



REVIEW OF RESEARCH

ISSN: 2249-894X

IMPACT FACTOR : 5.7631 (UIF)

VOLUME - 8 | ISSUE - 12 | SEPTEMBER - 2019



CONCEPT OF AUTOMATIC TELLER MACHINE IN INDIA

Dr. Shrikant L. Patil

M.Com., M.Com., MLISc., M.Phil., PGDCA., Ph.D.

Assistant Professor and Research Guide in Commerce,

G.P. Porwal Arts, Commerce and V.V. Salimath Science College,

Sindagi. Dist. Vijayapur, Karnataka State.

ABSTRACT

The Automated Teller Machine (ATM) has become an integral part of our life and society. ATM is effectively reached out a large customers base at lowest cost. At present most of the banks have networking systems for their e-banking services like ATMs. A network connected ATMs of various banks had resulted in the improvement of customers' benefits. ATM service and positively increasing a number of public using Automated Teller Machine every day. There are nearly ten types of Automated Teller Machines which is available for use in Indian banking sector in the current scenario.



KEYWORDS: *Automated Teller Machines, Types of ATM, Growth of ATM and Suggestions*

INTRODUCTION

ATM stands for Automated teller machine and is a computerized system that enables the customer to do financial transactions easily. It is an electronic banking outlet that enables customers to perform financial transaction without the need of their bank branch representative and teller. ATMs are a convenient and safe means of managing your fund and doing financial transactions.

It enables customers to check the balance of their bank account, deposit or withdraw money, print account

statements, transfer of money between your accounts etc. Use of ATM have revolutionized the whole banking process and has also simplified and reduced the workload of the banking industry. It saves the customers from visiting their bank branch personally; standing in queues there and filling up of various slips for accessing their bank accounts. ATMs provide 24 hrs. a day and 7 days a week service to bank customers. These were first introduced and used in India in the late 1980s. ATM cards are used by customers to use and access their accounts through ATMs machines. ATM is a special type of plastic card that contains

user information in a magnetic strip. This magnetic strip consists of identification code which helps in identification and authentication of user details with centralized bank computer through a modem. There are different ATM cards available in India viz. MasterCard, Maestro, Visa, Visa Electron and RuPay cards.

Automated Teller Machine (ATM)? An Automated Teller Machine, better known as an ATM, is a specialized computer that makes it convenient for bank account holders to manage their money. It allows them to check their account balances, withdraw or deposit money, transfer money

from one account to another, print a statement of account transactions, and even purchase stamps. By inserting an ATM or debit card in the machine and entering a Personal Identification Number (PIN), one can access the services above 24 hours a day, 7 days a week.

In today's business world, every individual wants to develop and expand their businesses. To sustain their business in the existing modern and globalised world, people in business employ smart work to achieve their common goal of fast growth and huge profits. The financial service sector is one of the major fastest growing industries in the world economy. The development of the financial sector in a country is critically necessary for the rapid growth of the economy. The growth of the financial sector is dependent on the progress of various intermediary banking and non-banking institutions existing in the country. Hence there is a prerequisite for banking sectors to divert their objectives from their existing goal of consistent profits to growth-oriented, future plans. This can be achieved by the banking sector by adopting technology in the business which will result in innovation. One such innovation in the banking sector is automated teller machine (ATM) which is widely accepted by all banks. Even though technological developments like mobile banking and internet banking have helped in completely reforming the banking sector, ATMs remain to be an important factor in the sector. The Indian financial system is the most massive growing sector in the country. The country has adopted technological innovation on a regular basis to implement change in its business. ATM plays an essential role in India especially when the country is trying to achieve the status of complete financial inclusion. The evolution and the development can be implemented successfully only when the customer is supportive and satisfied. The customer satisfaction can be achieved only when the bank premises gratify the expectation of the customer through their user-friendly, solution seeking ideas which can be better achieved through technology rather than their bank employees. This paper throws light on the recent development and growth in ATMs in the Indian financial sector.

HISTORY OF AUTOMATED TELLER MACHINES

By the 1960s, several teams around the world were working independently to devise a method for withdrawing cash from a bank after hours without committing a crime. The timeline for the advent and spread of the ATM is given below:

In 1960, an American named Luther George Simjian invented the Bank graph, a machine that allowed customers to deposit cash and checks into it.

The first ATM was set up in June 1967 on a street in Enfield, London at a branch of Barclays bank. A British inventor named John Shepherd-Barron is credited with its invention. The machine allowed customers to withdraw a maximum of GBP10 at a time.

In the U.S., the deployment of the ATM was pioneered by Donald Wetzel, a Dallas-based engineer. The first ATM in the US was installed in September 1969 at the Chemical Bank branch in Rockville Center in New York with the slogan, "On September 2, our banks will open at 9 am and never close again."

In 1970, a British engineer, James Good fellow, proposed the concept of a personal identification number (PIN), which automated verification of the identity of customers, thus marking a landmark moment in the growth of self-service banking.

The U.S. witnessed a major surge in ATM numbers in 1977 when Citibank pledged more than \$100 million for the installation of the machines across the city of New York. ATM use rose by 20% when a blizzard forced all the banks in the city to close their branches for days.

In 1977, National Cash Register, a software and technology company in the U.S., launched the NCR Model 770, an easy-to-operate ATM that allowed the banks to offer services 24/7. The newer model (5070 ATM) launched in the early 1980s proved to be more reliable, flexible, and customer-friendly.

By 1984, the number of ATMs installed worldwide totaled 100,000.

As of 2018, there were more than three million ATMs operational around the world. According to the consulting firm, Retail Banking Research, that figure is projected to cross four million by 2021.

The first decade of the 21st century saw a rise in the number of ATM frauds via sophisticated malware or technologies, such as skimming devices. To stay one step ahead, banks developed software that could detect anomalies in transactional data that hint towards illegal activity.

Even though digital payment services are gaining popularity in the 21st century, cash is still preferred in most parts of the world for transactions. ATMs, bank branches, mobile banking, and internet banking are expected to complement each other in the foreseeable future.

AUTOMATED TELLER MACHINE

ATM is a cash rendering teller machine. This helps bank customers to withdraw money from his account without having to go to the bank. ATM is a user friendly, computer driven system, which operates 24 hours a day, 7 days a week. A totally menu-driven system, it displays easy-to follow, step-by-step instructions for the customers.

The machine is known by the name Automated Teller Machine (ATM) in some countries and Automated Banking Machine (ABM) in other countries (Canada). It is also notorious by different names like a cash machine, cash point, mini bank, cash dispenser machine, etc. The primary function of an ATM is financial transactions, particularly withdrawal of money for the public from their personal account without using any human resources like a clerk, cashier, etc. These devices are user-friendly with comprehensible software which can be accessed by all. The ATM also has an electronic display to guide procedures step by step to the ignorant customers. It operates on 24*7 basis to help the customer to withdraw money based on their requirement. This machine can also be used for various other functions like cash balance verification, mini statement of account, transferring money from customer account to another account holder without any manual interface, paying additional charges like loan and insurance premium, etc. The ATM card looks like a plastic smart card with a magnetic strip and a microchip and contains a unique card number for individual customers. It also contains other details like date of expiry and CVV (Card Verification Value) code, for security purposes. A personal identification number (PIN) is provided to every customer for authentication. This ATM card can be utilized for all financial transactions like shopping bill payment (a point on sale), cinema ticket booking, mobile recharge and other several other purposes.

REVIEW OF LITERATURE

Agnihotri (2001) reveals that "Information Technology (IT) way of getting cash" explained the working of ATM, ATM penetration per million persons in Asian countries and the system of security-how it works and also the frauds of ATM?.

Kumbhar (2011) observed that other than cost effectiveness of ATM service, perception about all service quality dimensions is approximately same in public and private sector banks. Overall results shows that cost effectiveness of ATM service were core service quality dimension and it were significantly affecting on overall customers satisfaction in ATM service provided by commercial banks. Pandianetal (2012) said that in this modern world where money plays an important role for survival. ATM helps the people to take money whenever needed by them and also during emergency conditions. (Bishnoi, 2013) The paper shows the increase in the usage of ATM customers but lacks to find out the reasons and factors for the same.

(Renuka & Paulraj, 2014) This study concentrates on customers satisfaction at the point of withdrawal, 24 hours and on the deposit system. But there is lack of awareness among the customers while using ATM. It is suggested to the bankers that ratifying customers' comments, doubts and suggestions will increase the reputation of the bank among the customers.

(Sisat & Barbuddhe, 2014) This paper explains the various threats to ATM and Cash Deposit machine. There are three types of risks involved while using the ATM, which are currency fraud, logical attacks and physical damages.

STATEMENT OF THE PROBLEM

The use of ATM services is increasing day-by-day, it is important to study the issues and challenges towards use of ATM services. The customers were facing different types of problems with ATM services is directly related. Machine complexity, machine breakdown, poor quality notes, network failure, unsuitable location, forgot ATM pin number, Damaged notes, High frequency of use, safety and security are the major problems of ATM users. Sometime customers do not like ATMs because of impersonality, vision problem, fear of technologies and reluctance to change and adopt new mode of delivery of services.

OBJECTIVE OF THE STUDY

1. To depict the recent developments of ATM in India.
2. To examine the awareness level and providing facilities of ATM
3. To identify the various problems of faced by customers while using ATM
4. To offer suggestions to overcome the problems in ATM

TYPES OF ATM

There are various types of ATMs used for different purposes some of which are shown below: ATMs are generally classified on two bases: **Location Based Types of ATM: On site ATM:** In this, ATMs are situated either within the branch or is close to the premises of the branch so that customers can avoid the line that are present in the branch and can save their time to complete the transaction. **Offsite ATMs:** In this, ATMs are located outside the bank like shopping malls, railway stations, airports and petrol pump etc. This is on a standalone basis where there is no physical branch present. This is being done by banks to reach more and more customers in the geographical areas where there is no branch of them but customers could still able to use their services. **Worksite ATM:** Worksite ATMs are the ATMs that are located within the premises of an organisation and generally meant only for the employees of the organization. **Mobile ATM:** also known as ATM on wheels. In this, the ATMs moves in various areas for the customers to let them use their services. This is done for the convenience of the customers. **ICICI BANK** was the first private sector bank to start mobile ATM in India. As per now some other banks have also started ATMs on wheels. **Operation Based Types of ATM:White label ATM:** ATMs that are provided by NBFC (NON-BANKING FINANCIAL COMPANY) are known as white label ATMs. These are set up, owned and operated by non-bank entities which are approved by RBI and are incorporated under the companies act, 1956. To drive ATM penetration in the country, RBI has approved (WLAs) i.e. Non-Bank entities to set up and operate their own brand of ATMs in the country. In these ATMs, transaction from any bank is allowed and no logo of any particular bank is displayed. **Tata** was the first company which launched their WLA in the country with a name **INDICASH.GREEN LABEL ATM:** Green label ATMs are the ATMs that are used for agricultural transaction. **Orange label ATMs:** Orange label ATMs are used for share transactions. **Yellow label:** ATMs: Yellow label ATMs are the ATMs that are used for E-commerce. **Pink label ATM:** This type of ATM is solely made for women banking. **Brown label ATM:** In this type of ATM, the hardware and lease of the ATM is owned by the service provider but the cash management and connectivity to banking network is provided by the sponsor bank. **Cash dispenser:** CD (cash dispenser) performs certain functions like cash withdrawal, mini statement, requests and balance enquiry.

These are the various types of ATMs that can be found at various sites/locations. ATMs have been widely in existence in India since years now, and prove to be useful and thus popular among the Indian population. They eliminate the risk of falling short of cash at any point of time. You can withdraw cash irrespective of your location or timing.

ADVANTAGES OF ATM

Provide Convenience To Customers

Customers are able to do financial transactions conveniently with the use of ATMs. They can avail various banking services and can do payments seating at their home comfort. Various payments

for online shopping, at restaurants and various other places payment can be made using ATM. Nowadays ATM are installed at all important places like railway station, airports, hospitals etc. which facilitate the people in withdrawing their money whenever they want.

Offer 24×7 Service

ATMs provides 24 hours a day, 7 days a week and 365 days a year to all its customers. Unlike bank branches, it does not have any time schedule for its operations. Customers can access their bank accounts and withdraw their money at any time of day or night as per their convenience.

Reduce Banks Workload

ATMs have an efficient role in reducing the workload of the banking industry. It has relieved customers as they can avail various banking services by using ATM without visiting the bank branches. Customers are not required to stand in long queues and fill up various forms for availing basic withdrawal and deposit facilities. It helps in reducing the work pressure on bank staff and provides flexibility to its operations.

Access To Bank Account From Anywhere

Account can be accessed by customer using ATM from any part of the country or even worldwide. ATM machines are installed in different parts of the country at all convenient places. Customers don't need to carry cash while travelling and they can easily withdraw money any place they are travelling.

Minimizes Transactions Cost

ATM has reduced the manpower need as all transactions are processed and monitored using automated computerized systems. There is less human intervention in work operations which reduce overall cost.

DISADVANTAGES OF ATM

Charges Fees

Usage of ATMs by customers invites charging various fees for using it. Bank charges routines charges as per their standard rates for providing them ATM facility. Customers are also required to pay various tax while doing transactions online using the ATM.

Limitation On Cash Withdrawal

Bank imposes restrictions on withdrawal limit of their customers using ATM. There are limitations on both no. of free transactions and the amount of money that can be withdrawn per transactions. Banks set withdrawal amount limit for their customers. Most of the banks do not allow withdrawal of more than 25,000 at a time.

Possibility Of Frauds

Customers performing online transactions using ATM are likely to be affected by various frauds. There is a chance of stealing various account information by online hackers while doing online transactions. These online hackers through various suspicious activities can get access to your account and loot your money.

Non-Reachable In Rural Areas

Banks in rural areas of our country have limited computerized branches and depends mainly on manpower for its various operations. There are limited ATM machines installed in rural areas which also do not operate properly. Therefore ATM services are not properly available in rural areas.

AUTOMATED TELLER MACHINE FRAUD

Diebold (2002) state some ATM Frauds in a paper titled "ATM Fraud and Security". The following Techniques were outline

Card Theft: In an effort to obtain actual cards, criminals have used a variety of card trapping devices comprised of slim mechanical devices, often encased in a plastic transparent film, inserted into the card reader throat. Hooks are attached to the probes preventing the card from being returned to the consumer at the end of the transaction. When the ATM terminal user shows concern due to the captured card, the criminal, usually in close proximity of the ATM, will offer support, suggesting the user enter the PIN again, so that he or she is able to view the entry and remember the PIN. After the consumer leaves the area, believing their card to have been captured by the ATM, the criminal will then use a probe (fishing device) to extract the card. Having viewed the customers PIN and now having the card in hand, the criminal can easily withdraw money from the unsuspecting user's account.

Skimming Devices: Another method of accessing a consumer's account information is to skim the information off of the card. Skimming is the most frequently used method of illegally obtaining card track data. "Skimmers" are devices used by criminals to capture the data stored in the magnetic strip of the card. Reading and deciphering the information on the magnetic stripes of the card can be accomplished through the application of small card readers in close proximity to, or on top of, the actual card reader input slot, so it is able to read and record the information stored on the magnetic track of the card. The device is then removed, allowing the downloading of the recorded data.

PIN Fraud: This can take the following forms:

Shoulder Surfing: Shoulder Surfing is the act of direct observation, watching what number that person taps onto the keypad. The criminal usually positions himself in close but not direct proximity to the ATM to covertly watch as the ATM user enters their PIN. Sometimes miniature video cameras that are easily obtained might be installed discretely on the fascia or somewhere close to the PIN Pad, to record the PIN entry information.

Utilizing a Fake PIN Pad Overlay: A fake PIN pad is placed over the original keypad. This overlay captures the PIN data and stores the information into its memory. The fake PIN pad is then removed, and recorded PINs are downloaded. Fake PIN pads can be almost identical in appearance and size as the original. An additional type of overlay that is more difficult to detect is a 'thin' overlay that is transparent to the consumer. This method used in conjunction with card data theft provides the criminal with the information needed to access an unsuspecting consumer's account.

PIN Interception: After the PIN is entered, the information is captured in electronic format through an electronic data recorder. Capturing the PIN can be done either inside the terminal, or as the PIN is transmitted to the host computer for the online PIN check. In order to capture the PIN internally, the criminal would require access to the communication cable of the PIN pad inside the terminal, which can more easily be done, at off-prem.

DUE TO THE PRESSING ISSUE IMPROVED OF ATM SECURITY

- Regularly checking ATM for skimming devices, these can be random or scheduled.
- Using software that picks up unusual behaviour, for example when 2 things occur at the same time, a withdrawal amount or transactions times that are not consistent with a particular cardholder's patterns.
- Monitoring systems for software changes that have not been approved, banks should monitor their systems regularly
- Employing guards to watch over an ATM machines

- Making use of dye packs, using dye packs spoil banknotes and makes them unusable, these are used in many European countries and have reduced ATM attacks.
- Locking down the ATM software by
- Completely removing any software that is not necessary for ATM's functionality, if that is not possible using security tools to restrict the software.
- Creating a white list for application control
- Implementing a firewall allowing remote access to only the services needed for ATM operation
- Keeping the software up to date with the latest versions and patches
- Placing photographic cameras, CCTV, and video on and around the ATM can also help deter criminals.

SUGGESTIONS OF THE ATM:

1. The limit amounts withdrawing cash per day may be increased.
2. It was responded that the ATM services should be extended to the rural population.
3. Transactions and withdrawals are made every now and then thus additional ATMs may be installed in order to minimize customer's transaction time.
4. Network connections are to be made effectively so that they can integrate well with other World Area Network (WAN) and Local Area Network (LAN) technologies.
5. A proper display board should depict all the necessary information on the operation procedures of the ATM.
6. To provide free training programme and adequate guidance to use of ATM cards to avoid problems faced by customers.
7. Customers satisfaction is very important factor so proper security facility made at the ATM counter.
8. The respondents were not satisfied with the availability of complaint book, location aspect and number of ATMs in the town. They have made strong recommendations regarding these points when they were asked to do so.
9. Non-functioning or failure of the ATM machine was the negative remark made by the ATM users.
10. The positive association between the age group of the respondents and purpose of using ATM cards was well accepted by the study.

CONCLUSION:

It was found that ATM services has well received and utilized by the customers. It was revealed withdraw in cash through ATM was very convenient and majority of the respondents had used ATM services regularly. With regard to purpose more weight age was given to withdrawal facility of ATM. The positive association between the age of the respondents and purpose of using ATM cards was well accepted by the study. This study is conducted using descriptive analysis with a focus on the types, rate and growth of ATM usage among the bank customers in India. The results obtained show that there is a high growth in the usage of Indian ATMs, especially after the demonetization scheme. It was also found that the awareness level about cashless transactions among the public is significantly growing high in the past few years. To Government abolish the level of ignorance existing among the users, which will help in increasing the awareness and interest to accept and adopt technological developments in Indian banking sector among the public. It is the joint responsibility of the Government and public to drift the country in the trail of cashless economy.

REFERENCE:

1. Moutinho, L., & Curry, B. (1996). ATM User Attitudes: A Neural Network Analysis. Marketing Intelligence & Planning.
2. Jetley, N. (2004, April 0). Solar ATMs changing the face of banking in India. India: CNBC.
3. Kumar, S. (2011, March 6). India Riding the ATM wave. Hindustan Times.
4. Moutinho, L., & Meidan, A. (1989). Bank Customers' Perceptions, innovation and new technology. International Journal of Bank Marketing,

5. Sakthivel, N. (2008) "Customer's Perception of ATM Services: A Comparative Analysis", ICFAI University Press, Journal of Professional Banker.
6. Hatta, K. and Liyama, Y. (1991) "Ergonomic study of automatic teller machine operability", International Journal of Human Computer Interaction.
7. News updates & Events: ATM India.com.