

An Empirical Study on Role of ICT in Banking Sector

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Abstract

Information and communication technology are radically changing the way of business. These changes and development resulted in new delivery of channels for banking products and services such as Automated Teller Machines (ATMs), Telephone Banking, PC-Banking, and Electronic Funds Transfer at Point of Sale (EFTPoS). Many banks are making huge investments in technology to maintain and develop their infrastructure, they not only to provide new electronic information-based services, but also to manage their risk positions and pricing. Over time, usage of Internet has been increased in banks. Their main concern has been to serve clients more conveniently, and in the process increase profits and competitiveness. ICT has been used extensively in banking. Banks have recognized the ICT as representing an opportunity to increase profits and their competitiveness. The study shows how people can make use of ICT in banking. 200 Chennai respondents were taken as sample and the data was analysed and drawn meaningful inferences with the help of various tools such as simple percentage analysis, factor analysis and chi square. The study provides various suggestions for the banks to improve the effective utilisation of ICT in banking.

Key words: ICT, Awareness, Banking, Customers, Internet

Introduction

During the past decade, the ICT rapidly increases communication source in banking industry. There are various forms of Information and communication technological innovations and electronic delivery channels which are adopted by banks. ICT innovations have been identified to contribute to the effective distribution channels of Banks. The electronic delivery channels are collectively referred to as Electronic Banking. ICT on banking is really not one technology, but an attempt to merge several different technologies. Each of these evolved in different ways, but in recent years different groups and industries have recognized the importance of ICT usage working together. Bankers now see a kind of evolution in their business, partly, because the world has taken a quantum leap in the use of ICT in the past several years. New electronic services adopted by banks such as online retail banking are making it possible for very small institutions to take advantage of new technologies at quite reasonable costs. These developments may ultimately change the competitive landscape in the financial services.

Use of ICT in Banking

ICT is a network of networks. It is not a single network,

but a global interconnected network providing free exchange of information. It implies the most pragmatic use of information technology as medium of universal communication. It has brought unprecedented changes in society. Spanning the entire globe, the net has redefined the methods of communication, work, study, education, interaction, entertainment, health, trade and commerce. The versatile facilities and opportunities provided by the ICT led to the development of electronic commerce. This became possible when the ICT transformed from the ordinal system providing static web pages, into interactive two-way system such as **E-Commerce, E-Banking & Corporate Internet Banking(CIB)**.

Literature Review

Sharma, Surinder; Singh, Ramandeep(Nov 2011) Internet is significant for redefining and reshaping the various concepts in all spheres of life. To acquire ease, swiftness and downsizing, ICT banking has a forceful edge over the competitors, homogenize qualitative services, swell market share, and on the whole, to get better eminence, ICT has become an appropriate pedestal for banking sector. ICT is helpful to the banking regulatory authorities, customers and the researchers in the area for the qualitative expansion of Internet banking in India. **Solanki, Virender Singh(2011)** Internet banking is one of

the latest technological wonders in the recent past involving use of ICT for delivery of banking products & services. ICT banking is changing the banking industry and is having the major effects on banking relationships. Banking is now no longer confined to the branches where one has to approach the branch in person.

Yousafzai, shumaila (2012), suggests that ICT Banking adoption is a complex and multifaceted process and a joint consideration of customers' personal, social, psychological, utilitarian and behavioural aspects is more important than adoption itself and will ultimately result in the intended behaviour.

Moghadam, Baytollah Akbari; Behboudi, Mehdi; Jafari, Farzaneh(Dec 2012) in their research say that customers are encouraged to utilize ICT banking as first priority. Increasing the customer's arousal by ICT advertisements to use ICT banking creates a positive attitude toward bank's brand, which in-turn is the key factors in ICT banking effectiveness.

Jahangir, Nadim; Parvez, Noorjahan(Dec 2012) research states that ICT banking needs, compatibility, convenience, and communication on customer adaptation. In the context of private commercial banks in order to attract more users to ICT banking, it is not going to be enough only to introduce an ICT banking system, but they need to develop the belief of usefulness of the system among their users. The importance of ICT banking needs and the ease of using it should be acknowledged by demonstration on trial basis.

Munusamy, Jayaraman; De Run, Ernest Cyril; Chelliah, Shankar; Annamalah, Sanmugam(Dec 2012) in their research found that younger consumers are more likely to adopt ICT banking. The study states that consumers in the age group below 25 years old are the major contributor to ICT banking.

Kesharwani, Ankit; Bisht, Shailendra Singh(2012) stated in their study that the main purpose was to extend the technology acceptance model (TAM) in the context of ICT banking adoption in India under security and privacy threat. The researchers have incorporated various inhibitors of ICT banking which restrict the use of ICT banking adoption under "perceived risk", and also consider the role of the bank web site as a key determinant of perceived risk and of perceived ease of use in the context of ICT banking services. The paper reveals that perceived risk has a negative impact on behavioral intention of ICT banking adoption and trust has a negative impact on perceived risk. A well-designed web site was also found to be helpful in facilitating easier use and also minimizing perceived risk concerns regarding ICT banking usage.

Al-Weshah, Ghazi A (2013) identified the challenges of using e-banking in different aspects of continuous improvement. The study concluded that in the use of ICT banking, process development is the most important area of continuous improvement.

Yee Yen Yuen(Sep 2013) conducted a study to help banks mitigate the key cause of profit reduction in ICT banking

industry which is an insufficient understanding of customer behavior and preference by recommending effective strategies to help banks retain existing ICT banking customers.

Onay, Ceylan; Ozsoz, Emre (Oct 2013) states that ICT banking adoption has a positive impact on the level of profits, deposits and loans per branch. As operational activities are now provided via ICT branches, ICT banking facilitates banking activities in branches that require more human input. They also find that ICT banking adoption has a negative impact on bank profitability.

Patsiotis, Athanasios G; Webber, Don J; Hughes, Tim (Dec 2013) found that personal capacity is an important determinant of ICT banking. Use of it in a standard, non-sequential approach has no significant effect when the model is sequential. Results suggest that policymakers should emphasize useful attributes of ICT banking when attempting to increase its usage by people who already use the ICT.

Objective of the study

1. To examine the awareness of ICT banking among customers.
2. To analyze the usage of ICT in banking.
3. To identify the benefits of ICT in banking.
4. To suggest measures for effective utilization of ICT banking.

Research Methodology

This research is about usage of ICT in banking sector and how the people make use of its products and services. To find the factors that influences people to use Internet banking effectively.

Research design

This study is comprised of Descriptive research design.

Sampling techniques

Purposive quota sampling has been derived from non-probability sampling method to select people who have bank accounts in Chennai city.

Sample size & Data collection

200 samples are chosen from the total population of Chennai city, for the study and the data is collected through a Structured Questionnaire.

Tools and Techniques

- Percentage Analysis
- Chi Square test
- Factor analysis

Composition

The sample constituted about 47% of male and 53% are female. 48 % of the respondents are within the age group of 21-30. About 31% of the respondents are post graduates.

Table 1

Account Type	No. Of Respondents	% Of Respondents
Savings	168	84.0
Current	4	2.0
Salary	26	13.0
FD	2	1.0
Total	200	100.0

Table 2

Occupation	No. Of Respondents	% Of Respondents
Student	75	37.5
Public	10	5.0
Business	9	4.5
Professional	69	34.5
IT	10	5.0
Retired	12	6.0
Others	15	7.5
Total	200	100.0

Table 1 reveals that 84% of the respondents have a savings account and Table 2 states 37% of the respondents were students.

Data Analysis and Interpretation

Awareness of ICT banking

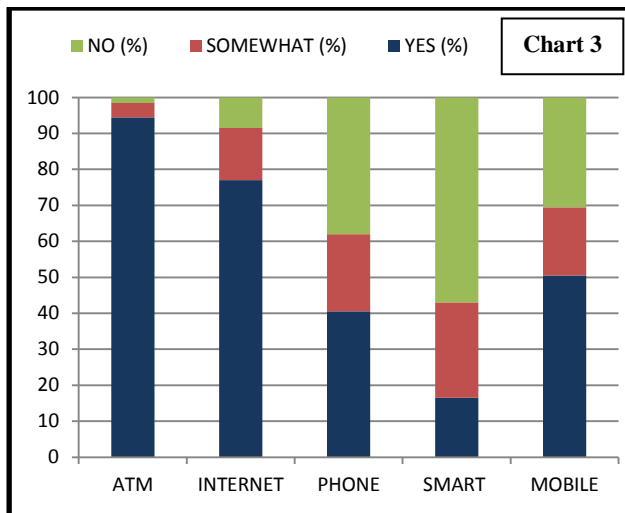
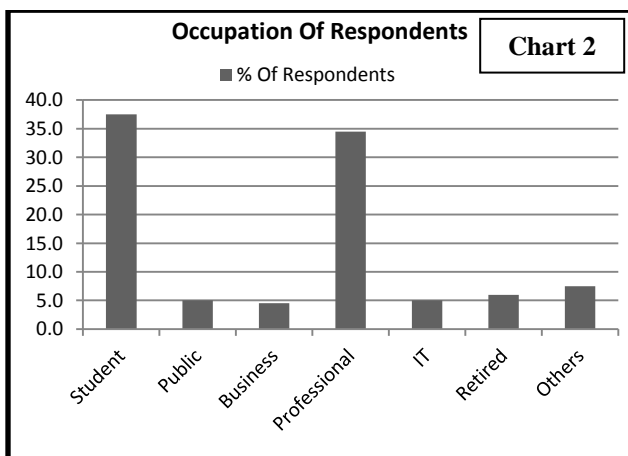
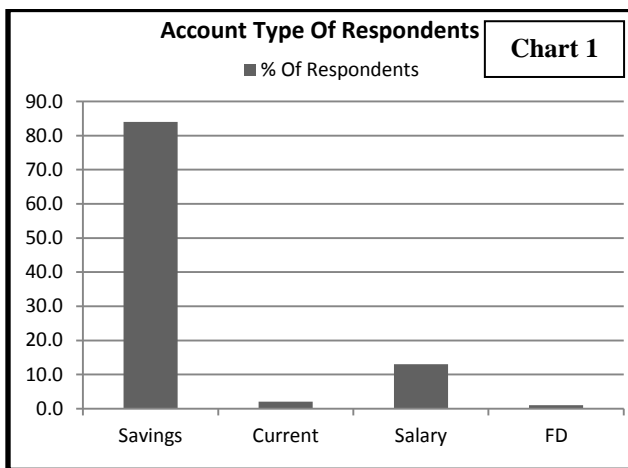


Chart 3 infers that about 77 % of the respondents are aware of ICT banking. It should be noted that still 8.5% of the respondents are not aware of ICT Banking.



Benefits of ICT banking

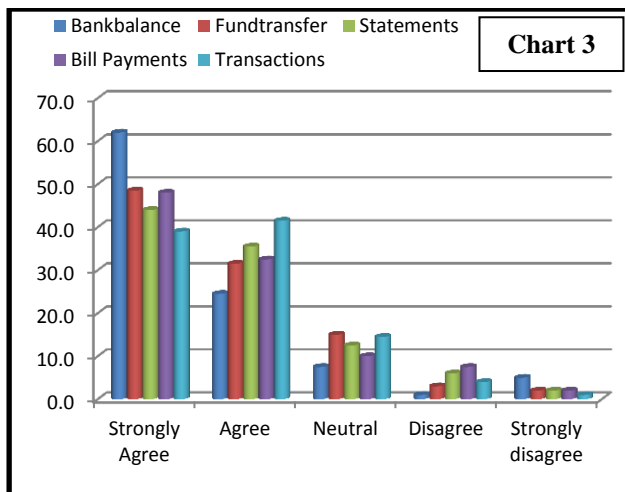


Chart 4 infers that respondents are mostly benefited with the use of ICT Banking. About 62 % of the respondents strongly agree that ICT banking is useful to check bank balance; about 48 % say that it's useful for fund transfer. About 35.5 % of the respondents agree that ICT banking is useful to check bank statements and chart clearly reveals that ICT banking is of great use in an effective way.

From table 3 it can be inferred that about 61 % prefer online banking for cash transactions and about 58.5 % of the respondents have used ICT in the last 12 months.

The following hypotheses were tested using chi-square analysis:

Table – 3 Preference for ICT Banking

	PREFERENCE on MODE OF BANKING				USAGE OF SERVICE IN LAST 12 months			
	Online banking	Phone banking	Mobile banking	Direct banking	Atm	ICT	Phone	mobile
YES (%)	61	11.5	8.5	72.5	94	58.5	20	20
SOMEWHAT (%)	7.5	17.5	15	11.5	4	11	16.5	14.5
NO (%)	31.5	71	76.5	16	2	30.5	63.5	65.5

H₀₁: Usage of ICT banking for fund transfer does not depend on Age of customers.

Table 4

	Calculated Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	126.843 ^a	16	0.00

From the above table it is inferred that $p < 0.05$ hence there is a strong evidence to reject the null hypothesis. Therefore the usage of ICT banking for fund transfer depends on age of the customers.

H₀₂: Usage of ICT banking for bill payments does not depend on the income of customers.

Table 5

	Calculated Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.055 ^a	18	.099

From the above table it is inferred that $p < 0.05$ hence there is a strong evidence to accept the null hypothesis. Therefore the usage of ICT banking for bill payments does not depend on the income of the customers.

H₀₃: Considering ICT banking as safe & secure does not depend on the occupation of customers.

Table 6

	Calculated Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	101.848 ^a	18	0.00

From the above table it is inferred that $p < 0.05$ hence there is a strong evidence to reject the null hypothesis. Therefore considering ICT banking as safe & secure does not depend on the occupation of customers.

Factor Analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.764	
Bartlett's Test of Sphericity	Approx. Chi-Square	676.169
	df	78
	Sig.	0

The KMO index ranges from 0 to 1.0, reaching 1.0 when each variable is perfectly predicted without error by other variables (Hair et al., 2010). With a KMO value of 0.764, the data falls into the excellent factor analysis range.

The Bartlett’s test is also significant at highest level, indicating suitability for factor analysis.

The various factors that attract a customer towards ICT banking were analyzed with the help of factor analysis. The several factors which influence a customer towards ICT banking are grouped into 4 factors such as Convenience, Confidence, Safe, and Easy.

Findings

- 47% of the respondents are male and 52% of the respondents are female.
- 48 % of the respondents are within the age group of 21-30.
- 37% of the respondents were students and about 34% were professionals.
- 84% of the respondents have their bank account as Savings account.
- 77 % of the respondents are aware of ICT banking
- 62 % of the respondents strongly agree that ICT banking is useful to check bank balance
- 35.5 % of the respondents agree that ICT banking is useful to check bank statements
- 61 % prefer online banking for cash transactions and about 58.5 % of the respondents have used ICT in the last 12 months.
- The usage of ICT banking for fund transfer depends on age of the customers.
- The usage of ICT banking for bill payments does not depend on the income of the customers.
- Considering ICT banking as safe & secure does not depend on the occupation of customers.

Table – 7 Factors Influencing customer towards technology

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Convenience	3.875	29.81	29.81	3.875	29.81	29.81	2.983	22.943	22.943
Confident	1.772	13.631	43.441	1.772	13.631	43.441	1.943	14.943	37.886
Safe	1.191	9.16	52.601	1.191	9.16	52.601	1.794	13.799	51.684
Easy	1.002	7.708	60.309	1.002	7.708	60.309	1.121	8.625	60.309

Suggestions

Measures to improve effective utilization of ICT banking

- ICT banking is widely used by people who know to access ICT. Banks can take effective measures in providing guidelines to access ICT for banking.
- People have a threat in their minds about the safety of using ICT. Some people don't prefer ICT for cash transactions for the same. Banks can take necessary actions to guide people in securing banking activities.
- Since there is not much awareness in semi-urban areas about online banking, banks can offer special training programs to enhance their banking services through ICT.
- Most people don't prefer ICT as it's not their cup of tea. Banks can take steps to provide easy access so that customer's comfort zone is sustained.

Conclusion

ICT banking is a multifaceted process and a joint consideration of customer's personal, social, psychological, and behavioral aspects. This research reveals that most of the customers are into ICT Banking for various services like checking account status, bill payments, fund transfer, etc., but still they think twice to do it because of safety. It was also noted that ICT banking is known for its convenience and easy access. The major success of ICT is because of its convenience, easy access and safety. There ample benefits which one can avail from Internet banking. In the world of networks, it is said to be that without ICT business cannot prevail. Thus, the future lies in the hands of ICT which are most welcomed by the consumers.

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