

Empirical Study of the Use of Automated Teller Machine (ATM) among Bank Customers in Dhaka City, Bangladesh

Baktiar Mahmud¹ Md. Mahfujul Islam¹ Kamrun Naher²

1. Lecturer, Department of Business Administration, Shanto-Mariam University of Creative Technology, Uttara, Dhaka, Bangladesh

2. Lecturer, Department of Business Administration, Sylhet International University, Bangladesh

Email: major.navana@yahoo.com

Abstract

Automated Teller Machine (ATM) is perceived to offer considerable benefits and challenges both to the banks and their customers, yet these are rarely empirically investigated. The study was conducted in purposively selected eight ATM location points of four banks in Dhaka City, Bangladesh. The sample size was made up purposively selected one hundred and eight-two (182) and another twelve (12) respondents for survey and in-depth interviews respectively. Data were collected and analyzed through quantitative and qualitative methods. Results showed that most respondents were utilizing the machine for various purposes. Also, respondents mentioned convenience, quick funds transfer, and time saving as the real benefits of the machine. Some respondents mentioned fear of armed robbery attack, technical hitches, invalid debit and perennial network failure as the challenges of utilizing the machine. On the whole, most respondents (67.0%) evaluated the machine as having benefited them more than it had cost them. The bivariate analysis showed that more female bank customers ($\chi^2=6.469$; $p<0.05$); more relatively younger customers ($\chi^2=66.846$; $p<0.05$); more customers with relatively higher level of education ($\chi^2=26.892$; $p<0.05$) and more student customers ($\chi^2=61.196$; $p<0.05$) agreed the machine had benefited them more than other groups. Qualitative data also confirmed the various benefits and challenges of the machine to the customers. Using the modernization and rational choice theories, the study argued that ATM is a modern technology which some bank customers were selectively adopting based their real subjective and objective experiences. The study concludes that for the benefits of ATM to be consolidated and to gain wider acceptance among bank customers, the challenges inherent in the machine should be addressed.

Keywords: ATM, bank customers, benefits & challenges, modernization, rational choice

1. Introduction

As part of banking reforms that started in July 2004, the Central Bank of Bangladesh (CBB) in their quest to improve bank services, achieve cashless economy and decongest the banking halls, mandated commercial banks operating in Bangladesh to install Automated Teller Machines (ATMs) in the bank premises and other strategic locations to serve their customers. Consequent upon this, Fanawopo (2006) and Olatokun & Igbinedoin, (2009) stated that the Bangladesh's debit card transactions rose by 93 percent between January 2005 and March 2006 over previous years owing to aggressive roll out initiatives by the Bangladeshi banks, powered by interswitch network. The number of ATM transactions through the interswitch network also increased from 1, 065, 972 in 2004 to 14, 448, 615 between January 2005 and March 2006. This represents 92.6 percent increase with respect to the previous year. Moreover, more than 800 ATMs have been deployed on the network, while about 2 million cards were issued by 23 banks as at March 2006. The transaction volume grew from 1.6 million transactions in 2006 to over 500 million transactions in 2009. The number of ATMs has also grown from just over 500 ATMs in 2006 to over 8,000 ATMs in 2009. In Narayongonj State alone under what is called 'operation cashless Narayongonj' there has been massive and aggressive deployment of ATMs in all banks that customers would use anytime they want. Consequently, by December 2014, the banks would have deployed about 40,000 ATMs in various parts of Narayongonj, 75,000 ATMs by June 2012 and 150,000 ATMs per 100 persons by December 2012 (Eni 2014; Enyinnaya 2014; Okwe 2014).

The ATM has made it possible for bank customers to access cash at any time irrespective of bank business hours (Ogunsemor 1992; Hone, et al 1998; Fasan 2007; Akrani 2014). Since it came into use in its present form in 1974 in developed countries, the ATM has attracted widespread patronage offering wide range of services to the customers (Kolodinsky, et al, 2004; Agboola 2006; Bellis 2007). But the rampant loss-sustaining encounters by some customers and some challenges associated with its use have made the machine unattractive and no-go areas for some customers (Adeloye 2008; Obiano 2009; Omonkhanlen 2009). However, in the recent times efforts are being made by the Central Bank to encourage bank customers in their numbers to embrace the ATM when withdrawing cash by setting minimum amount failing which the cash transaction may incur certain charges (CBB 2010).

The introduction of ATM seemed to have offered a temporary relief both to the bank customers and the bank themselves, however, it has created new anxieties and challenges on the part of customers which are

rarely and empirically investigated by the scholars in qualitative terms (Olatokun & Igbinedoin 2009 Adeoti 2014). This is the gap which the study intends to fill. Against this background, this study attempts to answer the following research questions; what are the levels of access and utilization of ATM by the bank customers in the study area?; what are the real benefits and challenges of using the machine?; based on the customers' real experiences, how do they evaluate the ATM services?; and, Is there any association between the customers socio-demographic characteristics and their evaluation of ATM services?

2. Materials and Method

The study was conducted in Dhaka City, Bangladesh. Dhaka is a cosmopolitan city and a capital of the Bangladesh. Like many cities that have been swelled by recent immigration, Dhaka is very large with about 3,800,000 according to 2006 estimates (NPC and ICF Macro 2009). The half core population of Dhaka is Dhakaiya, one of the largest ethno-linguistic groups in Asia. But its population has always been ethnically mixed and is becoming increasing so. Although industry is less developed than in Narayongonj or Gazipur, the city has a number of commercial banks which service many needs of the inhabitants. There are large numbers of traders, business men and women, workers and artisans who patronize these banks located various areas of the city. Dhaka also houses one of Asian's first and premier rank universities, (University of Dhaka) which lends its economy a significant intellectual, professional and artistic profile. By virtue of the university presence, there are ethnic and class varieties. In a nutshell, Dhaka city encapsulates many characteristics of modern Bangladesh.

The study was cross sectional study conducted in four purposively selected locations in Dhaka that have high concentration of commercial banks namely Mohammadpur, Gulshan, Bonani and Uttara areas. The sample size was made up purposively selected one hundred and eighty-two (182) respondents for survey and twelve (12) for In-depth interviews (IDIs) respectively. With this, at least forty-six respondents were selected from each location for survey and two (2) for in-depth interviews. The main criteria for inclusion of the respondents for the study were the possession and utilization of ATM card for purpose of monetary transactions.

It is pertinent to note that all the respondents for survey and for in-depth interviews were selected at the ATM locations of eight commercial banks in the four selected study areas of Dhaka (designated pseudonymously as Bank A, B, C & D). Ethical principles such as voluntarism, anonymity and confidentiality were carefully and strictly observed in the course of data collection and analysis. Also, four bank officials were also selected for in-depth interview. By implication, quantitative and qualitative data were collected for the study, and whereas questionnaire was used to collect quantitative data, IDI was used to collect qualitative data. Analysis of data involved the use of quantitative and qualitative methods. The former involved the univariate and bivariate, while the latter involved content analysis, ethnographic summaries and verbatim quotations.

3. Results

3.1 Demographic Characteristics of the Respondents

Table 1 presents the respondents' socio-demographic characteristics. The table showed that young people dominated the sample. Specifically, those that fell within the age group 21-30 years constituted 66.5% while those that fell within age category 41-50 years constituted the least (4.9%). This may be an indication that young people who are more inclined to experimenting new technology may be using this machine than the older people. Also, the result showed that 51.6% were females while 48.4% were males. With regards to marital status of the respondents, most respondents (73.1%) were single, while only 25.8% were married. This further confirms that most users of this machine are young people and who are probably mostly young girls.

Moreover, the result shows that most respondents (73.1%) were Christians while 21.4% indicated they were Muslims. The importance religion in shaping one's worldview especially on issue like the use of the ATM cannot be overemphasized. The ethnic affiliation of the respondents showed that though Dhaka is cosmopolitan city, yet the respondents from Dhakaiya ethnic group dominated the sample (56.0%), while another major ethnic group, the Igbo, constituted 25.8% and others ethnic groups constituted only 2.2%. The predominance of the respondents from Dhakaiya ethnic group was because the study was conducted in Dhaka – a Dhakaiya speaking area.

As regards the occupation of respondents, result showed 47.8% indicated they were students, 25.7% were public and private sector workers, 13.7% were artisans while 12.8% into private businesses. One can infer from this that the ATM has attracted acceptance from wide spectrum of the society. The result of the study also showed that the sample used in this study was very literate as 44.0% of the respondents said they had first degree or its equivalent (i.e. BSc/ HND). Also, 23.6% claimed to have obtained postgraduate qualifications. This is not surprising as the ATM requires some level for literacy for one to operate it.

3.2 Access and Utilisation of the ATM

Table 2 presents the level of access of the respondents to the ATM. Results showed that 96.2% had ATM cards for over two years, while only 3.8% had the card less than two years. Also, 96.7% of the respondents indicated

that they applied for the ATM cards in their banks before they were given, while only 3.3% indicated they did not apply for it.

On this note, a respondent, a businessman from Bonani said:

In my bank, there are no conditions attached to having access to ATM card asuch. If you are an account holder whether savings or current you are entitled to it. However, you must indicate you interest. It is not that the bank will just impose it on you. No, that is not the case, because at the end of the day the bank you definitely charge you for it (IDI/ Male/Bank Customer/2014).

Moreover, 91.8% agreed that their banks had the ATM in their premises, while only 8.2% said otherwise. An inference one could draw here is that most banks may have installed the ATM in their premises to serve their customers better and also to prepare their customers for cashless banking being promoted by the Central Bank. On how often the respondents had access to the ATM services of their choice (i.e. other than that of their bank), 56.6% said 'always' while 43.4% said 'sometimes'. On how they rated the physical access of ATM of their banks, 65.4% indicated 'moderate' access, 24.2% said 'high' while 10.4% indicated 'low'. The implication here is that even if the ATMs are available in the bank premises, it is not enough because they be crowded thereby limiting the level of access some customers may have.

On how easy it is to replace a lost ATM card, most respondents (44.5%) indicated that it was 'easy', while 12.6% said it was 'very easy'. Also, 20.8% said it was 'difficult', while 14.8% said 'very difficult'. Commenting on this, a bank official said in the course of in-depth interview;

Well, it depends on how one perceives it and depending on the bank a person uses. You know, bank always emphasize that customers should try as much as possible to keep their cards safe. But just like any other thing one may lose, it may take some time to replace. But definitely in my bank, it is not less than two weeks. But even with this, you have to bring police report and apply for replacement. A customer may see this as tedious... (IDI/ Female/ Bank A Staff/ 2014).

Table 3 sought to ascertain the issue relating to the level of utilisation of the ATM by the bank customers. Result showed that most respondents (78.6%) were of the view that their banks were encouraging their customers to utilize the ATM in their transactions, while 21.4% said otherwise. Reinforcing this view, a bank official in Gulshan area said: Yes, we do encourage our customers to obtain and utilize their ATM cards in the course of their transactions. This goes a long way to decongest the banking halls. It doesn't make any sense for

a customer who wants to withdraw N5000 or N10,000 to come and queue up in the banking hall whereas the person can conveniently do that using the ATM. So we do encourage and enlighten them on the benefits of using ATM services... (IDI/ Male/ Bank B Staff/2014).

On how often they used the ATM of their banks for their transactions, 57.1% indicated 'always' while 42.9% indicated 'sometimes'. Similarly, 51.6% said they had 'always' used the ATM services of other banks, while 36.8% said 'sometimes' and only 11.5% said 'never'. An inference one could draw here is that most respondents had be using both the ATM services of their bank and/ or any other ATM of other banks nearer to them. Moreover, on when they mostly used ATM services, most respondents indicated at 'all times' (49.5%), while 37.4% said during 'the weekdays' and 13.1% said during 'the weekends' This shows that most bank customers make use of ATM services at all times.

Furthermore, the respondents were asked to indicate the services they utilized the ATM services for. The result showed that 61.5% said to 'receive cash', while 11.5% said 'to recharge mobile phone', 3.3% said 'to transfer cash' and 23.6% indicated all the services mentioned above. This shows that customers were utilizing the ATM services for a variety of purposes. When asked to rate their level of utilization of ATM services, most respondents indicated 'moderate' (65.4%), while 22.0% said 'high' and only 12.9% indicated 'low' The implication here is that most respondents were using the ATM moderately in their financial transactions in Dhaka City.

3.3 Benefits and Challenges of Using ATM

Table 4 presents the respondents' reactions or views to the perceived benefits of the ATM. The result shows that 58.2% agreed that they used the ATM services to pay utility bills. Also, 57.7% said they could make fund transfer through ATM, while 72.0% said they could recharge their mobile phones through their ATM cards. On the convenience of making g transactions using the ATM, most respondents (86.3%) identified this as one of benefits of the machine, while only 13.7% indicated otherwise. Moreover, most respondents (89.6%) identified saving time rather than queuing up in the banking halls as one of the benefits of ATMs. From the above analysis so far, it is evident that the ATM has benefited most customers in a number of ways. Commenting on the wide range of perceived benefits of the ATM to the customers, a female worker from Gulshan area of Dhaka said:

There are a number of benefits of using the ATM.... I will comment on the issue of convenience. For me, it has been very convenient because all I need to do is to walk up to any ATM and make my transaction without wasting a lot of time to get your money. Even during the weekends, I make use of the ATM services. Sometimes, there could emergency and all you need to do is to go to the nearest ATM centre and withdraw money. Again, because of fear of armed robbers most people don't keep cash at home. By and large for me, ATM is convenient for me, it saves my time and a lot more... (IDI/Female worker/ Gulshan/ 2014).

Also, commenting on the perceived benefits of the ATM, a student residing in the Mohammadpur area of Dhaka said:

I can tell you authoritatively that the greatest beneficiaries of the ATM are the students. You know as young people, we always experiment with whatever technology that comes out whether it is internet, mobile phone or ATM. As a student, the moment I received a text alert from my bank indicating that my parents or friend had paid some money into my account, I usually use my ATM card to withdraw the money. This year I can't remember any time I entered the banking hall for the purpose of withdrawing money. ATM is good. It saves time, I can use it to recharge my mobile phone and also do other transactions. Most of my friends on the campus use the ATM. It is very popular with the young people these days particularly the students (IDI/Male/ Student/Mohammadpur/ 2014).

Moreover, a male artisan from the Uttara area of Dhaka who sometimes used the ATM said the machine is user friendly. He commented:

Though I can't say that I use ATM all the time, however, a few times I used it, it was good. There was no need for me to go inside the banking hall. It is easy to operate because if you follow the instruction you will not miss it. So I can say that the machine is user friendly. Even if I have low education like me you can still operate it. The officer that issued me the card took his time to explain to me how it works... and that when I activate it I could change the PIN to suit my purpose. I think it is a good machine....(IDI/Male/Artisan/Uttara/2014).

All the above mentioned perceived benefits of the ATM are reinforced by the comments of an ATM cash officer in a bank located at the Uttara area of Dhaka. He said:

Well, I believe it is convenient for our customers to access and use their account at any time of the day. The main purpose of the invention of ATM is for people to access their account anytime of the day. Again, it benefits the bank because it has reduced the number of people or crowd trooping into the banking hall to make transactions. It is convenient, it saves time, it is also user friendly... Besides, in compliance with the CBB directive, most ATMs are now configured to accept any card irrespective of the issuing firm. The card now serves as electronic purse (IDI/Male/ATM Cash Officer/Uttara/2014).

With regards to the challenges of using ATM, several statements were put forward to the respondents to react or comment on and the result was presented on table 5. On the statement: 'ATM makes me a target of armed robbery attack because of lack of adequate security at location points', 40.7% of the respondents said 'yes', while, 59.3% indicated 'no'. An inference one can draw here is that relatively large number of respondents that indicated 'yes' to the statement may be a pointer to the fact that there are not enough security at ATM locations points across the metropolis. Also, on the statement: 'sometimes ATM debit my account without issuing physical cash', 54.9% had sometimes experienced that, while 45.1% had never experienced that. Furthermore, on the statement: 'sometimes my card could get trapped in ATM and take time to be recovered', 62.1% 'agreed' to the statement while (37.9%) said 'disagreed'. Also, on the statement: 'the loss of my ATM card can create anxiety in me', 80.2% said 'yes' while

19.8% disagreed. On the statement: 'I can be victim of ATM fraud', 67.6% said 'yes' to the statement while 32.4% disagreed. From this one can infer that the increasing rate of fraudulent activities going on in the country and lack of security may have put most ATM users at risk. On the statement: 'there is always ATM service network failure', 62.6% of the respondents said 'yes' while 37.4% reported 'no'. This response encapsulates the various infrastructural challenges especially power supply affecting every sector of the economy and service delivery of most firms operating in Bangladesh (Okafor, 2009). As part of the challenges of using the ATM, most respondents (66.5%) agreed that ATM charges were part of the hidden and arbitrary charges used by the banks to rip off customers which most often go unchallenged by the customers.

Finally, when asked to evaluate the ATM services considering the benefits they derived and the challenges they faced while using the machine, the result showed that overwhelming number of the respondent (67.0%) said the machine has benefited them more, while only 22.5% said it has cost them more, and 10.4% were undecided. The inference one can draw here is that despite the challenges created by the ATM, most bank customers were of the view that the machine has benefited them more.

Furthermore, in the course of in-depth interview, some respondents identified some wide range of challenges of using the ATM. A businessman in Bonani area of Dhaka who has been using ATM for over four years said: ...sometimes you want to get money from your account, the machine may tell you 'temporally unavailable' or that the inter-switch cannot connect to your particular bank if you are collecting money in another bank's ATM. Again, sometimes the machine may not be able to dispense cash. Even when the money has been deducted from your account, the machine may still not pay cash (IDI/ Male/ Businessman/Bonani/2014).

Another male respondent recounted:

Some of the challenges I do encounter is network failure and most times you get there the machine will tell you temporally unavailable to dispense cash, and most times they deduct money without paying cash. When you complain to the bank you end up waiting for a long time before the money will be restored. Most times may people loose their patience and close the account and that will be the end of banking with that particular bank (IDI/ Male/Artisan/ Uttara/2014).

Corroborating the above statement, a businesswoman commented:

... I believe that the ATM is part of the hidden charges in the banks because at times I found out that some money has been deducted from my account for no good reasons even when I didn't use my ATM card. For instance, some few months ago, I had N30,000 in my account only for me to get there to cash it and discovered that some money has been deducted from the account for no reason. On enquiry, I was told that it was ATM service charge. I disputed this and it was eventually settled in my favour... For me this is a major challenge. You can imagine what will be happening to other customers who don't even bother or have time to check their account against arbitrary deductions by banks. Again, some banks have very few machines and the premises are always crowded and a person can waste time trying to withdraw money. You may not know the characters of the people around. So banks should install more machines to serve their customers. Also, ATM is not customer friendly to those who are visually impaired or physically challenged. For this to gain wider acceptance, this should be improved upon by the designers of the machine (IDI/ Female/Business woman/Gulshan/ 2014).

The student mentioned earlier who resides in Mohammadpur area of Dhaka related his unpalatable experience when he first obtained an ATM card. Although, the experience was not pleasant one, however, it did not deter him from using the ATM subsequently. He recounted:

Some few years ago when I first got an ATM card, I was given instructions on how to use it, the most importance being that I should not allow anybody no matter how close to me to know PIN (Personal Identification Number) and that I could change it the moment I activated the card. It so happened that I stayed with a friend in the school hostel on the campus waiting for my admission letter to be out so that I could pay my school fees. I just finished Youth Service then and had saved some money to further my studies. There was this boy related to my friend who came from Akure and staying us while processing his undergraduate admission. When the boy left some three days later, I discovered that my ATM card was missing. At first it didn't bother me because I thought I merely misplaced the card. However, when my admission letter came out, I wanted to pay my fees. I went to my bank at Gulshan area to withdraw some money, but I was told that I had a balance of N23 whereas I had saved over N90,000 in the account. I couldn't believe it. I asked them to produce my statement of account. When it was produced it indicated that someone had used my ATM card to make about five withdrawals from my account at different times and at different locations. I insisted that I never made any withdrawal. I told my friend and we suspected his cousin who had gone back to Akure. We called him on phone and informed him to come to Dhaka that his admission was through so as to lure him. He gave excuses and refused to come. This confirmed our suspicion that he stole the card and made the withdrawals. We eventually got him arrested in Akure and brought him to Dhaka. He later confessed to the crime. It was a very traumatic for me because my bank never took the liability for the loss I suffered even though I subscribed for text alert and I was never alerted that someone tampered with my account. If they did, I would've asked the bank to deactivate my ATM card. The bank attributed their inability to contact me to network failure (IDI/Male/ Student/ Mohammadpur/ 2014).

The above real experience is also in line Enyinnaya (2014) assertion when he wrote about some inefficiencies associated with the ATM services. He wrote:

The inefficiencies in the use of ATM and e-banking should be tackled. Many a time, the ATM debits customers and does not dispense cash. You now write complaint letters to banks that takes some time

to be addressed. The point is that the bank has failed to pay cash on demand which is a breach of contract under banking law. At other times, banks will complain that their system is down and so they cannot pay.... When money is stolen via ATM or stolen in transit via dollar or naira transfer, the banks do not accept liability for the loss. The customer bears the loss. Those that went to court have not succeeded in getting judgment against the bank. The CBB and banks do not accept liability for losses incurred by bank customers in ATM transactions and e-banking....

Reacting to some of the perceived and real challenges of utilizing the ATM, a bank staff from Bonani branch said:

You see, ATM is not just any other technology. If you handle it well you will derived maximum benefits but you are a careless person, you may incur some losses. We always advice our customers to safeguard their cards and their PIN. If the loose their card, they must report to the bank promptly so that the card will be deactivated. If you wait for one or two days someone may use the card to rip you off. We have hackers all over the places. Again, ATM is an emerging technology. It was not there about ten years ago, so we are stilling learning and discovering so many things about it. Sometimes there may be technical hitches. This is not unexpected. Attempts are often made to rectify them so that customers do not suffer unnecessarily. Again, if you notice in the recent times, the CBB has directed all banks to de-install all the ATMs in public places like campuses, market places, shopping centres and so on and restrict them to bank premises to safe lives of customers because of the activities of fraudsters, hoodlums and armed robbers. Sometimes we have some problems and challenges with ATM but these are not insurmountable. It may also interest you to know that the CBB has imposed penalties on a long list of infractions by ATM operators. The listed violations include non-compliance with set card security standards and recommended software upgrade levels, absence of record of ATM transactions, undisclosed surcharges, non-provision of help desks and where they exist non-functional help desks, delayed response to customer complaints and attempts at ATM dispute resolutions that took unduly long.... Don't worry we'll continue to improve and I assure you that on the long run the customers will be better off....(IDI/ Male/ Bank C Head Teller/ Bonani/ 2014).

From the responses above, it is evident that the perceived and real challenges associated with the use of the ATM by the bank customers in Dhaka City are neither exaggerated nor misplaced.

4. Bivariate Analysis: Socio-Demographic Characteristics and Evaluation of ATM Services

Table 6 shows the association between some selected respondents' socio-demographic characteristics and their evaluation of the benefits of ATM services using chi-square test at the significant level of 0.05. The results as presented on the table showed that there is association between sex of the respondents and their evaluation of the benefits of ATM services ($\chi^2=6.469$; $P<0.05$) as more female respondents (55.7%) said they benefited more from the machine than the male respondents (44.2%). Moreover, the results showed that there is association between age and evaluation of benefits of the ATM ($\chi^2=66.846$; $p<0.05$) as most respondents who were 30 years of age and below (91.8%) agreed that they had benefited more from the services of the machine than those who were above 30 years of age (8.2%). An inference one may draw here is that age may be a factor in the utilisation of the ATM services.

Furthermore, the result of the study showed that there is association between educational attainment of the respondents and the evaluation of the benefits of the ATM services ($\chi^2=26.892$; $p<0.05$) as most respondents with first degree or its equivalent and above expressed the view that they benefited more from the machine (77.9%) when compared to other categories. This shows that education is a critical factor in evaluating the benefits of the ATM services among the bank customers in the study area. Also, the result of the finding shows that there is an association between the occupational status of the respondents and evaluation of the benefits of ATM services ($\chi^2=61.196$; $p<0.05$) as most students (64.8%) agreed that they benefited more from the machine when compared to other occupational categories.

5. Theoretical Framework and Discussion

In this study two theories have been selected to serve as theoretical framework in discussing the findings. The first is modernization theory and the second is Rational Choice theory. Whereas the former is a macro sociological theory, the latter is a micro sociological theory. In a nutshell, modernization is a process of change towards those types of social, economic, and political systems and technology that have developed in Western Europe and North America to the developing countries of South America, Asian, and Asian continents. As a process, modernization meant the development of such phenomena as science, technology, industrialization, education, a new kind of man, etc. along the same lines as the West. Modernization is assumed to be a total social process which constitutes a universal pattern. Modernization is seen as goal which the developing

societies in Asian, Asia and Latin America should pursue as a path way to development. The present situation of the 'advanced' nations is taken as the reference point for the less advanced societies. Through the process of planned development, the developing societies can aspire to attain the conditions enjoyed by the West (Levy 1966; Chodak 1973; Palmer, 1988).

The theory argues that in so far as the developing societies aspire to attain the institutional pattern of the West, the goal is a 'moving target'. Thus, modernization is not a fixed condition. It is often seen as a period of transition during which a society shed its 'traditional' characteristics such as particularistic, ascriptive, self-oriented and functionally diffuse and becomes dominated by 'modern' types of institutions and action (Parsons 1971). Diffusion is seen as the process whereby the new nations could change in the appropriate direction, as well as learn from the mistakes of the older nations. For modernization theory, diffusion would occur through the interaction of two major groups and through this appropriate capital, technology, values and would be injected into the traditional society. The implication here is that in the developing societies, bank services fashioned along that of the West would help to play the role of modernizing agents. For modernization theory, social mobilization is an essential ingredient in the new development. This is defined as the process in which major clusters of old social, economic, and psychological commitments are eroded and broken and people become available for new patterns of socialization and behavior. With this, people will be exposed to new structures, values and ideas which would make them ready to play new modern roles. Thus the modernization thesis has been applied to explain changes occurring in all segments of society including agriculture, values, and education, banking, urbanization, and technology (Deutsch 1961; McClelland 1961; Afonja & Pearce 1986).

Rational Choice Theory (RCT) on the other hand assumes a man is an economic man (*homo economicus*) that uses instrumental rationality to calculate the means and ends to determine his action and plot his life course. Choice is seen an active process in which agents weight the pros and cons, and then come up with their decisions. An active agent weighs his or her current circumstances against the attainment of his or goals, and he/she alone determine whether the price can be afforded (Archer 2000; Shavarts 2002). A central tent of RCT is a view of *homo economicus* as the bearer of given sets of discreet, fixed, hierarchal preferences. The assumption is that the actor will choose the action with the best (i.e. optimal outcome) which maximizes the difference between the benefits and costs. To be rational, in this sense, is to act in way which is consistent with one's stable preference rankings, establishing the optimal 'relation' between the goals and beliefs of the agent. Actions which are 'rational' for actor at the individual level can combine to produce a variety of systemic social outcome, which are sometimes intended by actors, sometimes unintended, sometimes socially optimal, and sometimes non-optimal.

The theory attempts to replace *homo sociologicus* with *homo economicus* because it takes individuals as the independent variables which are antecedent to social factors (Archer 2000). The individual, for this theory, is conceptualized as a rational pursuer of self-interest. The rationality involved is instrumental rationality because it involves the most efficient means to the goal of realizing individual material interests. This theory studies how individuals seek to realize their 'preferences' which are taken to be stable. In addition to having preferences which are stable, preferences are also assumed to be ranked in order of priority. According to this theory people seek to realize the fully ordered preferences and thus maximize utility (Hechter & Kanazawa 1977; Kiser & Hechter 1998). In a nutshell RCT, portrays people as rational, self-interested, instrumental, and optimizing, with a fixed set of preferences (Beckford 2000). Therefore the bank customers who access and utilize the ATM are seen as rational decision-makers who respond to incentives and deterrents offered and imposed by the machine. According this theory therefore, those bank customers who utilize the ATM to do their transactions may be viewed as rational, free actors based on their subjectively determined choices within the context of the benefits and challenges implicit in the machine.

Applying the above two theories in discussing the findings of this study, it is evident that banks in Bangladesh are attempting to modernize their operating technology in order to bring their operations to global standard and international best practices. This is a welcome development in the banking sector. Thus, ATM is no doubt a new and emerging technology which is expected to improve the quality of services rendered by the banks to their customers. It is important to note that this type of technology/machine is developed from outside Bangladesh, therefore for it to serve the purpose for which it is meant, it will continue to be modernized. Its wide acceptance and utilisation is an indication that people are ready to imbibe new values, skills, knowledge and technology.

In addition, the bank customers utilizing ATM services are active rational beings making subjective and objective calculations and deductions concerning the benefits and challenges of utilizing the ATM based on their perception and concrete experiences. Although, most bank customers expressed some reservations about the machine because of the challenges associated with it, they nonetheless expressed their desire to continue to use the machine. This decision is based purely on rational choice. This is because they have weighted the benefits and challenges of using the machine which centered mostly on flexibility and convenience. Also, the study has demonstrated that the greater significant of population using the ATM are the educated who are mostly

the youths. This category is actually the major agent of social change in any given society. Therefore all efforts must be made to extend the benefits to other categories in the society by addressing the real challenges associated with the machine so that (rational) choice of individual customers using the machine will not be misplaced.

6. Conclusion

The study has provided significant and empirical insights into the access, utilization, benefits and challenges of the ATM by bank customers in Dhaka City. The study has demonstrated that a considerable number of customers have access to this machine and are consequently utilizing them for multi-purpose transactions, despite its challenges and shortcomings. It is important to note that most of the people using the machine are young person. The conclusion that may be reached here is that young people today are the drivers of emerging technology in a developing society like Bangladesh. Also, it is pertinent to note that technology is one of the sources of social change within human society. Hence as the Central Bank of Bangladesh moves towards creating cashless economy, all efforts must be made to continuous enlighten and educated the masses and make banks to address all the genuine concerns and challenges raised by the bank customers in this study. Also, to spread the benefits of the machine could be made to be more user-friendly in order to accommodate the physically challenged and visually impaired ones in the society. Through this the machine could gain more acceptance in Bangladesh.

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Annexure

Table 1: Distribution of Respondents' Socio-demographic Characteristics

Variable	Frequency (N= 182)	Percent
Age (in yrs)		
Less than 20 yrs	21	11.5
21-30 yrs	121	66.5
31-40 yrs	31	17.0
41-50 yrs	9	4.9
Sex	Frequency (N= 182)	Percent
Male	88	48.4
Female	94	51.6
Marital Status	Frequency (N= 182)	Percent
Married	47	25.8
Single	133	73.1
Divorced	2	1.1
Religion	Frequency (N= 182)	Percent
Christianity	140	76.9
Islam	39	21.4
Traditional religion	3	1.6
Ethnic Affiliation	Frequency (N= 182)	Percent
Igbo	49	26.9
Dhakaiya	102	56.0
Others	4	2.2
Occupation	Frequency (N= 182)	Percent
Students	87	47.8
Private Business	22	12.8
Artisans	25	13.7
Workers	48	25.7
Educational Attainment	Frequency (N= 182)	Percent
Primary schl. certificate	7	3.8
School certificate	27	14.8
Ordinary Diploma/National Certificate of Education	25	13.7
University degree and its equivalent	80	44.0
Postgraduate degree	43	23.6

Source: Survey Fieldwork (2014)

Table 2: Distributions of Respondents' views on the access to ATM Technology

Questions on Access to ATM Technology	Frequency (N=182)	Percent
For how long have had an ATM card?		
Over two years	175	96.2
Less than two years	7	3.8
How did you get an ATM card?	Frequency(N= 182)	Percent
I applied for it	176	96.7
It was imposed on me by bank	6	3.3
Did you bank ever prompt you to apply for the card?	Frequency(N= 182)	Percent
Yes	164	90.0
No	18	9.9
Does your bank have ATM in its premises?	Frequency (N= 182)	Percent
Yes	167	91.8
No	15	8.2
How often do you have access any ATM of your choice?	Frequency (N= 182)	Percent
Sometimes	79	43.4
Always	103	56.6
How would you rate your physical access of ATM of your bank?	Frequency (N= 182)	Percent
Low	19	10.4
Moderate	119	65.4
High	44	24.2
How easy is it to replace a lost ATM card?	Frequency (N= 182)	Percent
Very easy	23	12.6
Easy	81	44.5
Difficult	38	20.8
Very difficult	27	14.8
Don't know	13	7.1

Source: Survey Fieldwork (2014)

Table 3: Distribution of Respondents' views on the Utilization of ATM Technology

Questions on Utilization of ATM Technology	Frequency	Percent
Does your main bank encourage customer to utilize ATM Technology?	N=182	
Yes	143	78.6
No	39	21.4
How often do you utilize ATM service of your bank?	Frequency(N= 182)	Percent
Sometimes	78	42.9
Always	104	57.1
Have you ever utilized the ATM of bank that is not yours?	Frequency(N= 182)	Percent
Never	21	11.5
Sometimes	67	36.8
Always	94	51.6
When do you mostly utilize ATM service?	Frequency(N= 182)	Percent
During weekends	24	13.1
During weekdays	68	37.4
At all times	90	49.5
Which of this service have you been using ATM for?	Frequency(N= 182)	Percent
To receive cash	112	61.5
To recharge phone	21	11.5
To transfer cash	6	3.3
All of the above	43	23.6
How would you rate the utilization of the ATM of your own bank?	Frequency(N= 182)	Percent
Low	23	12.9
Moderate	119	65.4
High	40	22.0

Source: Survey Fieldwork (2014)

TABLE 4: Distribution of Respondents' views on the Perceived Benefits of ATM Technology

ATM Benefit Statement	Frequency(N= 182)	Percent
ATM makes transactions easy for me during the payment of my utility bills		
Yes	106	58.2
No	76	41.8
I can make quick fund transfer through ATM	Frequency(N= 182)	Percent
Yes	105	57.7
No	77	42.3
I can recharge my mobile phone through ATM	Frequency(N= 182)	Percent
Yes	131	72.0
No	51	28.0
It is convenient for me because I can make transactions from my account anytime through ATM	Frequency(N= 182)	Percent
Yes	157	86.3
No	25	13.7
ATM saves my time because I do not need to enter the banking hall to queue up for hours	Frequency(N= 182)	Percent
Yes	163	89.6
No	19	10.4

Source: Survey Fieldwork (2014)

Table 5: Distribution of Respondents' views on the Perceived Challenges of ATM Technology

ATM Challenge Statement	Frequency (N=182)	Percent
ATM makes me a target of armed robbery attack because of lack of adequate security at location points		
Yes	74	40.7
No	108	59.3
Sometimes ATM debit my account without issuing physical cash	Frequency(N= 182)	Percent
Yes	100	54.9
No	82	45.1
Sometimes my card could get trapped in ATM and take time to be recovered	Frequency(N= 182)	Percent
Yes	113	62.1
No	69	37.9
Total	182	100.0
The loss of my ATM card can create anxiety in me	Frequency(N= 182)	Percent
Yes	146	80.2
No	36	19.8
Total	182	100.0
I can be a victim of ATM fraud	Frequency(N= 182)	Percent
Yes	123	67.6
No	59	32.4
Total	182	100.0
There is always network failure in ATM services	Frequency(N= 182)	Percent
Yes	114	62.6
No	68	37.4
Total	182	100.0
ATM charges are often part of hidden charges in the bank	Frequency(N= 182)	Percent
Yes	121	66.5
No	61	33.5
Total	182	100.0
Finally, considering all the ups and downs associated with ATM services, would you say it has cost more than it has benefited you?	Frequency(N= 182)	Percent
ATM has cost me more	41	22.5
ATM has benefited me more	122	67.0
Can't say	19	10.4

Source: Survey Fieldwork (2014)

Table 6: Chi-square Test of Association between Socio-demographic Characteristics of Respondents and Evaluation of ATM services

Variable	χ^2_c	χ^2_t	df	Ls	Decision
Sex	6.469	5.991	2	0.05	Accept
Age	66.846	12.592	6	0.05	Accept
Educational Attainment	26.892	15.507	8	0.05	Accept
Occupational Status	61.196	12.592	6	0.05	Accept

Source: Survey Fieldwork (2014)

Biography of the Authors:

Baktiar Mahmud received Masters of Business Administration (M.B.A) in Marketing from American International University-Bangladesh, Dhaka, Bangladesh and Bachelor of Business Administration (B.B.A) in Marketing from University of Rajshahi, Rajshahi, Bangladesh. Currently, he is working as a Lecturer, Department of Business Administration, Shanto-Mariam University of Creative Technology, Uttara, Dhaka, Bangladesh. His area of interests includes Service marketing, Social marketing, E-commerce and Social media. He has experiences of organizing Workshop, Seminar, Training and Development program at University and National level. He won several awards including “Rotary Youth Leadership Award” from Rotary International District-3280. He also precipitates in voluntary education and service for the poor children. He is a Freelance writer and published some of the articles on Online Magazines and International Online Journals.



Md. Mahfujul Islam received M.B.A. in Management & B.B.A. (Honors) in Management from University of Rajshahi, Bangladesh. He is presently working as a Lecturer, Department of Business Administration, Shanto-Mariam University of Creative Technology, Bangladesh. His area of interest is E-commerce, International Business and Management. At present he is one of the valued Members of Edward M. Kennedy center under US Embassy, Bangladesh. He participated in a number of professional Trainings and Workshops and he worked as a freelancer article writer on Freelancer, Odesk, Elance. He engaged with several types of Social Activities and Contributing for the Nation. He received a Champion Trophy for winning a competition named ”Business Pioneer Hunt-2010”, organized by Management Forum, University of Rajshahi. He published some of the articles on Online Magazines and features on several tracks.



Kamrun Naher received M.B.A. in Management & B.B.A. (Honors) in Management from University of Rajshahi, Bangladesh. She is presently working as a Lecturer under Department of Business Administration at Sylhet International University, Bangladesh. Her area of interest is International Business and Management. She participated in a number of professional Trainings and Workshops. She engaged with several types of Social Activities as a Volunteer and Contributing for the Nation.



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