATMs for students in Uganda.

Objectives

To review the various dimensions and scales of service quality of ATM banking proposed by various researchers and to analyze the relationship of various dimensions of service quality with customer satisfaction.

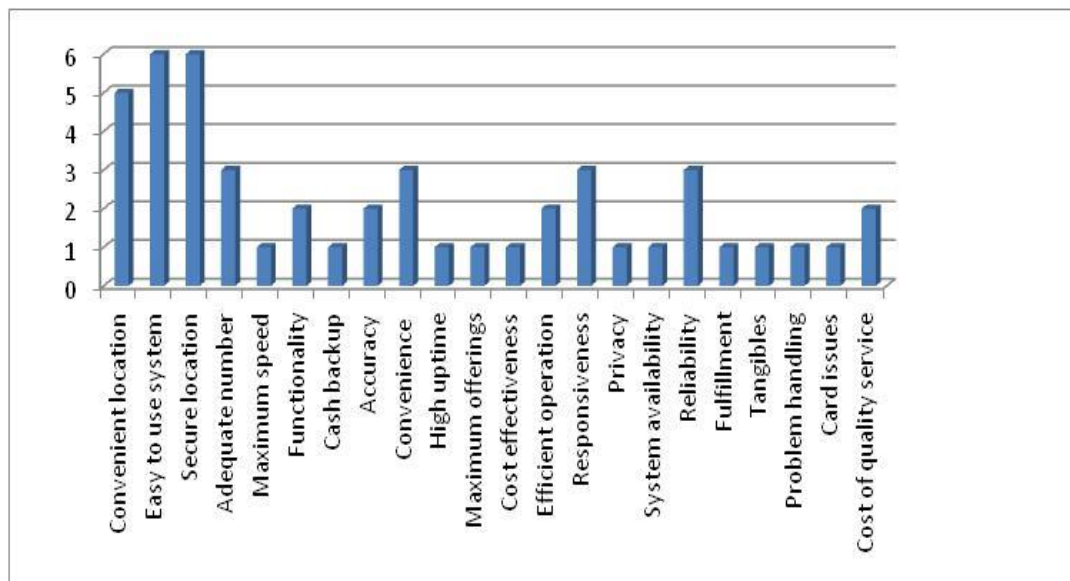
Results and discussion

In depth literature review on ATM banking service quality revealed that various researchers have considered different ATM banking service quality dimensions. All these various dimensions projected by various researchers are given in Table No.1. There are total 22 dimensions related to service quality of ATM banking proposed by researchers whereas only 3 dimensions out of total 22 dimensions i.e. user friendly system, convenient location and secure location have been proposed by majority of the researchers. Besides it Chart no.1 shows the frequency of various dimensions observed during study and it varies on the scale of 1 to 6.

Table 1. Various Dimensions of ATM Banking Service Quality

Dimensions	Lovelock (2000)	Joseph & Stone (2003)	Al-Hawari et al. (2005)	Dilijonas et al.(2009)	Khan (2010)	Narteh and Owusu-Frimpong (2011)	kumbhar (2011)	Katono (2011)
Convenient location	Yes	Yes	Yes	Yes				Yes
Easy to use system	Yes	Yes	Yes	Yes		Yes	Yes	
Secure location	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Adequate number	Yes	Yes		Yes				
Maximum speed				Yes				
Functionality	Yes		Yes					
Cash backup				Yes				
Accuracy				Yes		Yes		
Convenience					Yes	Yes	Yes	
High uptime				Yes				
Maximum offerings				Yes				
Cost effectiveness							Yes	
Efficient operation					Yes		Yes	
Responsiveness					Yes	Yes	Yes	
Privacy					Yes			
System availability							Yes	
Reliability					Yes	Yes		Yes
Fulfillment							Yes	
Tangibles								Yes
Problem handling							Yes	
Card issues								Yes
Cost of quality service				Yes			Yes	

Chart 1. Frequency of Service Quality Dimensions



Conclusion

At the end, it may be concluded that various researchers have different opinion regarding the various dimensions of service quality of ATM banking and there is no consensus among them. SERVQUAL and SERVPERF scales are used to measure the service quality of ATM banking through direct interactions of the customer and the service provider. Still there is no consensus for generally accepted dimensions among researchers and no standardized scale to measure the service quality of ATM banking. So it is recommended that further research is required to develop a scale on the basis of standard dimensions which can be applied to measure the service quality of ATM banking universally. It is also revealed in study that various dimensions are having positive relationship with customer satisfaction and customers consider multiple dimensions while adopting self-service banking technologies.

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