
Multi-Lateral Mechanism of Cash Machines: Virtue or Hassel

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ABSTRACT

Automated Teller Machines or Cash Machines became an organic constituent of the banking sector. The paper envisions the voyage that these cash machines have gone through since their initiation in the foreign banks operating in India. The study revolves around the indispensable factors in the foreign banking environment like availability, connectivity customer base, security, network gateways and clearing houses which were thoroughly reviewed and analyzed in the research paper. The methodology of the research paper includes literature review, derivation of variables, questionnaire formulation, pilot testing, data collection and application of statistical tools with the help of SPSS software. The paper draws out findings related to the usage, congregation, multi-lateral functioning, security and growth of ATMs in the foreign banks operating in the country. The paper concludes by rendering recommendations to the foreign bankers to vanquish the stumbling blocks of the cash machines functioning.

Keywords: *ATMs, Cash Machines, Anywhere Banking, Foreign Banking, Online Banking*

1. INTRODUCTION

The Automated Teller Machine (ATM) has become an integral part of banking operations. Initially perceived as 'cash machines', which dispenses cash to depositors, ATMs can accept deposits, sell postage stamps, print statements and be used at institutions where the depositor does not have an account. Now it is not necessary for ATMs to be affiliated with banks and can be privately owned. An ATM is a computerized telecommunication device that provides bank's customers a method of financial transactions in a public space without the need for a clerk. Security is provided by the customer entering a personal identification number (PIN). Customers can access their bank accounts in order to make cash withdrawals or credit card cash advances and check their account balances. It allows people to deposit cash or checks, transfer money between their bank accounts, pay bills, or purchase goods and services.

1.1 **Inception:** A mechanical cash dispenser was developed and built by Luther George Simjian and installed in 1939 in New York City by the City Bank of New York. It was removed after 6 months due to the lack of customer acceptance. Thereafter, history of ATMs paused for over 25 years, until John Shepherd-Barron, a Scotsman of De La Rue Instruments developed the first electronic ATM, which was installed in Enfield Town in North London on June 27 1967 by Barclays Bank. The first person to use the machine was Reg Varney of a British Television program. The idea of a personal identification number PIN stored on a physical card being compared with the PIN entered when retrieving the money was developed by the British engineer James Goodfellow in 1965, who holds international patents regarding this technology. In 1968 Barclays and other banks introduced a card-eating machine that encoded cash on plastic cards purchased from a teller. Problem was the machine always ate the card and another card was needed for next transaction. In 1969 Docutel installed its Docuteller machine at New York's Chemical Bank, which was the first use of magnetically encoded plastic. In 1971 Docutel introduced its total teller, the first true full-function bank ATM. Diebold installed its first TABS machine at a bank branch in US and Fujitsu installed one in Japan. By 1973, 2000 ATMs most of it were from Docutel and Diebold, operated in US. On-line ATM was introduced in 1974 and that newly connected machines led to the modern-day networks [1].

1.2 **Type** of ATMs: may be characterized as under:

1.2.1 Physical Characteristics: Mono-function devices, in which one type of mechanism for a financial transaction is present such as dispensing cash or statement printing. Multi-function devices incorporate multiple mechanisms to perform various services such as accepting deposits, dispensing cash, printing statements, etc. There is a unit called a Cheque Processing Machine (CPM) or Module accepts cheque, take a picture of both sides, read the magnetic ink codeline which is at the bottom of every cheque, read amount written on the cheque and capture cheque into a bin, giving instant access to money, if account allows. Reasons for selecting either mono-function or multi-function ATMs include device cost, installation location, customer wait times, desired reliability and historical preference.

1.2.2 Locations: ATMs are placed inside the premises of banks, shopping centers/malls, airports, grocery stores, gas stations and restaurants. These represent two types of ATM installations, on and off premise. On premise ATMs are more advanced, multi-function machines that complement an actual bank branch's capabilities and more expensive. Off premise machines are deployed by banks and Independent Sales Organizations (ISOs) where there is a need for cash, so these are cheaper mono-function devices. When an ATM is not operated by a bank it is known as a 'White Label ATM' or no name ATM in Canada. It is located in non-traditional places, display no bank labels on the actual ATM. In 2006, 51,000 ATMs in Canada were white label. Customers pay an added fee to use these ATMs. In Canada, Triton Canada Ltd, Ezee ATM and Cash N Go Ltd are main providers of these ATMs [1].

1.2.3 Utilities: ATM cards not only withdraw cash from ATM kiosks but also provide host of services: -

- a. **View Balance:** ATM card allows viewing account balance instantly on the screen.
- b. **Mini Statement:** Mini statements are the shortened version of what bank sends, in every three months. Bank provides with a printed passbook detailing all the transactions entered into in a month. ATM card can be used to avail mini statements. These statements give detail about last 9-10 transactions on bank account.
- c. **Order Chequebook:** New chequebook and additional statement requests are recorded and mailed to the customers.
- d. **Transfer Money between Accounts:** Funds can be transferred to accounts linked with the ATM/ Debit card instantly.
- e. **Refill Pre-paid SIM Card:** Technology has interconnected telecommunications with bank account. One can refill prepaid SIM card at bank's ATM. One needs to punch in the PIN and follow commands that appear on the screen till the time account is refilled. The service provider should support the typed amount. If the service provider is Tata Indicom and if typed amount for refill is Rs 350, the transaction won't go through as they have a refill denomination of Rs 356 and not Rs 350.
- f. **Pay Utility Bills:** Allows making payments on consumer services like, electricity bill, phone bill, insurance premium payment, cooking gas bill and credit card bills.
- g. **Deposit Cash or Cheques:** Put cash or cheque in the envelope provided or otherwise in the ATM, fill in the deposit slip on the envelope and place the envelope in 'Deposit' slot in ATM.
- h. **As Debit Cards:** Most ATM cards act as debit cards. Transaction process works like a credit card. Difference being the use of debit card at a merchant's outlet reduces the transaction amount from the account immediately. It allows booking air tickets and rail tickets using an ATM card [2].

1.2.4 Networks

a. Cirrus: Cirrus is a worldwide interbank ATM network. It links MasterCard, Maestro, Diners Club credit, debit and prepaid cards to a network of over 900,000 ATMs in 93 countries. Maestro cards are, by default, linked to the cirrus network. Canadian and American ATMs use this network alongside their local networks and banks have adopted cirrus as international interbank network alongside a local network, the rival VISA

PLUS ATM network, or both. In locations such as India and Bangladesh, Cirrus network serves as a local interbank network and an international network.

b. PLUS: Visa PLUS is an interbank network that covers all VISA credit, debit and prepaid cards and ATM cards issued by various banks worldwide. There are one million PLUS linked ATMs in 160 countries worldwide. PLUS cards can be linked in the following ways: As a standalone network, linked with a local interbank network and/or linked with any Visa product. It is used as a local interbank network in United States and Canada, where networks such as STAR and NYCE in the United States and Interac in Canada also compete. In India and Indonesia, it competes with many interbank networks. Main competitor of PLUS is Cirrus, which is offered by Visa rival MasterCard [3].

c. Euronet: Euronet Worldwide is the largest independent ATM acquiring network in Central/Eastern Europe. Company offers outsourcing and consulting services, integrated Electronic Funds Transfer software, electronic prepaid top-up services to banks, mobile operators and retailers and electronic consumer money transfer and bill payment services. Euronet is the largest operator in shared ATM network in India. It is one of the largest providers of prepaid processing, or top-up services, for prepaid mobile airtime.

Company is a licensed electronic money transmitter and bill payment company via Euronet Payments and Remittance, Inc. It has processing centers located in US, Europe and Asia and processes electronic top-up transactions at more than 218,000 point-of-sale terminals across 109,000 retailers in Europe, Asia Pacific, Africa and US. With corporate headquarters in Leawood, Kansas, USA, and 23 worldwide offices, Euronet serves clients in 70 countries [4]. After making their way into railway stations, petrol pumps, ATMs entered into cafes. Euronet worldwide, US based electronic financial transaction operator worked on pilot project for Barista, which runs a chain of coffee outlets across the country. IDBI Bank and Development Credit Bank (DCB) participated in the project by setting up ATMs at Barista outlets. These banks are part of Cashnet, an ATM sharing network operated by Euronet. Others are Citibank, Standard Chartered, UTI and Corporation bank. Euronet installed ATMs in café coffee day, a Bangalore based retail coffee chain [5].

2. RESEARCH METHODOLOGY

2.1 OBJECTIVES

- a. Analyzing the mechanism of ATMs in the Foreign Banks operating in India.
- b. Evaluating the requisites of the Indian customers in the dynamic banking environment.
- c. Assessing the level of contentment and assurance with this product in the foreign bank customers.

2.2 PRIMARY TOOLS

- i. Collection of literature from libraries, educational institutions and Foreign Banks,
- ii. Conducting Survey using a structured Questionnaire on Foreign Bank customers in two cities of NCR and twin cities of Hyderabad & Secunderabad.

2.3 SECONDARY TOOLS

- i. Study of financial reports
- ii. Journals and periodicals

2.4 SAMPLING PLAN

The survey was exclusively based on customers of the foreign banks operating in two regions. Convenience sampling was adopted, so the customers who were present at the foreign banks' branches in two cities at the time of Survey were pursued personally to fill the questionnaires. Customers were surveyed in two metro cities of NCR/New Delhi and Hyderabad/Secunderabad. In convenience sampling, samples obtained out of selecting such units in a vast Universe that may be conveniently shortlisted and contacted at a point of time or period on locations specified.

3. DATA ANALYSIS AND INTERPRETATION

Data was analyzed with the help of SPSS software and statistical tool like chi square.

TABLE1

Male & Female Customers Availing ATM/Credit/Debit Card.

			Sex of the customer		Total
			Male	Female	
No	Count		6	0	6
	% within atm/credit/debit		100.0%	.0%	100.0%
	% within sex of the customer		2.8%	.0%	1.7%
Yes	Count		211	133	344
	% within atm/credit/debit		61.3%	38.7%	100.0%
	% within sex of the customer		97.2%	100.0%	98.3%
Total	Count		217	133	350
	% within atm/credit/debit		62.0%	38.0%	100.0%
	% within sex of the customer		100.0%	100.0%	100.0%

100% Females had ATM/Credit/Debit card whereas 97.2% Males had availed this facility.

H₁: There will be a significant difference between number of Male and Female customers availing ATM/Credit/Debit Card.

Since the obtained chi square value ($\chi^2=3.74$, $df=1$) is not significant, hence the hypothesis H₁ is rejected.

Table 2

Customers of Different Educational level Availing ATM/Credit/Debit Cards.

			Educational level			Total
			Professiona l/mba/ca	Graduate/pg	Inter/pre university	
No	Count		4	2	0	6
	% within atm/credit/debit		66.7%	33.3%	.0%	100.0%
	% within educational level		2.2%	1.3%	.0%	1.7%
Yes	Count		176	153	15	344
	% within atm/credit/debit		51.2%	44.5%	4.4%	100.0%
	% within educational level		97.8%	98.7%	100.0%	98.3%
Total	Count		180	155	15	350
	% within atm/credit/debit		51.4%	44.3%	4.3%	100.0%
	% within educational level		100.0%	100.0%	100.0%	100.0%

Of all Customers, 100% Pre-University Customers, 98.7% Graduates/PG, 97.8% Professionals availed ATM/Credit/Debit card services from Foreign Banks.

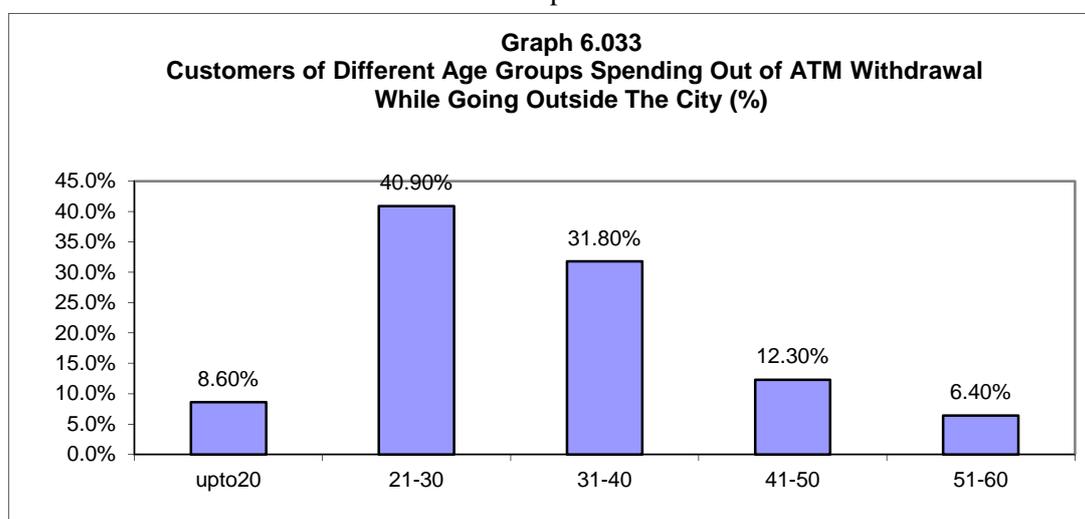
Table 3

Customers of Different Employment Level Availing ATM/Credit/Debit Card.

		Employed in				Total
		Unemploye d	Own business	Professiona l practice	Govt./institutio n/ private sector	
No	Count	0	6	0	0	6
	% within atm/credit/de bit	.0%	100.0%	.0%	.0%	100.0%
	% within employed in	.0%	4.9%	.0%	.0%	1.7%
Ye s	Count	19	116	87	122	344
	% within atm/credit/de bit	5.5%	33.7%	25.3%	35.5%	100.0%
	% within employed in	100.0%	95.1%	100.0%	100.0%	98.3%
Total	Count	19	122	87	122	350
	% within atm/credit/de bit	5.4%	34.9%	24.9%	34.9%	100.0%
	% within employed in	100.0%	100.0%	100.0%	100.0%	100.0%

100% Professionals, unemployed, Govt./Private customers and 95.1% own business customers availed ATM/Credit/Debit card facility from Foreign Banks.

Graph 1



8.6% customers up to 20 years of age, 40.9% in the age group 21-30 years, 31.8% in the age group 31-40 years, 12.3% in the age group 41-50 years and 6.4% in the age group 51-60 years spend out of ATM withdrawal while going outside the city.

H₂: Majority of 51-60 age groups do not spend out of ATM Withdrawal outside the city.

Since the obtained Chi Square ($\chi^2=9.25, df=4, p<.05$) is significant, we can say that there is a significant difference between customers spending out of ATM Withdrawal and those who do not spend among various age groups. Hence, hypothesis is rejected.

Table 4

Male & Female Customers Spending Out of ATM Withdrawal While Going Outside The City.

			sex of the customer		Total
			Male	Female	
No	Count		67	63	130
	% within while going outside the city, you spend out of ATM Withdrawal		51.5%	48.5%	100.0%
	% within sex of the customer		30.9%	47.4%	37.1%
Yes	Count		150	70	220
	% within while going outside the city, you spend out of ATM Withdrawal		68.2%	31.8%	100.0%
	% within sex of the customer		69.1%	52.6%	62.9%
Total	Count		217	133	350
	% within while going outside the city, you spend out of ATM Withdrawal		62.0%	38.0%	100.0%
	% within sex of the customer		100.0%	100.0%	100.0%

62.9% customers withdraw money from ATM when they go outside the city. 69.1% Males and 52.6% Females spend out of ATM Withdrawal outside the city.

H₃: Majority of customers withdraw money from ATMs, when they are outside the city.

Since the obtained chi square value is ($\chi^2=23.14, df=1, p<.001$), we can say that the number of customers withdrawing money from ATM is significantly higher than those who do not withdraw money from ATM, when they are outside the city, hence the hypothesis is accepted.

4. FINDINGS OF THE STUDY

- 4.1 **100%** females are availing the benefits accruing from the ATMs.
- 4.2 **100%** Pre University students are also availing maximum benefits from the ATM transactions
- 4.3 **100%** Professionals, unemployed, Government./Private customers and 95.1% own business customers availed ATM/Credit/Debit card facility from Foreign Banks.
- 4.4 **40.9%** in the age group 21-30 years, 31.8% in the age group 31-40 years, 12.3% in the age group 41-50 years and 6.4% in the age group 51-60 years spend out of ATM withdrawal while going outside the city.
- 4.5 **62.9%** customers withdraw money from ATM when they go outside the city. 69.1% Males and 52.6% Females spend out of ATM Withdrawal outside the city.

5. RECOMMENDATIONS

- 5.1 The foreign banks in NCR/New Delhi and twin cities of Hyderabad and Secunderabad are well heeled in the sale ability of ATMs both for males and females.
- 5.2 Although the youth is confident about its usage and features, the senior age group clench to the traditional ways of spending especially outside the country.
- 5.3 Demonetization pressure on the ATMs filling of cash was initially an enormous challenge for the bankers but firmness and steadiness has made the move rational to a large extent.

6. CONCLUSION

Foreign banks operating in India confronted highest amount of competitiveness from the public sector banks and private banks in India. They have sustained in urban dwellers and corporate customers taking a lead with specialized high tech products, services and offshoots. The imperfections and lapses which the foreign banks need to redress are consistent availability of cash, security, inventory management, dependability and technological issues in ATMs.[6] [12]

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