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## ACCEPTANCE OF E-BANKING SERVICES AMONG CUSTOMERS

**Priyanka Arya\***  
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### **ABSTRACT**

*E-Banking is spreading all over the world with speed, sometimes at the cost of throwing caution to the winds. This has not only transformed the banking and financial institutions in their modern form, but has also brought a paradigm shift in their attitude to banking operations. In India also, it has strongly impacted the strategic business considerations for banks.*

*In the last few decades, information technologies have changed the banking industry and have provided a way for the banks to offer differentiated products and services to their customers. The advent of technology made the banks which were used to branch based operations for over 200 years, change the nature of financial services offered to its customers. For instance, automated teller machines (ATM) displaced cashier tellers, telephone represented by the call centers replaced the branch banking, the internet replaced mail, credit cards and electronic cash replaced bank transactions. This paper brings out the measurement of customer perception towards E-Banking which is becoming very popular and convenient method of dealing with banks now-a-days.*

*E-Banking denotes the provision of banking and related service through Extensive use of information technology without direct recourse to the bank by the customer. In this paper consumer perception toward the usefulness and willingness to use e- banking are identified and measured. Customer satisfaction level towards the E- Banking has been identified. The paper is focused on customers' perceptions about internet banking, the factors that drive consumers, how consumers have accepted internet banking and the ways to improve the usage rate. The objective of this research is to determine the factors influencing acceptance level of internet banking by the bank customers.*

**Keywords:** Banking, E-Banking, customer perception, customer satisfaction

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## INTRODUCTION

The world is changing at an incredible pace and technology is considered to be the key factor which is responsible for these changes. An analysis of technology and its uses show that it has permeated in almost every aspect of our life. Various activities are managed electronically due to the acceptance of information technology at workplace as well as at home. Slow but steadily Indian consumers are moving towards internet banking. ATM and net banking are widely used mode of e-banking. Customer wants e-banking to be simple and the banking sector is matching its steps to the march of technology. Customers can view their accounts, get their account statement, transfer fund, purchase drafts by making just few key punches. Smart cards with an embedded micro-processor chip have brought a radical change. Electronic data interchange (EDI) is one of the advancement that has made its impact felt in banking sector. E-banking is a term that shows and includes the entire sphere of technological initiatives that have taken place in banking industry. E-banking or online banking is a generic term for the delivery of banking services and products through the electronic channels such as the telephone, the internet, the cell phone etc. Various initiatives have been taken by Government of India and by Reserve Bank of India (RBI) for the development of internet banking in India. IT Act, 2000 was enacted by GOI to give legal recognition to electronic transactions and other means of e-commerce. RBI had set up a 'Working Group on Internet Banking' to examine different aspects of Internet Banking (I-banking). The Group had focused on three major areas of I-banking, i.e., (i) technology and security issues, (ii) legal issues & (iii) regulatory & supervisory issues.

### E-banking

Various authors define E-Banking differently but the most definition depicting the meaning and features of E-Banking are as follows:

1. E-Banking is a combination of two, Electronic technology and Banking
2. Electronic Banking is a process by which a customer performs banking Transactions electronically without visiting a brick-and-mortar institutions.
3. E-Banking denotes the provision of banking and related service through Extensive use of information technology without direct recourse to the bank by the customer.

### E-banking products

- **Automated Teller Machine (ATM):** An automated teller machine or automatic teller machine (ATM) is a computerized telecommunications device that enables the clients of a financial institution to perform financial transactions without the need for a cashier, human clerk or bank teller. On most modern ATMs, the customer is identified by inserting a plastic ATM card with a magnetic stripe or a plastic smart card with a chip that contains a unique card number and some security information such as an expiration date or CVVC (CVV). ?
- **Tele banking or Phone banking:** Telephone banking is a service provided by a financial institution, that enables customers of the financial institution to perform financial transactions over the telephone, without the need to visit a bank branch or automated teller machine.

- **Mobile Banking:** Mobile banking often known as M-Banking, is used for instant balance check, prepaid and postpaid billers, etc. Recently mobile banking is used for online fee deposit of various government and private institutes, many bank recently introduced ASBA (Applications Supported by Blocked Amount) in mobile banking.
- **Internet Banking:** Internet banking it allows customers to avail banking facilities on a secured website provided by the financial institution. Institution provides a user id along with login and transaction password. The online channel is having a strong encryption for security. Customers can avail services like Account statement, cheque book, demand draft request, E-RD/FD (electronic fixed deposit / recurring deposit), ASBA, NEFT, RTGS, in 2010 RBI introduced IMPS (Immediate Payment Service) through internet banking and mobile banking.

## LITERATURE REVIEW

In today's hi-tech scenario it is possible to carry banking services into your pocket, possible to make inter-bank transactions with the help of NEFT (National Electronic Funds Transfer) or with the help of RTGS (Real Time Gross Settlement). Centeno (2004) found that 24x7, convenience are most crucial motivational factors in banking. Durkin, et al. (2008) found that simplicity in internet banking increase the number of users. Calisir and Gumussoy (2008) revealed that internet banking, ATMs and phone banking can replace one another. Maenpaa et al. (2008) studied familiarity of internet banking in Finland. Guerrero, et al. (2007) examined I-banking in Europe and found that ownership may be crucial in internet financial services. Other papers, Sohail and Shanmugham (2003) document verification in e-banking and reviewed resistance in use of internet banking in Malaysia. Customer care support may increase use of internet banking (Nilsson, 2007). Risk involvement is one of the most crucial factor in accepting e-services (Polatoglu and Ekin, 2001). Howcroft, et al., (2002) security and privacy are important in adoption of internet banking. Banks as well as customers are taking very high risk in e-commerce transaction (Mukti, 2000; Chung and Paynter, 2002).

## RESEARCH METHODOLOGY

The data analysis has been done with the help of SPSS 15.0 (Statistical Package for Social Sciences)

### Objectives of the study

- To identify customer's perception towards e-banking as a superior alternative of physical services.
- To identify the factors affecting acceptance level of e-banking by customer.

### Research design

- Exploratory Research- Secondary Literature Review.
- Descriptive Research- Cross-Sectional

## Data Collection

Data were collected from Bareilly region with the help of first hand draft of questionnaire to get the actual feel of the acceptance of e- banking services among customers. Varying responses came on certain variables whereas customers ignored certain parameters while responding. Questionnaire is used to do an extensive study of research topic to get reliable and validate findings. This is the most reliable method of data collection which provides a widespread coverage of our target population.

## Scaling Techniques

A variety of scales were used in our questionnaire to capture the data in a more effective way which can be analyzed to get reliable and valid results. When we used nominal scales to get the distinct response of customer on a particular situation and, the intensity of the response was measured using likert or interval scales. The responses obtained through interval scale helped us in getting clear view of respondents.

Ordinal scale was used to rate various variables having an impact over the respondent because it may be possible that a pool of variables affect the nature and attitude of respondent but the intensity or affect of all the variables won't be same. Similarly, likert scale was also involved to know exactly in what category the respondent categorizes his responses.

Demographic data was covered using nominal scale which helped us in covering all the aspects and dimensions of our target population. Respondents of all age groups, gender, occupation, qualification and daily routine were covered to get the view points and impact of the demographic variables on these responses.

## Sampling

Quota Sampling was used in our research study. It was applied on the basis of two demographic variables, which are, age and occupation. In quota sampling, the population is first segmented into mutually exclusive sub-groups, just as in stratified sampling. Then judgment is used to select the subjects or units from each segment based on a specified proportion. The sample size for research study is 410

## STATISTICAL ANALYSIS

*Table 1.1 Reliability statistics*

Cronbach's Alpha	N of Items
.856	51

**Table2.1 Males of all age groups and frequency of usage Ranks**

	Age	N	Mean Rank
frequency of usage of e services	<20	61	68.24
	20-30	44	13.27
	31-40	90	84.56
	41-55	11	130.98
	>55	16	155.19
	Total	222	

**Table2.2 Test Statistics (a,b)**

	frequency of usage of e services
Chi-Square	142.280
Df	4
Asymp. Sig.	.000

- a) Kruskal Wallis Test  
b) Grouping Variable: Age

**Table2.3 Females of all age groups and frequency of usage Ranks**

	Age	N	Mean Rank
frequency of usage of e services	<20	17	72.74
	20-30	13	56.18
	31-40	107	142.82
	41-55	25	186.09
	>55	26	196.22
	Total	188	

**Table 2.4 Test Statistics(a,b)**

	frequency of usage of e services
Chi-Square	104.350
Df	4
Asymp. Sig.	.000

a) *Kruskal Wallis Test*b) *Grouping Variable: Age***Table 3 Factor analysis****Table 3.1 kmo and bartlett's test**

Kaiser-Meyer-Olkin Adequacy.	Measure of Sampling	.912
Bartlett's Test of Sphericity	Approx. Chi-Square	5871.048
	Df	190
	Sig.	.000

**Table 3.2 Rotated Component Matrix(a)**

	Component		
	1	2	3
I find e-banking services are time saving	<b>.770</b>	.436	.167
Most of the times the e-banking services suite my needs	.325	.355	<b>.597</b>
I find that e-banking services provide wide range of options for purchases	-.019	.453	<b>.617</b>
I find that e-banking services are user friendly	<b>.745</b>	.187	.187
I feel that e-banking services provide more customized products	.053	.135	<b>.866</b>
Payments and purchases made through e-banking services are more secure	.262	<b>.737</b>	.150
I find e-banking services free from personal biases	.324	<b>.769</b>	.206
I find products purchased through e-banking services genuine and authentic	-.004	<b>.467</b>	.418
I find that e-banking services provide value for money products	.152	.125	<b>.805</b>
I feel comfortable while making purchases using an e service	<b>.774</b>	.115	.093
I find e-banking services to be an easy way of making payments	<b>.808</b>	.407	.050
E-banking services are easily accessible	<b>.898</b>	.084	-.045
I find it more comfortable while doing transactions through e-banking services	<b>.707</b>	.566	.015
I find that e-banking services provide more flexibility in payments	<b>.733</b>	.130	.149
I find that e-banking services handle complaints/suggestions in an effective way.	<b>.738</b>	.402	.166

**Extraction Method: Principal Component Analysis.**  
**Rotation Method: Varimax with Kaiser Normalization.**  
**a Rotation converged in 5 iterations**



**Table 4.1 E-banking service substitute for physical service and factors impacting Standardized Canonical Discriminant Function Coefficients**

	Function
	1
e-banking services a convenient mode of transaction	.936
e-banking services a secured mode of transaction	-.377
e-banking services provide customized offerings	.297

**Table 4.2 Structure Matrix**

	Function
	1
e-banking services a convenient mode of transaction	.890
e-banking services provide customized offerings	.430
e-banking services a secured mode of transaction	-.107

Pooled within-groups correlations between discriminating variables & standardized canonical discriminant functions Variables ordered by absolute size of correlation within function.

**Table 4.3 Frequency**

**Table 4.3.1 E-banking services a convenient mode of transaction**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid totally disagree	1	.2	.2	.2
Disagree	10	2.4	2.4	2.7
somewhat agree	107	26.1	26.1	28.8
Agree	270	65.9	65.9	94.6
totally agree	22	5.4	5.4	100.0
Total	410	100.0	100.0	

**Table4.3.2 E-banking services a secured mode of transaction**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	.5	.5	.5
	somewhat agree	192	46.8	49.5	50
	Agree	203	49.5	46.8	96.8
	totally agree	13	3.2	3.2	100.0
	Total	410	100.0	100.0	

**Table4.3.3 E-banking services provide customized offerings**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	.5	.5	.5
	somewhat agree	285	69.5	41.0	41.5
	Agree	123	30.0	58.5	100.0
	Total	410	100.0	100.0	

**Table4.3.4 E-banking services affecting repurchase decisions**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	295	72.0	72.0	72.0
	No	115	28.0	28.0	100.0
	Total	410	100.0	100.0	

**Table4.3.5 Recommending about e-banking services**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	275	67.1	67.1	67.1
No	135	32.9	32.9	100.0
Total	410	100.0	100.0	

**Table4.3.6 Type of e-banking services**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Purchases	174	42.4	42.4	42.4
Payments	9	2.2	2.2	44.6
fund transfer	227	55.4	55.4	100.0
Total	410	100.0	100.0	

**Table5.1 Variable affecting recommendation Ranks**

	Mean Rank
if yes then why-time saving	8.88
if yes then why-trust and confidence	1.43
if yes then why-security	2.57
if yes then why-reliability	4.12
if yes then why-value for money	6.20
if yes then why-wide range of options	8.39
if yes then why-transparency	2.83
if yes then why-accessibility	8.49
if yes then why-comfort	7.12
if yes then why-free from biases	4.97

**Note: In this case on a scale of 10, 10 shows maximum preference**

**Table 5.2 Test Statistics (a)**

N	361
Chi-Square	2610.814
Df	9
Asymp. Sig.	.000

a Friedman Test

**Table 6.1 Customers doing high amount transactions  
Making high amount transactions and expensive purchases through e-banking services**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	73	17.8	17.8	17.8
No	337	82.2	82.2	100.0
Total	410	100.0	100.0	

**Table 6.2 Variable affecting high amount transactions**

	Mean Rank
if no then why-reliability	2.29
if no then why-trust and confidence	1.28
if no then why-security	2.83
if no then why-high level of involvement	3.60

**Table 6.3 Test Statistics(a)**

N	72
Chi-Square	123.217
Df	3
Asymp. Sig.	.000

a Friedman Test

## **FINDINGS**

1. Gender does not affect the “frequency of usage of e-banking services”.
2. Highest usage: Age effect the usage of e-banking services in the following order:
  1. 20-30 years (Highest usage)
  2. <20 years
  3. 31-40 years
  4. 41-55 years
  5. >55 years (Lowest usage)
3. Factors identified were:
  1. Convenience
  2. Security
  3. Customisation
4. E-banking services are a good substitute of physical services and variables having most impact are:
  - Convenience
  - Customization
  - Security
5. 72% agree that e-banking services affect their repurchase decisions.
6. Customers use e-banking services more for making fund transfer than making payments and purchases.
7. About 67% respondents agree that they will recommend e-banking services. Recommendations are made on the basis of:
  - Time saving
  - Accessibility
  - Wide range of options
  - Comfort
  - Value for money
  - Free from Bias
  - Reliability
  - Transparency
  - Security
  - Trust and Confidence

**8. Customers refrain from doing high amount transactions (82.2%). Reasons:**

- Lack of trust and confidence
- Lack of Reliability
- Lack of Security
- High level of involvement

**DATA ANALYSIS**

- The reliability of the data came out to be more than 80%. It means that the data was consistent and the responses were reliable enough to draw the conclusions about the population.
- First part was directed towards finding the effect of gender over the usage of e-banking services. Kruskal Wallis test was applied over the sample along age variables and frequency of usage. The result shows that gender does not have any impact over usage. However the difference lies along the age groups across both genders, with the maximum usage lying in the age group of 20-30.
- Second part was directed towards finding the factors impacting the perception of customer's towards e-banking services. On applying factor analysis over the variables measured over likert scale, we came across 3 factors having most impact over the perception.
- Third part aimed at understanding that whether customers perceive e-banking services as a substitute of physical services. On applying discriminant analysis over the 3 factors which acted as predictors, it was found that time saving was the most important factor followed with customization and security.
- Fourth part measured the number of frequency across these three factors. The agreeableness of respondents towards the factors was analyzed by applying frequency tests which gave a result that people giving a clear majority over convenience and customization and, a dilemma situation over security aspects.
- Fifth part measured the frequency of respondents feeling that their repurchase decisions being affected by e-banking services and applying frequency test we got the result that indeed the repurchase decisions were impacted by e-banking services.
- Sixth part measured the frequency of respondents who will recommend about e-banking service to their friends and relatives. Frequency tests gave a majority along this dimension. The factors affecting the recommendation process were measured using Friedman test. The test provided with the hierarchy of variables impacting the recommendation with time saving and accessibility being the most important and, security and trust being least important.

· Seventh part measured the frequency of respondents who wanted to go for higher value transactions using e-banking services. The frequency tests gave a clear verdict against telling that the respondents still refrain from going online for high value transactions. The reasons were analyzed across variables and tested by Friedman test. The test provided with the hierarchy of variables leading to this feeling. Lack of trust topped the list with level of involvement being the last.

## CONCLUSION

In order to gain an insight into consumer perception towards e-banking services, Factor Analysis was first applied. The **factor analysis** results club customer's characteristics into three important categories these are convenience, customization and security. The Rotated Component Matrix reveals three factors (which represent the three broad perceptual dimensions about e-banking services) derived from variables (which represent the perception of customers towards e-banking services).

**Factor 1** incorporates the variables- time saving ,comfortable while purchasing, easy way of making payment, more comfort while transaction, handling of complains/suggestions, peace of mind while transaction, more fitting to lifestyle, user friendly, easily accessible, more flexible in making payment.

**Factor 2** has variables- more secure transaction, free from personal bias, genuine and authentic, never face problem while transaction.

**Factor 3** has variables- suits customer's needs, wide range of options, value for money services, better discounts and offers, more customized offering, providing more information.

After analysis it came into light that people today still fear to use e-banking services because they believe that e-banking services still lack security. Respondent above 30 yrs are unlikely to use e-banking services because at their time technology was so developed.

Customers refrain from doing high amount transaction due to lack of reliability and security.

## RECOMMENDATIONS

1. After analysis it came into light that banks should concentrate on security aspects of e-banking services. Securities in e-banking services are highly considerable while making payments, so companies should provide multilevel securities system at the time of making payments.

2. In India the penetration of computer literacy is very low so banks can provide computer/internet education to people for better penetration of online services in India.

3. Government should take certain initiatives for better foray of online services like

computer education in government schools has to be compulsory.

### **LIMITATION OF THE STUDY**

The study was conducted in Bareilly so it is difficult to generalize its findings. Also, the small sample size of 410 acted as a limitation. Probably a larger sample size would have captured the perceptions more correctly.

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