



## A STUDY OF DEMOGRAPHIC CHARACTERISTICS AS MOTIVATORS FOR USAGE OF ATM

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### ABSTRACT

*The transformation in the banking business is bound to be technology driven and ATM is the most active format and can be studied as a litmus test to examine the potential success and acceptance among the popular segment who are the masses availing the banking services. The advantages delivered by way of using ATM have created a new impetus in the spectrum of services through its accuracy and its quality aspects. The banks are expected to designing various possible services of new choices to customers. The customer dissatisfaction had been contributed by factors such as the security, frequent breakdown of machine, and insufficient number of ATM.*

*This paper tries to examine the motivations and usage reasons of the ATMs with specific reference to Mumbai and adjacent areas.*

**KEYWORDS:** *ATM, banking services, cash handling charges, customers, transactions*

### INTRODUCTION

The utility of ATM in the banking transactions has been established by its popularity among the banking services. Customers have been just due to the convenience or any other reasons is the important question because the extended services expected to be delivered are expected to be accepted by the consumer for its success. The entire cash handling charges born by the Indian banking system is Rs. 36,000 CR yearly (Reserve Bank Report, 2019).

The transformation in the banking business is bound to be technology driven and ATM is the most active format and can be studied as a litmus test to examine the potential success and acceptance among the popular segment who are the masses availing the banking services. The advantages delivered by way of using ATM have created a new impetus in the spectrum of services through its accuracy and its quality aspects. The banks are expected to designing various possible services of new choices to customers.

The customers' realize the saved time and the speed saved in the fulfillment of transactions due to the use of the ATM facility lead to replace the branch transactions (Moutinho, 1992). The available literature examines various dimensions of ATM and its preference on the basis of multifold service quality. ATM provides secured transactions and the locations of its installed points create place utility in the form of convenient location, the multiple points of availability and the friendly system, and functionality of ATM

were the major reasons of preference by the customers for ATMs (Lovelock, 2000). The satisfaction about ATM usage and the service quality it delivers is a function of various factors, which includes the least costs involved in the usage of the ATM (Davies et al., 1996). The speed of operations and the waiting time were the important predictors of ATM service acceptability (Botswana, Mobarek, 2007). There were five major items about ATM service quality those included convenient and secured locations, functions of ATM, adequate number of machines and user-friendliness of the systems and procedures (Al-Hawari et al., 2006). An empirical study found that these items constitute important aspects of ATM service quality. A previous study found significant relationship between ATM service qualities with customers' satisfaction. The study identified that location, personnel response, quality of currency notes, promptness of card delivery and performance of ATM were examined positively and found significantly related to the satisfaction of the customers' availing banking services through any ATM.

The customer dissatisfaction had been contributed by factors such as the security, frequent breakdown of machine, and insufficient number of ATM. In another study, it was found that 24 hours service, accuracy, and convenient locations were the main predictors of customer satisfaction (Shamsdouha et al., 2005). Some of the studies also indicated lack of privacy in executing the transaction, fear of safety and complexity of the machine were the major cause of concern for the customers.

### The Sample Description

In order to examine the demographic characteristics related to ATM usage the researcher collected the customer data from Mumbai and its adjacent locations, namely Thane and Navi-Mumbai. The sample collection had been conducted during two months at various crowded places, through a well structured questionnaire. The demographic factors collected for this study were the gender, age and educational qualifications. The individual usage of ATMs, were collected by way of the respondents, in the format by asking them to state their gender, age and educational level, and their frequency and preferences for using the ATM services. Table No. 1 below describes a complete description of the sample collected.

### Variables under study

The study conducted on four demographic characteristics such as age, education, gender and income level measured in monthly income of the individual. This study also incorporates six motivations which cause the bank customers to use the ATM.

The six motivations include, location, numbers of machines, quality of currency, security, 24X 7 availability and privacy in the scope of study of this research paper. The researcher has found very few number of research papers addressing this kind of study conducted in the typical Indian set up.

There is a critical discussion about the waiving off the additional incentives offered to accelerate the demonetization such as add on cash back facility for swiping the debit or

credit cards at petrol pumps by the three major public oil companies in India. This is supported by the major players such as Visa and master card on the point of the MDR i.e. the Merchant Discount Rate.

This research paper try to find out the key motivations of using ATM and examines the influence of these motivators with respect to the individual demographical characteristics. The outcomes of this research may help specifically the bankers and marketers in general in designing any critical services when delivered through the virtual channel.

### HYPOTHESES

The literature review lay to locate the specific research gap to be addressed through this paper and laid to set specific hypotheses as under:

1. There is no association between the demographic characteristics and the usage of ATMs for availing banking services.
2. There is no correlation among the demographic characteristics and the usage of ATMs for availing banking services.

### DATA ANALYSIS

This research paper uses computerized data analysis by way of adopting the standard program for data analysis, the SPSS 21.0 version. The data size collected was 1212 numbers, and the chi square test of association and Pearson's correlation were adopted as the major statistical tests for examining the hypotheses set for justifying the research objectives.

**Table I**

**Sample details according to the gender, age and educational qualification and income level**

Age Group	Gender		Total
	Male	Female	
Up to 25 Years	171	91	262
26-35 Years	250	135	385
36-45Years	269	132	401
46 Plus	100	64	164
<b>Total</b>	<b>790</b>	<b>422</b>	<b>1212</b>
Education Level	Gender		Total
	Male	Female	
Up to High-school	222	136	358
College Attended/ Graduate	277	131	408
Graduate	291	155	446
<b>Total</b>	<b>790</b>	<b>422</b>	<b>1212</b>
Income Group	Gender		Total
	Male	Female	
Up to Rs. 30,000	359	193	552
30,000 to 40,000	50	34	84
40,000 to 50,000	280	153	433
50,000 Above	101	42	143
<b>Total</b>	<b>790</b>	<b>422</b>	<b>1212</b>

(Source: primary data)

The relationships between gender, age and the educational and income levels of respondents and major reason of ATM usage were examined below in table no.2.

**Table No.2 Motivations of ATM usage and the Age Group of the Customers**

Demographical Characteristics	Statistical Measurement	Motivations of ATM usage						Total
		Location	Numbers	Quality of Currency	Security	24X7 Availability	Privacy	
Age Groups	Frequency Details							
	Count	26	44	46	77	45	24	262
Up to 25 Years	% within Motivations	17.10%	29.90%	19.20%	27.80%	19.40%	14.50%	21.60%
	Count	40	56	58	105	79	47	385
26-35 Years	% within Motivations	26.30%	38.10%	24.30%	37.90%	34.10%	28.50%	31.80%
	Count	65	40	86	69	72	69	401
36-45Years	% within Motivations	42.80%	27.20%	36.00%	24.90%	31.00%	41.80%	33.10%
	Count	21	7	49	26	36	25	164
46 Plus	% within Motivations	13.80%	4.80%	20.50%	9.40%	15.50%	15.20%	13.50%
	Count	152	147	239	277	232	165	1212
Total	% of Total	12.50%	12.10%	19.70%	22.90%	19.10%	13.60%	100.00%

(Source: Primary data)

The above cross tabulation analysis conducted on age of the customers and the motivations they find in the usage of the ATM showed that the highest motivating factor is the security i.e. 22.90%. The location of the ATM machine had

been found as the least preferred motivating factor, since only 12.50% of the sample prefers ATM on the basis of their locations.

**Table No.3 Chi-Square Tests of Motivations of ATM usage and Age group**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	65.325 <sup>a</sup>	15	0.000
Likelihood Ratio	67.200	15	0.000
Linear-by-Linear Association	.999	1	0.318
N of Valid Cases	1212		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 19.89.

(Source: Primary data)

The chi square test indicated that the individual age has a significant association on the location of the ATMs. This hypothesis had been conducted at 5 % level of significance.

The correlation of age as a customer's demographic factor and location of ATM s were measured in the statistical unit of the Parson's correlation and the results were as shown below in table No.4

**Table No.4 Symmetric Measures**

	Value	Asymp. Std. Error <sup>a</sup>	Approx. T <sup>b</sup>	Approx. Sig.	
Interval by Interval	Pearson's R	0.029	.028	.999	.318 <sup>c</sup>
Ordinal by Ordinal	Spearman Correlation	0.029	.028	.999	.318 <sup>c</sup>
N of Valid Cases		1212			

a. Not assuming the null hypothesis.  
b. Using the asymptotic standard error assuming the null hypothesis.  
c. Based on normal approximation.

(Source: Primary data)

The relationship between ATM location and preference to it had shown positive but very weak correlation at 0.029 only.

In the Table No. 5 below are the results of the cross tabulation analysis conducted on level of education of the consumer and the motivations they find in the usage of the

ATM showed that the Graduated level of education of the sample were the highly motivated among the other sampled population i.e. 36.80%. The lowest were the up to high school they had been found as the least, since only 29.50% of the sample of this class prefers ATM.

**Table No.5 Motivations of ATM usage and the Education Level of the Customers**

Education Level	Frequency Details	Location	Numbers	Quality of Currency	Security	24X7 Availability	Privacy	Total
Up to High-school	Count	38	44	60	104	71	41	358
	% within Motivations	25.0%	29.9%	25.1%	37.5%	30.6%	24.8%	29.5%
College Attended/ Graduate	Count	40	64	78	91	76	59	408
	% within Motivations	26.3%	43.5%	32.6%	32.9%	32.8%	35.8%	33.7%
Graduate	Count	74	39	101	82	85	65	446
	% within Motivations	48.7%	26.5%	42.3%	29.6%	36.6%	39.4%	36.8%
Total	Count	152	147	239	277	232	165	1212
	% of Total	12.5%	12.1%	19.7%	22.9%	19.1%	13.6%	100.0%

(Source: Primary data)

**Table No.6 Chi-Square Tests of Motivations of ATM usage and Age group**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	33.268 <sup>a</sup>	10	0.000
Likelihood Ratio	32.937	10	0.000
Linear-by-Linear Association	1.094	1	0.296
N of Valid Cases	1212		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 43.42.

(Source: Primary data)

The chi square test indicated that the individual education level has a significant association on the usage of the ATMs. This hypothesis had been conducted at 5% level of significance.

The correlation of educational level as a customer's demographic factor education level ATM's were measured in the statistical unit of the Parsons correlation and the results were as shown below in table No. 7

**Table No.7 Symmetric Measures**

	Value	Asymp. Std. Error <sup>a</sup>	Approx. T <sup>b</sup>	Approx. Sig.
Interval by Interval Pearson's R	-0.030	0.029	-1.046	0.296 <sup>c</sup>
Ordinal by Ordinal Spearman Correlation	-0.028	0.029	-0.965	0.335 <sup>c</sup>
N of Valid Cases	1212			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

(Source: Primary data)

The relationship between ATM usage and educational level had shown negative but very weak correlation at 0.030 only.

**Table No.8 Motivations of ATM usage and the Income Level of the Customers**

Income Group	Frequency Details	Motivations						Total
		Location	Numbers	Quality of Currency	Security	24X7 Availability	Privacy	
Up to Rs. 30,000	Count	67	70	101	133	106	75	552
	% within Motivations	44.10%	47.60%	42.30%	48.00%	45.70%	45.50%	45.50%
30,000 to 40,000	Count	4	9	13	25	21	12	84
	% within Motivations	2.60%	6.10%	5.40%	9.00%	9.10%	7.30%	6.90%
40,000 to 50,000	Count	69	38	98	81	82	65	433
	% within Motivations	45.40%	25.90%	41.00%	29.20%	35.30%	39.40%	35.70%
50,000 Above	Count	12	30	27	38	23	13	143
	% within Motivations	7.90%	20.40%	11.30%	13.70%	9.90%	7.90%	11.80%
Total	Count	152	147	239	277	232	165	1212
	% of Total	12.50%	12.10%	19.70%	22.90%	19.10%	13.60%	100.00%

(Source: Primary data)

The above cross tabulation analysis conducted on income level of the consumer and the motivations they find in the usage of the ATM showed that the highest motivating factor is associated with the highest income level i.e. 45.50%. The

mid income level i.e. Rs. 30,000 to 40,000 of individuals and the usage of ATM machine had been found as the least preferred among the motivating factors, since only 6.90% of the sample prefer ATM based transactions.

**Table No.9 Chi-Square Tests of Motivations of ATM usage and Income Level**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	38.102 <sup>a</sup>	15	0.001
Likelihood Ratio	38.260	15	0.001
Linear-by-Linear Association	1.400	1	0.237
N of Valid Cases	1212		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.19.

(Source: Primary data)

The chi square test indicated that the individual income level has a significant association on the usage of the ATMs. This hypothesis had been conducted at 5 % level of significance.

The correlation of income level as a customer's demographic factor education level ATM s were measured in the statistical unit of the Parsons correlation and the results were as shown below in table No.10

**Table No.10 Symmetric Measures**

Symmetric Measures		Value	Asymp. Std. Error <sup>a</sup>	Approx. T <sup>b</sup>	Approx. Sig.
Interval by Interval	Pearson's R	-0.034	0.028	-1.183	0.237 <sup>c</sup>
Ordinal by Ordinal	Spearman Correlation	-0.034	0.028	-1.192	0.233 <sup>c</sup>
N of Valid Cases		1212			

a. Not assuming the null hypothesis.  
b. Using the asymptotic standard error assuming the null hypothesis.  
c. Based on normal approximation.

(Source: Primary data)

The relationship between ATM usage and income level had shown negative but very weak correlation at 0.034 only.

In the Table No. 11 below are the results of the cross tabulation analysis conducted on gender of the consumer and the motivations they find in the usage of the ATM showed

that the Male gender of the sample were the highly motivated among the other sampled population i.e. 65.20%. The females had shown the lower preference they had been found as the least, since only 34.80% of the sample of this class prefers ATM.

**Table No.11 Motivations of ATM usage and the gender of the Customers**

Gender		Motivations						Total
		Location	Numbers	Quality of Currency	Security	24X7 Availability	Privacy	
Male	Count	101	104	150	181	151	103	790
	% within Motivations	66.40%	70.70%	62.80%	65.30%	65.10%	62.40%	65.20%
Female	Count	51	43	89	96	81	62	422
	% within Motivations	33.60%	29.30%	37.20%	34.70%	34.90%	37.60%	34.80%
Total	Count	152	147	239	277	232	165	1212
	% of Total	12.50%	12.10%	19.70%	22.90%	19.10%	13.60%	100.00%

(Source: Primary data)

The chi square test indicated that the gender has no any significant association on the usage of the ATMs. This hypothesis had been conducted at 5 % level of significance.

**Table No.12 Chi-Square Tests of gender and Motivations of ATM usage**

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.288 <sup>a</sup>	5	0.656
Likelihood Ratio	3.333	5	0.649
Linear-by-Linear Association	.988	1	0.320
N of Valid Cases	1212		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 51.18.

(Source: Primary data)

The correlation of gender as a customer's demographic factor education level ATM s were measured in the statistical

unit of the Parsons correlation and the results were as shown below in table No.13 below:

Table No.13 Symmetric Measures

Symmetric Measures		Value	Asymp. Std. Error <sup>a</sup>	Approx. T <sup>b</sup>	Approx. Sig.
Interval by Interval	Pearson's R	.029	.029	.994	.320 <sup>c</sup>
Ordinal by Ordinal	Spearman Correlation	.028	.029	.958	.338 <sup>c</sup>
N of Valid Cases		1212			
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

(Source: Primary data)

### Findings and Conclusions

This study had been designed to study the motivations which influence the use of automated ATM machines. This study confirms some of the earlier conclusions drawn by earlier researches such as Kotler, 1988; McIver and Naylor, 1986; Engel et al., 1993 that the understanding and adapting to customer motivation and reflects the behavior is not an option but it has established an absolute necessity in the competitive survival for each bank. According to Coon (1994), an attitude is a mixture of belief and emotion that pre disposes a person to respond to other people, objects or institutions in a positive or negative way. Di Angeli et al. (2002) examined the technology adoption in different cultural setup, and examined the frame work suggested by Hoffstede, as parameter of cultural value dimensions and ATM's adoption in Urban India and suggested that the underlying inhibitors to ATM adoption in India had not intrinsically different from those determined earlier specifically in the Europe and North and South America. These reasons appeared to have been caused by different factors in different contexts due to different cultural values and behavior of the bank customers.

### SCOPE OF FUTURE RESEARCH

According to Stemper (1990), some customers do not like ATMs because of the virtual nature called as impersonality in the services, problem laid by age like vision problems, psychological factors such as fear of technology and reluctance to adapt to new mode of service delivery need to be incorporated in future studies.

It was found out that some of the behaviors' of respondents that affected their use of ATMs were the fact that they felt confident using e-banking methods to access money, the preference for human contact, their safety concerns, the fear of losing their cards, the belief that the ATM will not work, the fact that they don't like things that are automated or computerized, the level of comfort they find using technology as well as the ability for them to try new things. Most of the respondents were not comfortable using automated devices. Marketers need to analyze these findings and adopt them in designing the marketing offerings to facilitate the services quality and make the services more attractive.

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