

## Impact of ATM Service on Customer Perception and Satisfaction of Indian Banks

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**Abstract.** *Indian banking sector has completely changed. It has undergone much technological advancement that makes banking easy. Technological advancements are important but at the end what build customer satisfaction is proper management, employee behavior and customer relationship handling. Customer satisfaction is a sum of many variables that is many factors together leads to customer satisfaction. This modern electronic banking has completely changed the concept and functioning of banking system in India. Indian banking has moved from cash economy to cheque to and finally to the use of plastic cards. The customer satisfaction is dependent on customer awareness to a lot of extent. An unaware customer has less knowledge and therefore they cannot use the facilities completely even if they have it at their disposal. Customers prefer public sector banks when they are looking for trust and security and reliability. When it comes to speed, advancements and up gradation people shifts from public sector banks to private sector banks. Customer gets satisfied only when they get quality service from the brand they are dealing with. This is very important for the marketers or the service providers as this leads to consumer satisfaction which benefits them and this brings loyalty to the brand enhancing the brand positioning. This research is important because new modern era has made people technology savvy they start their day with technology and end with technology therefore it is important to see the perception of users towards various factors of ATM. This research is conducted to see the highlighting factors that have direct impact on ATM services.*

**Keywords:** *ATM, Customer satisfaction, Service quality, Private Banks, Public banks*

### 1. Introduction

Today marketing has a very different perspective unlike traditional marketing. Marketing revolves around the consumer therefore, in marketing the most important criteria for success is customer satisfaction. Satisfaction has no fixed definition or meaning everyone feels satisfied in one or the other terms and knows satisfaction but might not have idea of as to how to define it. In this era of advancement and competition marketers can only survive when they strive for excellence. Excellence can be achieved only when they provide good quality assured services this will help in gaining customer trust which will lead to loyalty and long run retention of customer. Excelling in providing quality service is a competitive weapon which is essential for any business for its corporate profitability and survival.

Banking sector in India has moved from cash to cheque and now to plastic cards. This is nothing but advent of technological advancements. ATM is considered to be customer touch points in today's era. There has been a technological advancement of bringing Core Banking Systems (CBS) which was easily adopted by private sector banks initially only while, the Public Sector unit Banks took a while in implementing this CBS in their structure completely. At the same time this strategy of CBS is being implemented by cooperative banks. This CBS includes implementing of e-delivery channels like ATM services, mobile banking, internet banking, telebanking etc. CBS also offers to customer to experience convenience banking. One of the greatest advent of this CBS strategy is an ATM service which operates on unique Personal Identification Number (PIN) that all customers have.

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There are many diversified uses of Automated Teller Machine (ATM) like; cash deposits, cash withdrawal, balance enquiry, cheque book request etc. Automated Teller Machine (ATM) is the first remarkable machines to give electronic access to customers. With the approach of ATM, banks have the capacity to serve customers outside the banks. ATM is intended to perform the most critical capacity of banks, for example, withdrawal of money, stores, printing of smaller than expected explanations settlements of bills. It does all through an entrance to personal identification number (PIN), and a plastic that contains magnetic chip which the customer is recognized through.

Globalization made it mandatory for banks to accept up gradation of facilities to enhance customers' satisfaction on the off chance that they truly need to stay in business furthermore be gainful. The ATM card can likewise be viewed as Plastic Money; it is protected as well as advantageous. The simplicity of settlement of bills has made it satisfactory and critical all through the nation. Basically all banks have acquainted ATM in light of the fact that they need to stay applicable in the area.

ATM organizations and its utilization by customers is simply making strides and it has additionally been portrayed with a few inconveniences, for example, fraud execution, system disappointment in time of urgent need of cash, obliviousness regarding administrations gave by ATM and extensive line on ATM in the assigned spots. With all the issues and inadequacy of this cash apportioning machine we can say it has recorded a few achievement. The level of satisfaction proposed to be given by these machines is decreased by technological and transforming disappointments, the recognition that the administration conveyance mode is costly and the shakiness in regards to standalone ATMs. All these make customer dissatisfaction.

From this it can be derived that customer satisfaction is completely dependent upon the exposure of services. Customer's perception

is based on accumulated experience of past. The principle goal of the study is to focus the level of satisfaction amongst respondents who disparage the administration of ATM. To accomplish this, it is important to focus the most imperative calculates that customers take thought in surveying this administration.

### *1.1. Growth of ATM Industry in India*

ATM enables banks to provide to its customers very competent and cost effective models. Initially internet banking was considered a major threat for the ATM growth but this was irrelevant to the fact that ATM industry dominated the technology segment, and it can be seen that the future of ATM industry in India can be very bright. The world is becoming techno-savvy and new and new technological innovations happen on daily basis. The success of technology can be determined only when the members of the society diffuse this technology in their habits. Keeping this in mind if we talk about ATM sector it is a complete success story, banks have been able to serve their customers outside their bank's premises because of the advent of the ATM's. This plastic card has given an exciting experience to the customers as well as the banks, thus by reducing the hassles of banking transaction.

There can be seen a societal shift towards the ATM sector because of many advantages and benefits that society gets from using ATM services has made the society as a whole to accept the advent of ATM industry and use it in daily lives. ATM has been a success story because of the "Multivendor software" has brought unrest in driving banks around the globe. Here, banks don't rely on upon a single vendor to buy software and equipment supplies of ATM. According to the technological needs to coordinate multiple parts of ATMs from different vendors, this arrangement puts a competitive pressure on ATM vendors. Multivendor software encourages and free choice making for the banks in settling on equipment vendors, lessens the expense of responsibility for ATMs for the banks. Organization of MVS (Multivendor Software) has likewise lessened

Base administration issues in these banks. Definitely, it is a progressive idea to execute a solitary software application in the whole ATM system. The ATM technology has created to such a degree that a few ATMs can retain buyer inclination according to their past exchanges, conduct, and tailor administrations in like manner. Much of the time, ATMs have web scope which encourages two route communications with live specialists, give biometric choices, and have the capacity to exhibit customized promotions. Support of web empowered ATMs are simple. These ATMs can be immediately joined with focal observing arrangement of vendors.

It is noticed that in last two decade there has been a tremendous growth in ATM sector. Those days are gone when ATM was only used for withdrawing cash now the functions of ATM have increased tremendously. In this era, ATM's are equipped with touch sensitive and user friendly options to serve the consumers without any delays and to increase customer delightment in order to retain the customer in this competitive scenario. The following table will demonstrate that how with passage of time the functions and features of ATM services has changed.

Table 1. ATM Services

<b>Period</b>	<b>Features/Functionalities</b>
1988 to 1994 (the initially periods)	Depositing cash Withdrawing of cash
1995 to 1999 (early developed)	Small statements Balances enquiries
2000 to 2001 (firstly extensions)	Coupon dispense
2002 to 2004 (extending functions)	Fulfilling Request from Customers (e.g. Check Book) Account Transfers Touch Screen Menus/Facilities
2004 to 2006 (non-bank service)	Booking tickets of railway and airways Bill Payments Mobile Recharges
Future (2007 onwards)	Check Deposit with Scanning Customized ATMs Ubiquitous Multifunction ATMs Biometric ATMs

*Source: Kumar, L., Malathy, D., & Ganesh, L.S. (2011). The diffusion of ATM technology in Indian banking. Journal of Economic Studies, 38(4), 483-500*

1.2. Growth of ATM Industry worldwide

The global ATM market is supposed to grow at increasing pace in the emerging or developing economies on the other hand seems to be fully mature and stagnant in

developed nations. The uniqueness and innovation in ATM market also seems to be high in developing economies in order to satisfy the growing needs of the consumers in such markets.



Figure 1A. Global Market for ATM Segmentation and Forecast (2013-2020)

Maximum growth of ATM's according to the global ATM market is going to be Asia Pacific region for 2016 forecasts. In this India and Indonesia will have one fourth of the number of ATM's and China will have half of the accounted new ATMs. The growth of

ATM worldwide is increasing at a rapid rate. The following figure will show the growing patterns of ATM worldwide as per the *Global ATM Market and Forecasts to 2016 (Retail Banking Research)*.

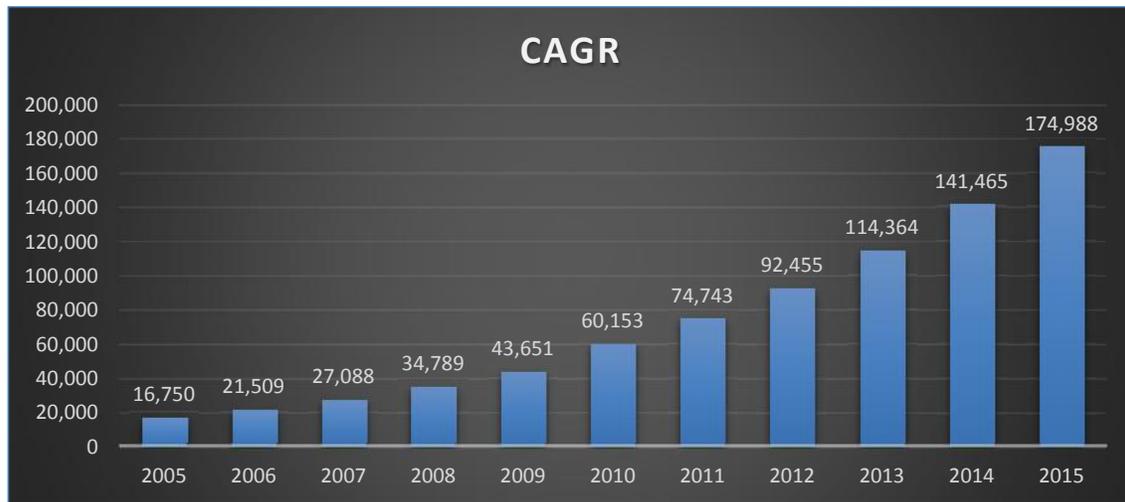
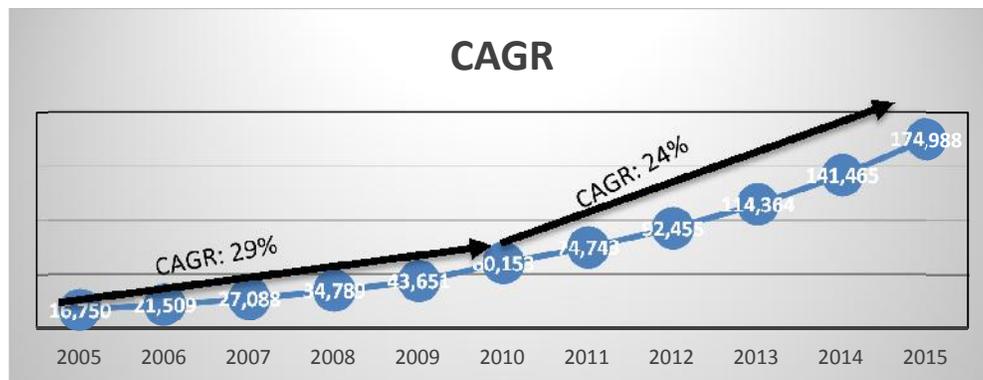


Figure1B. Global Market for ATM

ATM industry has revolutionized the Indian market. The first ATMs were introduced in the Indian Banking industry in 1987 by HSBC bank in Mumbai. Mr. Jaivinder Gill, MD of NCR India stated that “as the banks continue to grow and the need of consumers are getting aware of new things the Indian ATM industry is about to grow.” In past 5

years ATM segment in India has witnessed a growth rate of 30%. Between 2011-2015 ATM terminals are expected to grow at a compounded average growth rate of 25%. The main focus in ATM sector now is to have a wider access of ATMs in rural and remote corners of the country.



The number of ATM's in India is growing at a brisk pace  
(Source: Edelweiss IB Estimates; Assumed a 24% growth rate for the period 2012 - 2015)

Figure 2. Number of ATMs in India

### 1.3. Excellence in ATM Is Necessary

In India use of ATM services has grown tremendously or we can say it is exploded but still the functioning of ATMs till date have not reached even close to maturity yet. It has been noticed that the number of ATM outlets of different banks have increased in past few years but the number of users have increased even faster. Banks have reached a new tangent by adopting innovation in ATM

banking. Many banks have made planning to strengthen their ATM networks in India, but there is a difference between planning and strategic planning. The banks which have planned strategically the location of their ATMs with a view point of generating more customer leads will plan it as a low cost transaction tool will definitely get a winning edge over other competing banks.

It can be noticed from the figures given below that no matter how much ATM services have been adopted but still there exist a few drawbacks in the functioning of ATM. Like if in case customer is seeking some type of help from the call centers of banks regarding ATM the waiting time is very high in case of Indian assistance of banks as

when compared to the assistance provided by the foreign banks. Nearly about 22% of banks in India make consumers wait for a duration of 3 minutes. This gives a huge lot reasons to the customers to be less loyal towards one brand and switch to the other.



Figure 3. ATM Service Time

Also it has been observed that there are a huge number of complaints registered with the ombudsman regarding the ATM, debit and credit cards. The maximum complaints that are registered are found to be of foreign

banks which accounts to 38% and India's banking industry has an average of 24%, which when compared with the foreign banks is less.

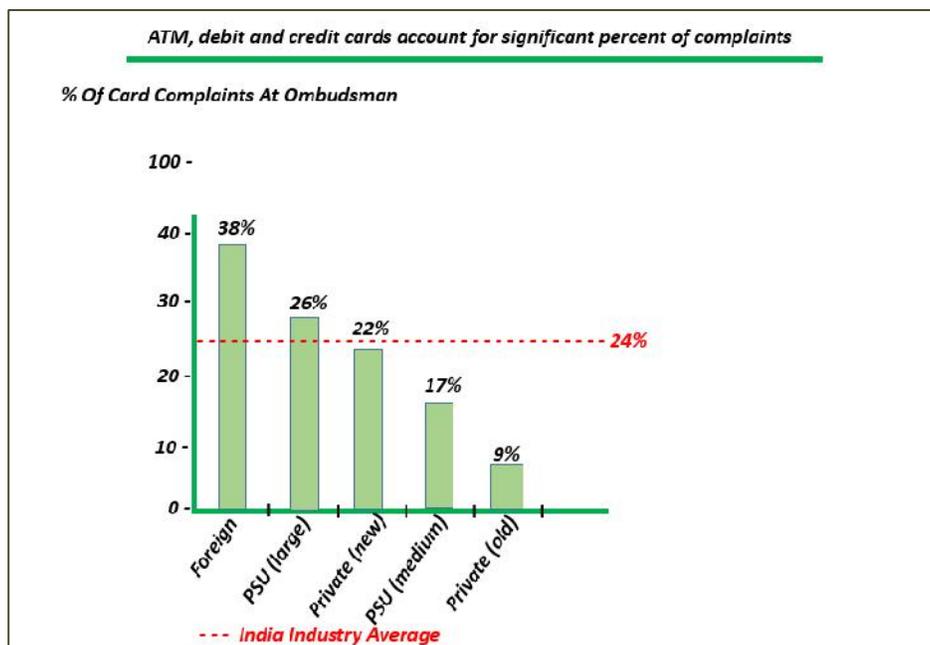


Figure 4. Percentage of Complains with ATM / Plastic Money Service

## **2. Literature Review**

The organisations of modern era are aware of the fact that service quality provided by the organisations and various institutions provides strategic competitiveness in a dynamic environment. Every researcher has a different view towards use and effectiveness of ATM's. There has always been a significant relationship between service quality and firm's performance based on improved production, increasing markets share, enhancing customer attraction's and loyalties, improving staffs morals, & sustaining profits. Stemper (1990), stresses on positive impact of usage of ATM's that is freedom of transactions. The effectiveness of ATM services guarantee quality excellence and superior performance and provides autonomy to the customers.

According to the marketing concept it is very clear that the customer satisfaction is measured via service quality provided by the marketers. In this study Indian Banks are the marketers and one of the very basic services that they provide is the ATM facility, is discussed in this project report. As per the ET Bureau (2011), The Reserve Bank of India has asked banks to use technology more effectively with a focus on bringing down costs and improving customer services in its information technology (IT) vision document for 2011-17. Further, the committee, in the report, specifying role of Information technology within banks with the major objective being balancing the three Cs - cost, control and customer services.

Davies, Moutinho and Curry (1996) examine the factors that influence customers' satisfaction about quality of services provided by ATMs. Such factor including costing involves within using of Automated teller machine, & efficiently functions of Automated teller machine. Joseph and Stone (2003), through focus group study in the US, finding the easily accessing locating, friendly Automated teller machine & secure, r imp factor in the influencing major of banks customers' perception of ATM service quality.

In another study in Bangladesh, Shamsdouha, Chowdhury and Ahsan (2005) found that 24 hours service, accuracy, and convenient locations are the main predictors of customer satisfaction. The study also indicates lack of privacy in executing transactions, safety fears and complexities in using machine as the major cause of concern for the customers. Vijesh R et al (2011), in his research paper has mentioned the benefits of providing valuable services through delivery channels benefits are, "Deliver the services simpler, Deliver the services Fast, Deliver the services securely, acquire new customers, retain their existing customers, keep customers highly satisfied on the services provided, lower operational cost, lower transaction processing cost, wider customer base irrespective of geographical barrier, higher profits on bottom-line.

Ogbuji, C. N. et al. (2012), observed the Automated Teller Machines (ATMs) is one of existing replacements of the cascading labor-intensive transaction system effected through what is popularly referred to as paper-based paying instrument. An ATM allows the banks customers for conducting his/her banking transactions from almost every other ATM machine in the world. The ATM, therefore, performs the traditional functions of bank cashiers and other staffing functions. It operates electronically & such responses for requesting to customers are doing instant.

Moutinho (1992) examines the relationship between the dimension of usage rate and performance expectation with customers' prolonged satisfaction with automated teller machine services. The result will indicates the using rate is a negative association with customers' perceived prolonged satisfaction whereas performance expectations are found to have positive and significant effects on customers' prolonged satisfaction. Jham et al (2008), found that private banks have been able to attract the younger customers with higher educational levels, who are comfortable with multi-channel banking, the customers of the national bank are older and

more satisfied with the traditional facilities. Kumbhar (2011) observed that other than cost effectiveness the automated teller machine services, perceptions about the services qualities dimension are approximate same in public and private sector banks. Cost effectiveness of ATM services is core service quality dimension and is significantly affecting on overall customer satisfaction in ATM service provided by commercial banks. Pandlan et al (2012), said that in this modern worlds where money plays an important role surviving. Automated teller machine helps people's for taking rupees whenever needed by them and also during emergency conditions.

According to Ugwu, ATMs are set up to provide 24 hour continuous services to banks customer, those cannot expecting become abled for transacting within the bank in the same period of time. ATM technology allows customers to carry out the above-mentioned transactions use of an automated teller machine cards, which could be a debit or a credit card. An automated teller machine authenticate card by read & verifies the magnet strips, cards numbers, expiry date, & an already provides or preselected PIN numbers. Likely within mostly technology advancements, there are always flaws with criminals mind individual identifying & exploiting perpetuating frauds. Technological are being constant evolving so that ATM transactions can be an enjoyable experience to its customers.

Howcroft (1991) notes that dissatisfaction among customers is associated with frequent Interruption and breakdowns in Automated teller machine. Intensifying competitions & technological-base new services are (rachiat, 2014) shaping customer loyalties. This has result in switched the bank by customers based on competitive services (Lewis & Bingham, 1991). Michael (2001) found that locations ATMs, increased numbers Automated teller machines, & diversifying services offering are associated with switching of banks. ATM is one type of innovation that can mechanically accepting deposit, issuing withdrawal, transferring fund

between accounting, & collecting bill. It's highlighting the relationships bank & there depositor, as well as the level of quality of banking services (Komal & Singh 2009). Joseph and Stone (2003) conducted a research and find out that secure and convenience locations, adequacy numbers of Automated teller machine, using-friendly systems and functionality of ATM play important role in customer satisfaction.

Dilijonas, Krikscuiunen, Sakalauskas and Simutis (2009) on the other hand mention that adequate numbers of ATMs, convenient and secured locations, & using-friendly systems, speedy, min error, highly untimed, cash backs, costing & services covering is essentially service quality aspects of ATM service. Shariq & Tondon (2012) observed that the customers prefer ATM use over other e-banking services. Tuli, Khatri & Yadav (2012) analyzed that most important factor to influence customer to use ATM services is its convenience in use and availability of machines. A study was undertaken by Shamsheer Singh (2011) to understand the impact of ATM services on the customer satisfaction in Indian Banking Sector primarily in urban area by using structured questionnaire to ascertain the satisfaction levels.

Statistical tools like ANOVA and factor analysis was used to identify significant factors to analyze customer satisfaction. The results revealed from the study that there is a positive impact on customer satisfaction towards ATM services and suggested that banks should augment and diversify their offerings through ATM to build a strong and sustained relationship with customers. According to Muhammad Asif Khan (2010), in his study to identify the significant dimensions that shape customer's perception of ATM service quality and the effect of ATM service quality on customer's satisfaction in Pakistani banking sector. In the analysis of literature five key service quality factors were identified: convenience, efficient operation, security and privacy, reliability and responsiveness. The research results from the above study reflect a positive and statistically

strong relationship between ATM service quality and customer satisfaction. P. Srinivasa et.al (2013), quotes in a study on an empirical study of customers satisfaction in ATM services, found that majority of the customers are dissatisfied with ATM Grievance settlement and ATM locations.

According to Dharmesh Motwani et.al (2012), in a study on consumer adoption & satisfaction towards ATM service, A comparative study of Udaipur City, majority of customers are aware about cash withdrawal services of ATMs followed by balance enquiry but there is no difference between the satisfaction level of public and private bank customers towards ATM services. In the light of the above empirically studied, it is quietly understanding the many researcher have conducted research on Automated Teller Machine (ATM) in Nigeria and other parts of the world. However, it is pertinent to note that many researches carried out on ATM in were conducted on other zones. This creates a big gap. To fill it it's important to do analysis on impact of ATM services on customer satisfaction specific to Indian banks.

### 3. Scope of The Study

ATM services and facilities are being used by people so often now that ATM has become part of day to day functioning of the individuals. So this makes it important to understand that what factors make individuals select their ATM's and also the factors that influences them. Also when people use ATM it is very evident that they will also undergo some set of problems therefore to understand the problems and to recommend the solutions to problems the study is important. Also the growing use of ATM has made it all the more necessary to study the perception, behavior and the purpose for which people use ATM.

#### 3.1. Objectives of the study

- To study the factors that influences the consumers while selecting their ATM's.

- To understand the problems that ATM users face while using the ATM services.
- To see the behaviour of individuals towards various types of banking services offered to them.
- To analyse whether trust and security is an important factor or not while deciding upon usage of ATM
- To study the level of satisfaction of customers in ATM services with reference to their demographic characteristics.

#### 3.2. Research Methodology

To conduct the research data was collected using a questionnaire. The responses were collected through face to face interactions and also through internet by using Google docs.

##### • **Step 1**

To construct the desired questionnaire for conducting the research personal interview or a face to face discussion was conducted with the bank manager of PNB in South Extension, Part-1. Also various books, banks websites, reports & journals were referred before developing the questionnaire.

##### • **Step 2**

The above information that was gathered from above sources helped in selecting following characteristics for conducting the study:

- Location of ATM
- Availability of cash
- Queues at ATM
- Availability of shared networks
- Trust & reliability
- Statement of transaction
- Response to queries
- Quality of notes

##### • **Step 3**

Before conducting the final research a pilot survey was conducted to ensure the reliability and arrangements of questions in the instrument. The responses thus collected were properly analyzed and then the shortcomings were revised accordingly.

To collect the samples a probability sample of 300 respondents was drawn. Simple random sampling was used in which any individual from the population has the right of being selected in sample. Before conducting the research the target population

was defined. For this research customers of bank who use ATM were selected. Questionnaire was administered to 300 respondents in Delhi region.

#### 4. Analysis Table

Table. 4.1. Demographic Profile of Respondents

Profile	Frequency	Percent %
Age Profile		
Under 18	5	1.7
18-30	188	62.0
31-45	108	35.6
45-50	2	0.7
Total	303	100.0
Gender		
Male	127	41.9
Female	176	58.1
Total	303	100
Marital status		
Single	166	54.8
Married	137	45.2
Total	303	100
Occupation		
Salaried	53	17.5
Professional	49	16.2
Entrepreneur	52	17.2
Student	107	35.3
Homemaker	42	13.9
Total	303	100
Annual Income		
Below .01 million	114	37.6
.01 million-0.5 million	105	34.7
0.5million- 0.8 million	61	20.1
Above 0.8 million	23	7.6
Total	303	100.0

From the above table shows the demographic profile of the respondents this shows the number, frequency and the cumulative frequency of the number of respondents being male female their age their occupation and income. All this data helps in studying the behavior of respondents depending on their profiling this makes the study more easy and efficient. It can be inferred from the above data that maximum respondents are between the age group of 18-30 this is meaning that the, maximum respondents are young only 2 respondents are of age group 45-50. Also many respondents are between age group 31-45 that is 108 respondents 108 are between this age brackets. Maximum respondents are female that is 176

respondents out of 3030 constitute female respondents and 127 were the males. 54.8% of the respondents are single and only a 137 respondents are married. If we see the demographics of the respondents' occupation then maximum respondents are students followed by salaried, entrepreneur, professional and homemaker. The annual income of majority of respondents come in the income brackets of below .01 million as maximum respondents are student therefore they don't earn and maximum respondents come in this category only and have income less than .01 million. Only a few respondents have income above 0.8 million .

Table 4.2. Selection of ATM Services

S.No	Parameters	Mean Value	Mean Rank
1	Location of the ATM	4.55	1
2	Process of ATM(Money withdraw balance statements etc.,)	4.33	2
3	Satisfied with the transaction fee charged by bank for using ATM card	3.15	5
4	Neatness of ATM Kiosk	3.18	4
5	Value Added service provided by ATMS	2.57	6
6	Security of ATM kiosk	4.12	3

It is incidental from the above table that the respondents who are selecting the ATM services of Indian Bank are highly weightage given to the location of ATMs and process of withdrawing the money under ATM scheme. After that respondents are given preferences to the process of operating ATM service. Besides the above, Indian bank can concentrate and improve the services regarding value added services like mobile charging and paying utility bills and the transaction feed charged by banks in order to enhance better the customer satisfaction in all respect.

#### 4.1. Factor Analysis

Explanatory factor analysis is used to identify the underlying constructs and investigate

relationships among the variables. To test the suitability of the data for factor analysis, the following steps are taken:

- To test the sampling adequacy, Kaiser-Meyer-Olkin measure of sampling adequacy is computed which is found to be 0.639. It indicates that sample is good enough for sampling.
- The overall significance of correlation matrices is tested with Bartlett's test of sphericity (Approx Chi- square =423.224 and significant at0.000) provided as well as support for the validity of the factor analysis of the data set.

Table 4.3.KMO AND BARTLETT'S TEST

<b>KMO AND BARTLETT'S TEST</b>	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.639
Approx. Chi-Square	423.224
Bartlett's Test of Sphericitydf	21
Sig.	.000

Hence all these above standards are indicating that the data is suitable and appropriate for conducting a factor analysis. Principal component analysis employed for

extracting factor. Rotated component matrix was used for extraction of factors.

Table 4.4. Rotated Component Matrix

<b>PARAMETERS</b>	<b>COMPONENT 1</b>	<b>COMPONENT 2</b>
Location of banks ATM	.701	-.025
Availability of ATM at all useful places like malls, hospitals etc.	.818	.068
Clarity of directions to operate ATM	.516	.095
Settlement of ATM grievances	.529	.257
Availability of networked (shared) ATM.	.687	.126
Use of ATM cause more spending	.097	.875
Use of ATM has increased crime rate	.127	.882

*Extraction Method: Principal Component Analysis*

The above table depicts the variables under each of the four derived factors. The following factors help in studying the consumer's mind-set, perception and knowledge towards the ATM banking. The first factor identified is "Operational/Functionality of ATM" which includes location of ATM, availability of ATM machines, directions of use, settlement of complaints and networked or shared ATM services. All the factors are positively correlated with following values 0.701, 0.818,

0.516, 0.529, 0.687 respectively. The second factor is termed as "After effects of ATM" which includes following two components; increase in spending capacity of individuals (0.875) & increase in crime rate (0.882). Both the variables in second component are also positively correlated meaning that ATM have increased the spending habits of ATM users and also some loopholes in the system have also made ATM little unsafe thus leading to increase crime rate.

Table 4.5. Factors

<b>COMPONENT 1</b>		<b>COMPONENT 2</b>	
<i>Investor's focus</i>		<i>Perception</i>	
Location of ATM	.701	Increase in spending	.875
Availability of ATM at all useful places	.818	Increase in crime rate	.882
Clarity of directions to use ATM	.516		
Settlement of grievances	.529		
Availability of shared ATM networks.	.687		

It can be inferred that from a set of seven variables, the two factors that emerged from the entire analysis are as follows:

- (i) *“Operational/Functionality of ATM”*
- (ii) *“After effects of ATM”*

**Cross- Tabulation**

Table 4.6. Cross tabulation between category of bank and annual income.

		<b>Annual income</b>				<b>Total</b>
		<b>0-.01 million</b>	<b>.01-0.5 million</b>	<b>0.5-0.8 million</b>	<b>0.8 million &amp; above</b>	
Which category of banks do you consider as most technologically advanced	Public sector bank	42	31	13	6	92
	Private sector bank	72	74	48	17	211
Total		114	105	61	23	303

The below mention figure shows a cross tabulation between category of bank and annual income. This is evident from this analysis that no matter whether customers belong to which income segment nowadays consumer preference is shifting from public sector banks to private sector banks, the major reason behind this can be that the private banks are technologically advanced and provide better service to customers. This means that private sector banks are better in handling customer relationships and thus

keep customers satisfied by providing them prompt banking services. The preference towards private sector shows that this is the age of modern technology. People prefer technological advancements and this is the reason they are going for private banks. All income groups feel that technology is important and also reliable and save times and efforts that one puts in doing transactions.

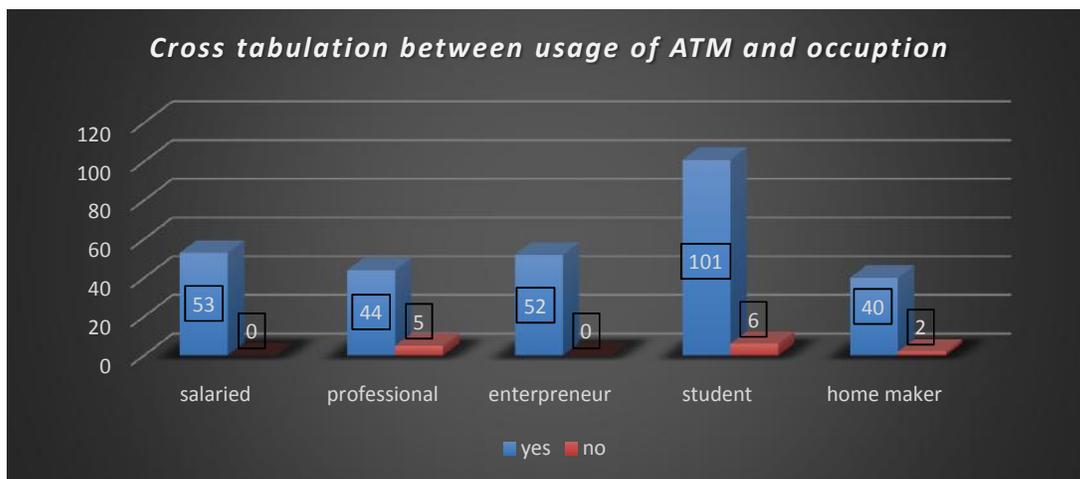


Figure 4.1. Cross tabulation between occupation and usage of ATM card.

From the above figure and analysis it can be inferred that now people have started using ATM very often and it is not dependent on their occupation. This means that people from all occupation realize that ATM has very important role in our lives today. It is seen from the above data that students use ATM most often and home maker use less as

compare to all, and in all out of 303 respondents only 13 do not use ATM . This is a very less proportion of total.

*H<sub>0</sub>: There is no association between age of the customers and their satisfaction regarding the use of ATM services figure.*

Table 4.7. Cross Tabulation between age of respondents and their satisfaction with ATM Services

Age of the respondents	level of Satisfaction		Total
	High level	Low level	
18-30 years	50	23	73
31-45 years	6	6	12
45-50 years	5	7	12
above 50 years	1	2	3
	62	38	100

Table 4.8. One-Sample Test

	Test Value = 0		Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
	t	df			Lower	Upper
	Age & Satisfaction	113.220			309	.000

From the above table it is inferred that the p value .158 is greater than 0.05. The difference is considered insignificant. The null hypothesis is accepted and therefore there is no association between age and customer satisfaction. In other words the age of the

respondents do not influence the level of satisfaction

*H<sub>0</sub>: There is no association of trust & security on the choice of ATM made by the customer.*

Table 4.9. One-Sample Test

	<b>Test Value = 0</b>			Mean Difference	95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)		Lower	Upper
	Trust & Security	111.777	302		.000	4.449

From the above table it can be observed that significance level or the p value is less than 0.05 therefore we will reject the null hypothesis and accept the alternative hypothesis that is trust & security has a significant relation with the choice of ATM

selection by the consumers. Unless the customer is not so sure about security of his hard earned money nobody will prefer to use such ATM services.

Table 4.10. Descriptive Statistics

	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error</b>	<b>95% confidence interval for mean</b>		<b>Minimum</b>	<b>Maximum</b>
					<b>Lower Bound</b>			
					<b>Upper Bound</b>			
1	303	3.22	1.359	.078	3.06	3.37	1	5
2	303	3.25	1.099	.063	3.13	3.38	1	5
3	303	2.57	.997	.057	2.46	2.69	1	5
4	303	3.00	1.192	.068	2.87	3.14	1	5
5	303	3.38	1.344	.077	3.22	3.53	1	5
6	303	2.33	.908	.052	2.23	2.43	1	5
Total	1818	2.96	1.221	.029	2.90	3.01	1	5

H0: Customers face no problem while using ATM services

Table 4.11. ANOVA Test

	<b>Sum of squares</b>	<b>df</b>	<b>Mean square</b>	<b>F</b>	<b>Sig.</b>
Between Groups	264.163	5	52.833	39.143	.000
Within groups	2445.743	1812	1.350		
Total	2709.906	1817			

From the above ANOVA table it can be inferred that since the significance value is 0.05 and the p value 0.00 which is less than the significance level therefore we will reject the null hypothesis and accept the alternate

hypothesis stating that customers do face lot of problems while using ATM machines. ATM machines are a type of technological advent and therefore it is obvious that there are some problems associated with use of

ATM machines. From the descriptive analysis table it is clear that people are facing many problems out of which the major problem that customers face is the “Long Waiting Time in the Queue” because it has the highest mean value that is it close to 5 also customers face problems like “machine out of cash”, “ATM

cards getting blocked”, “ATM machines out of order”, “non-printing of statement” & “reduction in balance without cash payment” with following mean values (3.25),(3.22),(3.00),(2.57) & (2.33) respectively

Table 4.12. Mean Analysis

Factors	Mean
Reduced time of transaction	3.29
Cost effectiveness	3.03
Ease of use	2.99
Technology savvy	2.7

There are many factors that influences and motivates consumers to use new banking techniques. The major factor out of the four factors that are mentioned is reduced time of transaction. Modern facilities help in saving lot of time and this particular factor saves time of consumers by reducing the transaction time. Also factors like cost effectiveness, ease of use and technology.

Technology has lowest mean value this mean that people are using ATM or modern banking service more because of practical reason like to save time, cost and for easy functioning and not because people are technology savvy now.

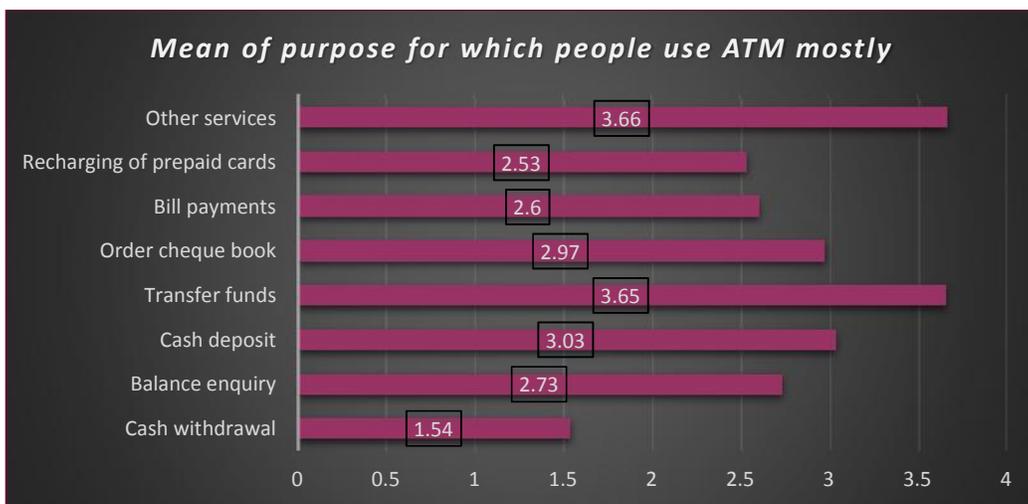


Figure 4.2. Mean of purpose for use ATM mostly

It can be inferred from the above figure that unlike before now ATM is used for many purpose by ATM users. Initially ATM was only used for withdrawing, till date majorly people use it for the same purpose but now the other uses of ATM like recharging of

prepaid cards, bill payments, enquiry of balance and etc. are also increasing. This is the reason that why people have stated using more ATM services because it makes Indian banking system a new and convenient system.

Table 4.13. Preferences of Technological Services

<b>E - banking options</b>	<b>Mean</b>
Manual banking	1.94
ATM banking	3.58
Internet banking	2.9
Mobile banking	3.29

ATM banking option is the most desired one out of the four banking styles. ATM is preferred most by the respondents followed by the mobile banking and then internet banking. The various reasons why people prefer ATM banking are for withdrawing cash, making payment of bills, balance enquiry and etc. With time people prefer manual banking as the last option because it is the most time consuming and traditional method of banking. Moreover, traditional

banking style that is the manual banking style does not provide all the new and advanced facilities those other systems of bank provides. Manual banking is no more preferred because it leads to lot of wastage of time and efforts and thus customer satisfaction decreases. In this era banks prefer to have more and more e-banking channels to compete with existing brands and build a brand image.

Table 4.14. Visual Impact Index

<b>Banks</b>	<b>Visual impact index (Frequency)</b>	<b>Visual impact index (Percentage)</b>	<b>Rank</b>
State bank of India	73	24.1	1
HDFC	56	18.5	2
Axis bank	40	13.2	4
Punjab National Bank	37	12.2	5
IDBI	10	3.3	7
Union bank	23	7.6	6
ICICI bank	42	13.9	3
Yes bank	7	2.3	10
Bank of India	9	3.0	8
Standard Chartered	9	3.0	9

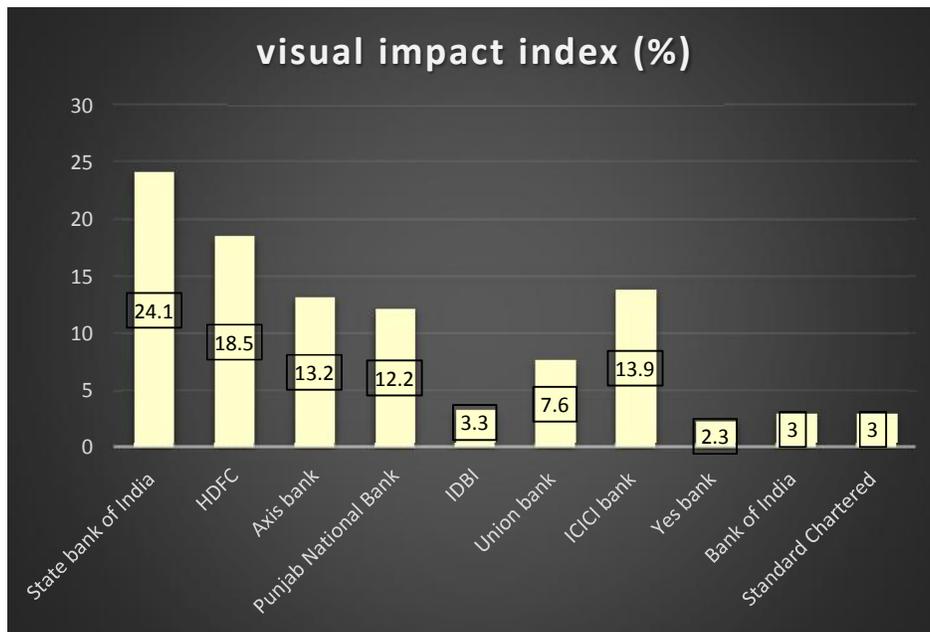


Figure 4.3. Visual Impact Index

The above visual impact index shows the preference of consumers towards the banks using their logos. The choice of logos shows how much people are satisfied with services provided by their banks. This visual impact index also shows that how much is the brand recognition among the consumers of the various top 10 banks in India. This is a very innovative and new way of seeing customer's satisfaction and brand recognition. From the above data it is derived that the most important and the best recognized bank by customers is SBI that is state bank of India. There is no doubt that it is the most reliable bank and people are loyal towards it. The major reason behind this is that the networking system of SBI and availability of the bank at every corner of the country makes it more reachable and accessible for the consumers. No doubt that private sector banks are more technologically advanced and people prefer them more because of the easy accessibility but till date there exist a traditional thinking or behavioural attitude in mind of consumers that they still depend on public sector bank for a few set of attributes. In terms of private sector bank the most preferred by the respondents is HDFC bank. And the least preferred is the Yes bank. There are many reasons behind why people do not prefer to deal in or have an account

of Yes bank. The reason is delayed services and lack of proper customer services; they generally take more than usual time in settling any kind of customer queries or grievances. Visual impact index is therefore a very strong analytical tool to understand the brand positioning in minds if the customer.

## 5. Key Findings

- ❖ It can be inferred from the above data that maximum respondents are between the age of 18-30 meaning, maximum respondents are young only 2 respondents are of age group 45-50. Also many respondents are between age group 31-45 that is 108 respondents 108 are between this age brackets. Maximum respondents are female that is 176 respondents out of 3030 constitute female respondents and 127 were the males. 54.8% of the respondents are single and only a 137 respondents are married. If we see the demographics of the respondents' occupation then maximum respondents are students followed by salaried, entrepreneur, professional and homemaker. The annual income of majority of respondents come in the income brackets of below .01 million as maximum respondents are student

therefore they don't earn and maximum respondents come in this category only and have income less than .01 million. Only a few respondent have income above 0.8 million.

- ❖ The next analysis was the factor analysing is known to be a kind of data reduction techniques which reduces data into simpler and smaller important attribute and helps in identifying the important factors that determine consumer's behaviour few things. Factor analysis help to determine the key focusing factors and reduces data. The factor analysis test can be conducted only once the KMO that is the Kaiser Meyer Olkin and the Bartlett's test value is more than 0.5. In this case the value is 0.639 therefore the test is conducted. This analysis has given two major factors that is operationalise of ATM and the second factor is the after effects of ATM. These two factors have broadly classified the seven major factors into the two. Factor analysis is different from the cluster analysis, factor analysis divides the factors and cluster analysis is usually meant to divide the market segments. Both the analysis are a type of data reduction technique.
- ❖ The analysis revealed that the most preferred banking sector by the customers of modern era are the private sector banks major reason behind this is that these modern banking methods provide comfort to the customer which makes banking easy and convenient for the people. Also it is seen that technologically advanced banks gain more customer loyalty leading to customer satisfaction which is ultimately a way of positioning. The most preferred out of all types of banking that is manual, internet, mobile and ATM the customers use ATM the most.
- ❖ It is also evident that unlike earlier behaviour towards ATM now the respondents use ATM for all purposes and not only for withdrawing cash. This means that people are using it to pay their utility bills, for doing pre-paid recharges, for transfer of funds and for many more and more number of activities. This

showed clearly that using ATM amongst the consumers is increasing a lot nowadays. This is because ATM provide that comfort to the consumers with other methods of transaction does not provide.

- ❖ The analysis also shows that whatever kind of the occupation respondents now have all use ATM for some or the other reasons this means that ATM is convenient and people use it for saving their time and efforts.
- ❖ There also exist some problems which users of ATM have gone through. The problems like long time goes in waiting in queue, sometimes people face this problem because the ATM availability is still less than what people want as their demand are growing. They also face problem of machine running out of cash again because the usage is more there also exist times when people wait for cash and the machine shows out of cash. Sometime the ATM machines are also out of order that is when the machines are not handled properly and they are under repair then people have to face problem because they rely on ATM for their basic cash needs also.
- ❖ The data study that is done in the paper also shows that the usage of people of ATM services has a lot of difference with their income group and with respect to their profession or occupation. It is also oblivious because different people have different needs and this brings a change in their usage pattern. Therefore depending upon the needs people use ATM services differently to satisfy their growing demands. Also awareness among individuals is another important attribute that makes them behave differently towards different functions and need of ATM.

## **6. Conclusions**

ATM industries are going to grow especially in India. India can be seen as a huge potential for this segment. The multivendor software system will also gain popularity in coming years. The ATMs will soon become a personalized and user friendly interface in

years to come in India. This will soon become a popular public technology. Though ATM industry is going to grow at a rapid pace there still exist some challenges and threats in minds of customers which also seem to be practical like; security issues of the software, rental costs are also increasing, replenishment of cash and housekeeping costs are also increasing. The new trend of Biometric ATMs has been a successful way of ATM banking it seems to be secure for the use of common man. Banks should also soon shift from multi-vendor systems to integrated system in order to provide all set of activities to their customers.

For customers ATM means “Any Teller Banking”. This indicates that the banks have an urgent need to have full focus on providing all time services to its customers. It can be seen from the above from the all above analysis that people have started using ATM for all kind of uses unlike traditional ways when ATM was only used for withdrawing cash. People prefer to use ATM more now because its saves their lot of time which otherwise becomes a very tedious job. Use of ATM banking has increased in urban areas but not so much in rural areas, the major reason behind this is that people in rural India are not aware about such technological advancements. It is very important that banks now conduct awareness programmes for rural India as well so that people staying there can also have benefits of ATM.

ATM enables banks to provide to its customers very competent and cost effective models. Initially internet banking was considered a major threat for the ATM growth but this was irrelevant to the fact that ATM industry dominated the technology segment, and it can be seen that the future of ATM industry in India can be very bright. The world is becoming techno-savvy and new and new technological innovations happen on daily basis. The success of technology can be determined only when the members of the society diffuse this technology in their habits. Keeping this in mind if we talk about ATM sector it is a

complete success story, banks have been able to serve their customers outside their bank's premises because of the advent of the ATM's. This plastic card has given an exciting experience to the customers as well as the banks, thus by reducing the hassles of banking transaction.

There can be seen a societal shift towards the ATM sector because of many advantages and benefits that society gets from using ATM services has made the society as a whole to accept the advent of ATM industry and use it in daily lives. ATM has been a success story because of the “Multivendor software” has brought an unrest in driving banks around the globe. Here, banks don't rely on upon a single vendor to buy software and equipment supplies of ATM. According to the technological needs to coordinate multiple parts of ATMs from different vendors, this arrangement puts a competitive pressure on ATM vendors. Multivendor software encourages and free choice making for the banks in settling on equipment vendors, lessens the expense of responsibility for ATMs for the banks. Organization of MVS (Multivendor Software) has likewise lessened Base administration issues in these banks.

Definitely, it is a progressive idea to execute a solitary software application in the whole ATM system. The ATM technology has created to such a degree that a few ATMs can retain buyer inclination according to their past exchanges, conduct, and tailor administrations in like manner. Much of the time, ATMs have web scope which encourages two route communications with live specialists, give biometric choices, and have the capacity to exhibit customized promotions. Support of web empowered ATMs are simple. These ATMs can be immediately joined with focal observing arrangement of vendors. It is noticed that in last two decade there has been a tremendous growth in ATM sector. Those days are gone when ATM was only used for withdrawing cash now the functions of ATM has increased tremendously. In this era, ATM's are equipped with touch sensitive and user friendly options to serve the consumers

without any delays and to increase customer delightment in order to retain the customer this competitive scenario. The following table will demonstrate that how with passage of time the functions and features of ATM services has changed. The modern technological advancements are very crucial and also beneficial in all sectors. Technological advancements in banking sector are all the more important as it is helpful for the bankers and also to the customers. Banks provide various services to the society among which the most valuable and crucial is ATM banking which is used by majority of people today. No doubt that customers are using ATM services of bank nowadays too much but still there are many problems that the users face so it is essential that banks make sure that they provide undisrupted and efficient services to its customers.

This study makes clear that why customers are switching from traditional banking style to modern or ATM banking. The reasons behind this are simple the most influencing factor is that consumers are referring convenience now. The most important thing for them is their comfort which is provided only when one switches to modern style of banking. The major reasons why customer uses ATM services are:

- ATM reduces cash holding requirement of customer.
- ATM involves no extra banking cost.
- ATM's are easy to use and also user friendly.
- ATM provides or is giving access to all users for withdrawing the money at anytime from anywhere.
- ATM's provide convenience in transferring of money and also in travelling.
- Utility bills and prepaid recharges can also easily be done.

There are many more factors that influence consumers to use ATM banking. Also people from different age groups and different occupation have varying needs and everyone use ATM for different purpose. People also take into consideration many things before

deciding upon their choice of ATM. ATM usage involves money of consumers which is their hard earned money, so trust, security & reliability are few parameters which are key factors while influencing the choice of the ATM. Also location of the ATM, speed and response to consumer grievances, directions to use ATM, availability of ATM's and cost of shared ATM are few other important factors that consumers see while selecting ATM.

From the above study it was found that problems associated with ATM machines are: waiting in queues, machine out of order, machine out of cash, non- printing of statement of transaction, reduction in balance and also problem of shared networked ATM's. The biggest issue with the customers is the cost that they have to give for using shared ATM's. Banks charge fees when they provide ATM services to customers of different banks. This cost starts after a given number of transactions are completed. As the number of ATM's is increasing the users of ATM is also increasing therefore banks have to concentrate on the kind of services that they provide to their users.

ATM industry are going to grow especially in India. India can be seen as a huge potential for this segment. The multivendor software system will also gain popularity in coming years. The ATMs will soon become a personalized and user friendly interface in years to come in India. This will soon become a popular public technology. Though ATM industry is going to grow at a rapid pace there still exist some challenges and threats in minds of customers which also seem to be practical like; security issues of the software, rental costs are also increasing, replenishment of cash and housekeeping costs are also increasing. The new trend of Biometric ATMs has been a successful way of ATM banking it seems to be secure for the use of common man. Banks need to realize that they need to very soon shift from the multi vending system to integrated systems in order to provide all set of activities to their customers.

## References

- Khan, M.A (2010). An Empirical Study of Automated Teller Machine Service Quality and Customer Satisfaction in Pakistani Banks. *European Journal of Social Sciences*, 13(3): 333- 344.
- Kotler, P., Keller, K.L., Koshy, A., and Jha, M. (2012). *Marketing Management*. Pearson education Asia Publication, 13th edition, 2012
- Kumbhar, V. M. (2011). Customers satisfaction in ATM services: An empirical evidences from public and private sector banks in India. *Management Research and Practice*, 3(2): 24-35.
- Kumbhar. (2011). Determinants of Customer's Satisfaction in ATM Services Setting: Empirical Evidences from India. Prajnan, XL (2).
- Joseph, M. and Stone, G. (2003). An empirical evaluation of US bank customer perceptions of the impact of technology on service delivery in the banking sector. *International Journal of Retail & Distribution Management*, 31 (4): 190-202.
- Mouthiho, L. (1992). Customer satisfaction measurements: prolonged satisfaction with ATMs. *International Journal of Bank Marketing*, 10 (7): 30-7
- 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
- Motwani, D., and Shrimali, D. (2012). Consumer adoption & satisfaction towards ATM service: A comparative study of Udaipur City. *Indian Journal of Research* 1(12).
- Ogbuji, C. N., Onuoha, C. B., and Izogo, E. E. (2012). Analysis of the Negative Effects of the Automated Teller Machine (ATM) as a Channel for Delivering Banking Services in Nigeria. *International Journal of Business and Management* 7(7).
- Rao, P.S., Rajasekhar, D., and Ratnam, N.V. (2013). An empirical study of customers satisfaction in ATM services. *International Journal of Management and Research & Business* 4: 45-61.
- Shariq and Tondon. (2012). Technology for Banks in India Challenges. IBA Bulletin, XXIII (3): 23-45.
- Singh, S. (2011). The impact of ATM services on customer satisfaction in Indian banks. *International Journal Financial Services Management*, 5 (2).
- Vijesh, R., Anand, V. V., and Panchanatham, N. (2011). *Technology Management in Bank – Risk on Alternate Channels - A Global Study*. International Conference on Technology and Business Management, 2011.