*International*
*Journal*
*Of Advanced Research in Engineering & Management (IJAREM)*

# Managing Monetary Transactions in the Banking Industry: A look at ATM Technology in Zimbabwe

**Faitira Manuere**
*Chinhoyi University of Technology*
**PRECIOUS HOVE**
*Chinhoyi University of Technology*

**ABSTRACT:** The banking sector in Zimbabwe has introduced the use of ATM technology to enable customers to reduce their visits in banks, that they can carry out their transactions via ATM machines. Therefore this study examines the customers' attitudes, preferences, challenges and suggestions about the feasibility of using ATM machines as an alternative to visiting banking halls. The questionnaire approach was used to collect data from a convenience sample of 500 customers of the 12 banks in Chinhoyi District. Meanwhile, most of the customers cited a number of factors that influence their attitudes towards the use of ATM machines. These factors included; convenience, efficient operation, security and privacy, reliability and responsiveness. Regression results indicate that convenience, efficient operation, security and privacy, reliability and responsiveness are very important factors that influence customers' satisfaction. The research results reflect a positive and statistically strong relationship between ATM service usage and customer satisfaction. This association concurs with the findings of prior studies in ATM service quality context. This study therefore recommends that banks should reinvent the ATM by adding functionality to the machine, simplifying its use and educating the customers on the need to use ATM machines all the time.
**Key words:** Banking sector, ATM technology, customer attitudes, cash points and transactions.

## Introduction

An automated teller machine (ATM), also known as Cash point, cash machine or sometimes a hole in the wall, is a computerised telecommunications device that provides the clients of a financial institution with access to financial transactions, in a public space without the need for a cashier human clerk or bank teller (Joseph and Stone 2003). ATMs are known by various other names including ATM machine automated banking machine, and various regional variants from trademarks on ATM systems held by particular banks. Invented by John Shepherd-Barron, the first ATM was introduced in June 1967 at Barclays Bank in Enfield, in Britain. On most modern ATMs, the customer is identified by inserting a plastic ATM card with a magnetic stripe or plastic smart card with a chip that contains a unique card number and some security information such as an expiration date (Howcroft, 1991).

Using an ATM, customers can access their bank accounts in order to make cash withdrawals, credit card cash advances, and check their account balances. Many banks charge ATM usage fees. In some cases, these fees are charged sorely to users who are not customers of the bank where the ATM is installed. In other cases, they apply to all users. Although ATMs were originally developed as just cash dispensers, they have evolved to include many other bank-related functions. In some countries, especially those which benefit from a fully integrated cross-bank ATM network, ATMs include many functions which are not directly related to the management of one's own bank account, some of these function include,

1) Include, deposit currency recognition, acceptance and recycling,
2) Paying routine bills, fees, and taxes,
3) Printing bank statement,
4) Updating passbooks,
5) Loading monetary value into stored value cards, and
6) Purchasing (Grabner and Kalusha 2003).

The introduction of ATM technology in the banking sector, in Zimbabwe, has radically changed the way the banking industry offer financial products and services. The traditional brick and mortar banking has gradually given way to the e-platform, which enables the offering of financial services through the electronic channels (Gerrard and Cunningham 2003). Banking activities in Zimbabwe have increasingly depended on the

deployment of information technology. Customer's insatiable appetite for efficient service has compelled financial institutions to move forward to a more radical transformation of their business systems and models by embracing ATM technology (Fassnacht and Koese 2006).

The changing business environment in Zimbabwe offers challenges and opportunities to the banking industry. Excellency in quality and product diversification has become an imperative for organisational sustainability (Iqbal et al 2003). The development of ATM technologies has enabled banks to provide superior services to satisfy customer needs (Surjadjaja, 2003). The number of bank customers preferring to use ATM technologies is on the increase in developed countries (Wu and Wang, 2007). This preference is attributed to increased autonomy in executing the transaction. Banks are increasing their technology-based options to remain competitive. The ATM is an innovative service delivery mode that offers diversified financial services like cash withdrawal, funds transfer, cash deposits, payment of utility and credit card bills, cheque book requests, and other financial enquiries. Researchers have stated that users' satisfaction is an essential determinant of the success of technology delivery channels (Jabnoun and AL-Tamim 2003).

### 1.1. Objectives of the study

The objective of this study is to provide insight into the factors that affect customers' attitudes towards ATM usage. The study further examines factors such as convenience, efficient operation, security and privacy, reliability and responsiveness and their effect on customer satisfaction. For this purpose, this research study was conducted in Chinhoyi District .Data collection at national level is a very difficult task. Therefore the information gathered will become important to managerS to determine the customers' attitudes towards Internet Banking services. The information will also enable management to enhance the efficient operations of ATMs in Zimbabwe.

Thus the main objective of the study is to examine the effect of convenience, efficient operation, security and privacy, reliability and responsiveness on the customers' willingness to adopt and use ATM machines.

### 1.2. The importance of the research paper

The rapid increase in the number of bank customers is placing pressure on banks to develop technologies that are capable of easing congestion in the banking halls. (Dilijonas et al 2009). The study provides necessary input to the bank management to increase customers' satisfaction through improving ATM service quality. ATM service should be able to provide enhanced interactivity, diversified offerings, and facilitate customers to participate in improving the service encounter with ATM and make it a memorable and pleasant experience. Quick response to customers' needs and queries about the ATM related services are important to improve the service standards of ATMs. Banks should make a commitment to redress the service failures of ATMs (Davies et al 1996; Colgate and Hedge 2001).

### 1.3. Hypothesis testing

Five hypotheses are generated and given below. They are investigated and explained briefly in next sections.

**Hypothesis 1: Convenience has a positive and significant relationship with ATM usage.**
**Hypothesis 2: Efficient operation has a positive and significant relationship with ATM usage.**
**Hypothesis 3: Security and privacy have a positive and significant relationship with ATM usage.**
**Hypothesis 4: Reliability has a positive and significant relationship with ATM usage.**
**Hypothesis 5: Responsiveness has a positive and significant relationship with ATM usage.**

## Literature review

In many parts of the world today, the majority of bank customers regularly use ATMs and today's youth have developed a special interest in them (Castleberry and Resurrections 1989). In recent surveys in the USA, over 60% respondents said they were ATM users and nearly 70% said that using an ATM was the predominant reason for going to banks (Bowen and Chen 2001). To many South African children ATMs are more familiar than actual bank branches in Zimbabwe. It has taken many years and aggressive promotion by financial institutions to establish the success of ATMs. The adoption of ATMs in Zimbabwe has not been straightforward, requiring the development of trust in technology and willingness to modify behavioural strategies in a very sensitive domain, that of personal finance (Beerli et al 2004; Bauer et al 2006 and Athanassopoulos 2000).

Several studies have monitored the adoption of ATMs over the last 30 years. In the early 80s, a survey study indicated that location and convenience was the most important factor to predict propensity of using ATMs

(Almoss, 2006). This factor became less important as ATM diffusion increased. Age is also considered the most important personal factor to predict ATM's adoption. Usage of ATMs by the elderly has been associated with the general resistance towards technology typical of elderly people and to specific difficulties in learning and using new technologies. Specific training programs and design solution can be proposed and developed to lessen this problem. (Al-Hawari and Ward 2006 Andreason 1977).There are many reasons why bank customers would not want to use ATM technologies. Lack of need is one of them. Lack of need refers to a feeling of being organised enough not to require banking services out of hours, not giving enough importance to saving time, and no opportunity due to lack of personal earnings (Adlaigan, 2001) of personal earnings (Adlaigan and Buttle 2002; Karjaluoto et al, 2002 and Singh 2009).Safety concerns, such as, physical safety, (fear of robbery and control of transaction) concern over card security and ATM malfunctioning, fear of spending too much are among some of the reasons that make . (Leblanc 1990; Levesque and McDougal 1996); Lewis and Bingham 1991 and Lavelock 2000).Preference for human contact-inclination for dealing with people rather than machines and a general dislike towards technology, resulting in less technology use. This reason is particularly important for elderly people. (Lewis et al 1994; Liao and Cheung 2002 and Lockett and Litter 1997).Feeding of inadequacy – fear of not being able to use the ATM. This is also aggravated by the fear of appearing foolish in pubic as a result of failing to use the machine. (Madu and Madu 2002; Merriless 2002; Moutinho and Goode 1995 and Moutinho 1992).Another reason for not using ATMs is due to accessibility restrictions (wheelchair users, blidh or partially sighted people and people with reduced upper-limb strength and mobility encounter several difficulties operating ATMs. Legislations and standards must be put in place to force manufacturers and deploys to create technology which is usable by all people, regardless of abilities (Moutinho and Brownlie 1989).The use of the ATMs as customer service delivery interfaces has enabled bank customers to transact banking business using a coded ATM card. Whenever an ATM facility is located, customers can access their bank accounts for twenty four hours a day and seven days a week. A number of studies by Essinger, 1999 Fitzsimmons and easy, 2003; zhu, scheuermann, and Babineaus, 2004, have shown that most banks do not only use the ATMs, as a strategic tool for satisfying customer oriented need enhancing employees efficiency, and gaining competitive advantage, they also use it to signify their technological advancement. Tan and Thompson (2000) found that customers' attitude and perceived behavioural control factors significancy influenced their intentions to use internet banking services. Other studies have also investigated the acceptance of internet banking services (Suh and Han, 2002; Lai and Li, 2005; Cheng, Lam and Yeung, 2006). Suh and Han (2002) observed trust has a more direct effect on a customer's attitude than perceived ease of use in the internet banking context.

Lewi's, ordledge and Mitchell (1994) outlined the major benefits of strong banking services to include the following:

1) Satisfied and retained customers,
2) Opportunities for cross-selling,
3) Attraction of new customers,
4) Development of customer relationships,
5) Increased sales and market shared
6) Enhanced corporate image, and
7) Reduced costs and increased profit margins and business performance.

These factors provide an important pathway that could be used to better understand the needs and expectation of consumers of banking products who could be profiled and segmented on the basis of their perceptions of ATM attributes. An assessment of bank customers' ATM usage patterns and perceptual variables by Polatoglu and Ekin (2001) showed that ATMs were not being, utilised to them full potentials and had largely not been accepted by some bank customers as innovations that could fully replace bank tellers in nominated functions. This observation relates to the finding that technology based services have the likelihood of including in customers a secure of incompetence which tends to isolate them from technology, and also increase their passiveness towards its usage (Grabner-Krauter and Kalusha, 2003). In this regard, banks have not been able to capitalise on technology based services. Zhu et al (2004) postulated that a pleasant experience of automated services provides enhanced value to the customers and attract them in undertaking improved business with their banks. (Parasuraman et al 1998 and Polatoglu and Ekin 2001).

Guriting (2006) examines the factors that influence customers to use ATMs instead of banking halls, for their transaction, in Malaysia Bones. In this study, the perceived easy of use and perceived usefulness factors are considered to be fundamental in determining the acceptance and use of ATMs 9Mrashall and Heslop 1988). In China, ATM users are mostly males and not necessarily young and educated. However, electronic bank users in the west are mostly females, young and educated (Mrashall and Heslop 1988). The issue of security was found

to be the most important factor that motivated Chinese consumer adoption of ATM technologies. Trust is yet another belief that has an impact on the acceptance of ATM technologies (Lovelock 2000). Merriclees (2002) observed that the successful implementation and development of ATM technologies in Romania depended on quality and security of internet network, the level of internet knowledge of the population, the governor support, as well as the quality reliability of online banking services. Liao and Cheung 20020 empirically examined the factors that affect the adoption adoption of ATM technologies in Vietnam, and concluded that, perceived usefuleness, perceived easy of use, trust and government support was believed to influence the attitudes of customers towards ATM adoption (Long and McMellon 2004).
Hypothesis 6. ATM usage has a positive and significant relationship with customer satisfaction.

## 3. Research methodology

### 3.1. Sampling and data collection

Convenient sampling technique was used to collect data from a sample of 500 customers who hold ATM cards from the 12 banks in Chinhoyi District. The questionnaires were used to collect the data. The questionnaires were hand delivered.

### 3.2. Instrument Development

The survey questionnaires measured the effect of fine factors, namely, convenience, efficient operation, security and privacy, reliability and responsiveness, on ATM usage. The research design used two sales to collect the data. The nominal scale was used to collect personal information about the respondents. Five point Likert scale ranging from five (strongly agree) one (strongly disagree was used to measure the response of the respondents on the factors that influenced their attitudes towards ATM usage.

### 3.4. Data analysis

SPSS (Statistical package for social sciences) Version 16.0 was used to compute and analyse the data. The statistical test used in the analysis of data included descriptive statistics testing of multicollinearity and normality of data, reliability analysis, correlation analysis, factors analysis, and regression analysis.

### 3.5. Results and findings

Only 411 respondents returned the filled questionnaires and the response rate was 82.2%. the gender composition was 261 male (65.45%) and 150 female (34.55%) respectively. Both these included students (101) of educational institutions, professionals (225) and business people (85). The period of use of ATM services was (> one year, 48); (> three years, 65).
(> fine years, 219); and (> seven years, 79). The maximum number of respondents (70.5%) used ATM services for more than fine years. Convenience drew maximum response with regard to agreement (mean = 4.031, standard deviation = 0,, 457), followed by reliability (mean = 3,95, standard deviation = 0, 586); responsiveness (mean = 3.94, standard deviation = 1, 092); efficient operation (mean = 3, 63, standard deviation = 0, 536); and security and privacy (mean = 3,35, standard deviation = 0, 726) respectively. The results, based on mean score and standard deviation, reflect the relationship between the factors and the ATM usage.

### 3.5.3. Results of reliability and valid of data

Cronbach alpha for instrument (38 items) was 0, 868. The Cronbach's alpha for individual variables of convenience (0,769); efficient operation (0,798); security and privacy (0.740); reliability (0,720); responsiveness (0, 738) were found to be within the limits for further analysis (Nunnaly, 1978).

### 3.5.3. Results of test of normality of data

The researchers argue to undertake tolerance test and Variation Inflation Factor (VIF) to determine multicollinearity. The results indicate that Tolerance levels (> or equal to 0.01) and VIF values (below 10) are within acceptable range. The Burbin Watso values for all variables are also within limits (between 1,5 and 2,5) and exhibit no problem of auto correlation between variables. These test reflect that the variables used in the study are free from multicollinearity and preclude the need to eliminate any variables.

### 3.5.4 Results of factor anlysis

Factor analysis facilitates reduction of data Kaiser – Meyer – Olkin (KMO) test and Bartlett's Test of sphericity determine the level of adequacy of factor analysis. The KMO measure of sampling adequacy reflects a score of

(0,779), which is well above the recommended 0.50 level (Malhotra, 2004) and the Bartlett's test of sphericity is significant at (P < 0.001) Levels. Factors with Eigen value greater than one were retained. The factor loading below 0.40 are noty shown. The five factors identified (convenience; efficient operation; security and privacy, reliability and responsiveness) explain 67.92% of total variance.

**3.5.5 Results of correlation analysis**

To determine the relationship between variables, correlation analysis was done. Table 1 indicates that convenience, efficient operation, security and privacy, reliability and responsiveness have positive relationship with ATM service usage. In addition, the results also exhibit that ATM service usage has positive relationship with customer satisfaction. The results reflect that the correlation between variables is significant (P < 0.001).

**Table 1: Correlation Matrix**

| | **Convenience** | **Efficient operation** | **Security privacy** | **Reliability** | **Responsiveness** | **ATM service usage** |
|---|---|---|---|---|---|---|
| Efficient operation | 0.507 | | | | | |
| Security & privacy | 0.341 | 0.516 | | | | |
| Reliability | 0.218 | 0.344 | 0.354 | | | |
| Responsiveness | 0.262 | 0.391 | 0.400 | 0.218 | | |
| ATM service usage | 0.428 | 0.619 | 0.545 | 0.387 | 0.405 | |
| Customer satisfaction | 0.489 | 0.556 | 0.452 | 0.435 | 0.437 | 0.722 |

Significant level: P < 0.001 (two tailed)

**3.5.6 Results of regression analysis**

The results of regression equation based on five independent variables (convenience, efficient operation, security and privacy, reliability, and responsiveness) indicate positive and statistically significant relationship (F = 78, 120, P < 0.001) with dependent variables of ATM service usage. The independent variables accounted for 49.1% ($R^2$ = 491) or variance in dependent variable of ATM service usage. The efficient operation, with largest beta coefficient of (0.0351) is the most significant independent variable followed by security and privacy (Beta = 0.232); reliability (Beta = 0.135); responsiveness (Beta = 0.116); and convenience (Beta = 0,112) respectively. The results of regression equation of independent variable of ATM service usage and dependent variables of customer satisfaction is positive and statistically significant (F = 445.996; P < 0.001). The regression equation with $R^2$ (0.511) explains 52.2% variance in customer satisfaction. Results are shown in Table 2

Table 2: Results of Regression Analysis

| **Item** | **Proposed Effect** | **Path Coefficient** | **Observed T-Value** | **Significance Level** |
|---|---|---|---|---|
| ATM service usage (R2 0.491) | | | | |
| H1- Convenience | + | 0.112 | 2.696 | * 000 |
| H2-Efficient Operation | + | 0.351 | 7.480 | * 000 |
| H3- Security & Privacy | + | 0.232 | 5.306 | * 000 |
| H4- Reliability | + | 0.135 | 3.476 | * 000 |
| H5-Responsiveness | + | 0.116 | 2.912 | * 000 |

Customer satisfaction ($R^2$ 0.511
H6 ATM service usage + 0.722 21.118 * 000
*,P < 0.001, N = 41

## 4. Discussion and conclusion

The main purpose of this study was to identify the factors affecting customers' attitudes towards the use of ATM technology in Zimbabwe. The present study presented and examined factors, such as, convenience, efficient operation, security and privacy, reliability, and responsiveness and their effect on customers' perception and ATM usage. The convenience factor refers to the ease of use and accessibility of the service at all times. The customer prefers flexibility to meet their financial needs at all times, which in turn affect their perception of ATM usage (aerrard and Cunningham, 2003). Lio and Cheung (2002) found that accessibility positively determines perception of ATM adoption. Locket and Litter (1997) and Moutinho and Goode (1995) established that time utility is a major contributed of customers' perception of ATM adoption. Numerous studies indicate that the location of service delivery mode is a strong driver of customers' perception of ATM adoption (Aldlaigan and Bulle, 2002, Almossawi, 2001; Lovesque and McDougall, 1996).

The second factor, efficient operation, relates to efficient and speedy operation of ATM adoption. Efficient operation relates to efficient and speedy operation ATM. Efficiency in operations optimises the resources for the customers. A customer accord priority to user-friendness of ATM. White and Nteli (2004) found that efficient and fasten delivery has positive effective on customers' perception of ATM usefulness. Dilijonas et al, (2009) argued that minimum breakdown of machines constitutes essential aspects of ATM value and adoptability. Al-Hawari (2006) argued that efficient ATM functions positively affect customers' perceptions of ATM adoptability.

Factors of security and privacy refers to perceived Low-risk with use of ATM. Yoo and Donthu (2001) and Szymanskiy and Hise (2000) empirically found that customers' perception of security and privacy played an essential role in them satisfaction. Lio and Cheung (2002) argued that expectation of security is essential in shaping customers' perception of ATM adoptability. The concern of customers about security and privacy, while using the services of an ATM, is a major cause of the dissatisfaction (Madu and Madu, 2002). The feature of reliability describes accurate and promised service all the time. ATM users want to receive the right quantity and the right quality of service all the time, as promised by the banks. In Zimbabwe, the problem of electricity outages has become a cause for concern to ATM users. ATM machines are always 'out of order' due to electricity outages.

Zimbabwe does not have adequate electricity load to service the whole nation. In addition, customers prefer accurate billing of their accounts. Wan et al (2005) discovered that the accuracy of transactions' information was a major predictor shaping customers' perception of ATM service quality. Tan et al (2003) found that this aspect positively contributes toward customers' perception of quality and customers' use of ATM service. (Fasnacht and Koese, 2006; Polatoglu and Ekin, 2001).

The responsiveness aspect of ATM usage relates to the ability of the bank staff to provide the agreed services timely, accurately, dependably, and promptly. Customers prefer to resolve their complains expeditiously (Karjaluoto et al, 2002). Gerrard and Cunningham (2003) found that staff response to customers' ATM related needs influence their perception about service quality. Prior studies indicate that responsiveness is crucial to sustain service quality and facilitates building long term relationship between service provider and the customer (Bauer et al, 2006; Long and McMellon, 2004).

The research results show that factors such as, convenience, efficient operation, security and privacy, reliability and responsiveness do affect the perceptions of customers towards the use of ATM technology. In other words, there is a strong association (as shown by the results of the research) between customer satisfaction and convenience, reliability, security and privacy, efficient operation and responsiveness.

## 5. Managerial implications

The study provides necessary input to the bank management to increase customers' satisfaction through making ATMs user-friend and responsiveness to the needs of the customers. It is evident that convenience, efficient operation, security and privacy, reliability and responsiveness are not the only factors that influence customers' satisfaction. The other factors that contribute to customers' satisfaction include, trust, value, and image of the bank (Ranaweera and Prabhu, 2003). Quick response to customer's needs and queries about the ATM related services are important to improve the service demands of ATM.

**Table 3: The results of hypothesis testing**

| HYPOTHESIS | HYPOTHESIS STATEMENT | RESULTS |
|---|---|---|
| H1 | Convenience has a positive and significant relationship with ATM usage | Supported |
| H2 | Efficient operation has a positive and significant relationship with ATM usage | Supported |
| H3 | Security and privacy have a positive and significant relationship with ATM usage | Supported |
| H4 | Reliability has a positive and significant relationship with ATM usage. | Supported |
| H5 | Responsiveness has a positive and significant relationship with ATM usage | Supported |
| HH6 | ATM usage has a positive and significant relationship with customers' satisfaction. | Supported |

## References

[1]. Aldlaigan, A.,and , Buttle, A. (2002). SYSTRA-SQ: a new measure of banks service quality. International Journal of Service Industry Management 13(4), 362–81.
[2]. Andreasen, A.R. (1977).A Taxonomy of Consumer Satisfaction/dissatisfaction Measures. Journal of Consumer Affairs, 11, 11-24.
[3]. Al-Hawari, M., & Ward, T. (2006).The impact of automated service quality on financial performance and the mediating role of customer retention. Journal of Financial Service Marketing 10(3), 228-43.
[4]. Almossawi, M. (2001) Bank selection criteria employed by college students in Bahrain: an empirical analysis, International Journal of Bank Marketing, 19(3), 115-125.
[5]. Athanassopoulos, A. (2000).Customer satisfaction cues to support market segmentation and explain switching behaviour. Journal of Business Research, 47(3), 191-207.
[6]. Bauer, H.H., Falk, T., & Hammerschmidt, M. (2006). A transaction process-based approach forcapturing service quality in online shopping. Journal of Business Research, 59, 866-75.
[7]. Beerli, A., Martin, J.D., & Quintana, A. (2004). A model of customer loyalty in the retail banking market. European Journal of Marketing, 38(1/2), 253-75.
[8]. Bowen, J., and Chen, S. (2001). The relationship between customer loyalty and customer satisfaction. International Journal of Contemporary Hospitality Management, 13(5), 213-7.
[9]. Cabas, M. G. (2001). A History of the Future of Banking: Predictions and Outcomes. Retrieved September 2, 2005, from http://www.hass.berkeley.edu/finance /CMWpaper.pdf.
[10]. Castleberry, S.,and Resurreccion, A. (1989).Communicating quality to consumers. Journal of Consumer Marketing, 6(3), 21-89.
[11]. Colgate, M.,and Hedge, R., (2001). An investigation into the switching process in retail banking services. International Journal of Bank Marketing, 19(5), 201-212.
[12]. Davies, F., Moutinho, L., and Curry, B. (1996). ATM users' attitudes: a neural network analysis. Marketing Intelligence & Planning 14/2, 26–32.
[13]. Dilijonas, D, Krikščiunien, D., Sakalauskas, V. & Simutis and (2009). Sustainability Based Service Quality Approach for Automated Teller Machine Network. Retrieved November 14,009, from http://www.vgtu.lt/leidiniai/ leidykla/ KORSD_2009/PDF/241-246-p100-Dilijonas-47.pdf.
[14]. Fassnacht, M.,and Koese, I. (2006). Quality of electronic services: conceptualizing and testing a hierarchical model. Journal of Service Research, 9(1), 19-37.
[15]. Gerrard, P., and Cunningham, J. B. (2003).The Diffusion of Internet Banking Among Singapore Consumers. International Journal of Bank Marketing, 21(1), 16-28.
[16]. Grabner-Krauter, S., and Kalusha, E. (2003). Empirical research in on-line trust: a review and critical assessment. International Journal of Human-Computer Studies, 58(6): 783-812.
[17]. Howcroft, J.B. (1991).Customer satisfaction in retail banking. Service Industry Journal, January, 11-17.
[18]. Iqbal, Z., Verma, R., and Baran, R. (2003). Understanding Consumer Choices and Preferences in Transaction-Based e-Services. Journal of Service Research, 6, 51-65.
[19]. Islam, R., Kumar, S., and Biswas, P. K. (2007). Customer Satisfaction of ATM Service: A CaseStudy of HSBC ATM. Retrieved July 13, 2009, from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=990242.
[20]. Jabnoun, N., & Al-Tamimi, H.A.H. (2003). Measuring perceived service quality at UAE commercial banks. International Journal of Quality and Reliability Management, 20(4), 458- 72.

[21]. Joseph, M., & Stone, G. (2003).An empirical evaluation of US bank customer perceptions ofthe impact of technology on service delivery in the banking sector. International Journal of Retail & Distribution Management, 31(4), 190-202.European Journal of Social Sciences –v olume 13, Number 3 (2010)343
[22]. Karjaluoto, H., Mattila, M., and Pento, T. (2002).Electronic banking in Finland: Consumer Beliefs and Reactions to a New Delivery Channel. Journal of Financial Service Marketing, 6(4), 346-361.
[23]. Komal, Singh, S. (2009). Impact of ATM on Customer Satisfaction (A Comparative Study ofSBI, ICICI & HDFC bank). Business Intelligence Journal - August, 2(2), 276-87.
[24]. Leblanc, G. (1990). Customer motivation: use and non-use of automated banking. InternationalJournal of Bank Marketing, 8(4), 36-40.
[25]. Levesque, T., and McDougall, G. (1996). Determinants of customer satisfaction in retail banking. International Journal of Bank Marketing, 14(7), 12-20.
[26]. Lewis, B.R.,and Bingham, G.H. (1991).The youth market for financial services. InternationalJournal of Bank Marketing, 9(2), 3-11.
[27]. Lewis, B.R., Orledge, J., & Mitchell, V. (1994).Service quality: students' assessment of banksand societies. International Journal of Bank Marketing, 12(4), 3-12.
[28]. Liao, Z.,and Cheung, M. T. (2002).Internet-Based E-Banking and Consumer Attitudes: An Empirical Study. Information and Management, 39, 283-295.
[29]. Lockett, A., andLitter, D. (1997).The adoption of direct banking services. Journal of Marketing Management, 13(8), 791-811.
[30]. Long, M., and McMellon, C. (2004).Exploring the determinants of retail service quality on theinternet. Journal of Services Marketing, 18(1), 78-90.
[31]. Lovelock, C. H. (2000). Functional integration in service: understanding the links between marketing, operations, and human resources. In Swartz, T.A. and Iacobucci, D.
[32]. Madu, C.N., andm Madu, A.A. (2002). Dimensions of e-quality. International Journal of Quality & Reliability Management, 19(3), 246-58.
[33]. Malhotra, N.K. (2004). Marketing Research: An Applied Orientation. Pearson Education Inc,Upper Saddle River, New Jersey.
[34]. Marshall, J., and Heslop, L. (1988).Technology acceptance in Canadian retail banking: a study of consumer motivations and use of ATMs. In Barker, T. (Eds.), Financial Services Marketing inCanada, (pp.31-41). IJBM, Toronto.
[35]. Merrilees, B. (2002).Interactivity design as the key to managing customer relations in ecommerce.Journal of Relationship Marketing, 1(3), 111-26.
[36]. Mobarek, A. (2007). E-Banking Practices and Customer Satisfaction - A Case Study in Botswana. Retrieved on August, 14, 2009, from http://papers.ssrn.com/sol3/ papers.cfm?abstract_id=1011112.
[37]. Moutinho, L.,and Goode, M. (1995). The effects of free banking on overall satisfaction: the use of automated teller machines. International Journal of Bank Marketing, 13(4), 33-40.
[38]. Moutinho, L. (1992).Customer satisfaction measurements: prolonged satisfaction with ATMs. International Journal of Bank Marketing, 10 (7), 30-7.
[39]. Moutinho, L.,and Brownlie, D.T. (1989). Customer satisfaction with bank services: a multidimensional space analysis. International Journal of Bank Marketing, 7(5), 23-7.
[40]. Nunnaly, C.J. (1978), Psychometric Theory. McGraw-Hill, New York, NY.
[41]. Parasuraman, A., Zeithaml, V., and Berry, L. (1988).SERVQUAL: a multi-item scale for measuring consumer perceptions of SQ. Journal of Retailing, 64 (1), 12-40.
[42]. Parasuraman, A., Zeithaml, V.,and Malhotra, A. (2005). E-S-QUAL: A Multiple-Item Scale forAssessing Electronic Service quality. Journal of Service Research, 7(3), 213-234.
[43]. Patrı´cio, L., Fisk, R.P., and Cunha, J.F. (2003). Improving satisfaction with bank service offerings. Managing Service Quality, 13 (6), 471-482.
[44]. Polatoglu, V. N., and Ekin, S. (2001).An Empirical Investigation of the Turkish Consumers' Acceptance of Internet Banking Services. International Journal of Bank Marketing, 19(4), 156-165.European Journal of Social Sciences – Volume 13, Number 3 (2010)344
[45]. Ranaweera, C.,and Prabhu, J. (2003).The influence of satisfaction, trust and switching barrierson customer retention in a continuous purchasing setting. International Journal of ServiceIndustry Management, 14(4), 374-95.
[46]. Reichheld, F.,and Schefter, P. (2000). E-loyalty: your secret weapon on the Web. Harvard Business Review, July-August: 105-113.

[47]. Rotchanakitumnuai, S., & Speece, M. (2003).Barriers to internet banking adoption: a qualitative study among corporate customers in Thailand. International Journal of Bank Marketing, 21(6/7), 312-23.
[48]. Rugimbana, R.,and Iversen, P., (1994). Perceived Attributes of ATMs and Their Marketing Implications. International Journal of Bank Marketing, 12(2), 30-35.
[49]. Shamsuddoha, M., Chowdhury, M.T., & Ahsan, A.B.M.J. (2005). Automated Teller Machine:A New Dimension in the Bank Services of Bangladesh. Retrieved May 13, 2009, from http://papers.ssrn.com/sol3/ papers.cfm? abstract_id=1302301
[50]. Solomon, M.R. Surprenant, C, Czepiel, J.Aand Gutman, E.G. (1985). A Role Theory Perspective on Dyadic Interactions: Journal of Marketing, 49, 99-111.
[51]. State Bank of Pakistan (2009). Annual Performance Report. Retrieved November 14, 2009, from http://www.sbp.org.pk/ reports/ annual/ FY09/Vol2/Chapter-5.pdf
[52]. Stemper, R.G. (1990).The Guide to Successful Consumer Banking Strategy, John Wiley & Sons, Chichester and Toronto.
[53]. Sureshchandar, G., Rajendran, Cand Anantharaman, R. (2002).The relationship between service quality and customer satisfaction – a factor-specific approach. Journal of Services Marketing, 16(4), 363-79.
[54]. Surjadjaja, H., Ghosh, S., and Antony, J. (2003). Determining and assessing the determinants ofe-service operations. Managing Service Quality, 13(1), 39-53.
[55]. Szymanski, D.M., & Hise, R.T. (2000).E-satisfaction: an initial examination. Journal of Retailing, 76(3), 309-23.
[56]. Tan, K.C., Xie, M., and Li, Y.N. (2003).A service quality framework for web-based informationsystems. The TQM Magazine, 15(3), 164-72.
[57]. Tong, Y.K. (2009). A study of e-recruitment technology adoption in Malaysia. Industrial Management & Data Systems, 109(2), 281-300.
[58]. Wan, W. W.N., Luk, C. L., & Chow, C. W.C. (2005). Customers' adoption of banking channels in Hong Kong. International Journal of Bank Marketing, 23(3), 255-272.
[59]. White H and Nteli, F., (2004).Internet banking in the UK: Why are there not more customers?'Journal of Financial Services Marketing, 9(1), 49–56.
[60]. Wood, J. (2008).The effect of buyers' perceptions of environmental uncertainty of satisfactionand loyalty. Journal of Marketing Theory and Practice, 16(4), 309-20.
[61]. Wu, J.H., and Wang, Y.M. (2007).Measuring ERP success: the key-users' viewpoint of the ERPto produce a viable IS in the organization. Computers in Human Behavior, 23(3), 1582-96.
[62]. Yavas, U., Benkenstein, M.,and Stuhldreier, U., (2004). Relationship between service quality and behavioural outcomes: A study of private bank customers in Germany. The International Journal of Bank Marketing, 22(2/3), 144-157.
[63]. Yavas, U., Bilgin, Z., and Shemwell, D. (1997).Service quality in the banking sector in an emerging economy: a consumer survey. International Journal of Bank Marketing, 15(6), 217-23.
[64]. Yoo, B., & Donthu, N. (2001).Developing a scale to measure the perceived quality of an Internet shopping site (SITEQUAL).Quarterly Journal of Electronic Commerce,2(1),31-45