

## **Employee Adaptation of Technological Changes in Banking Sector in Tamilnadu**

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### **Abstract**

The technology explosion has brought a paradigm change In the banking industry from branch banking to core banking to digital banking. Banks have been applying it to a wide array of back and front end tasks to improve the quality of Banking services. However, this may not lead to improved results unless employees referred to as internal customers are also motivated and energized to deliver superior services to bank customers. It has been hypothesized that technology will increase bank employees' productivity due to single-point data entry, automatic printing of statements, and accurate computation of balance and interest calculations. Thus, it will save time and improve productivity. Other demographic variables such as gender, age, qualification, and income play a positive role in adapting banking technology by the employees. The paper also shows that banking technology helps increase customer satisfaction, customer loyalty, improvised growth and performance of banks.

**Keywords:** *Employee adaptation, technology, ATM, internet, mobile banking.*

### **Introduction**

The banking industry is going through a phase of metamorphosis. It is the backbone for the economic development of a nation. It consists of 12 public sector Banks, 21 private sector banks, 49 foreign Banks, 56 Regional Rural Banks, 1562 Urban co-operative Banks and 94384 Rural co-operative Banks. The main driver of transformation has been the fast adoption of information, communication, and technology-based system in the Banks. However, to grab a more significant piece of the cake, the banking industry has to understand

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the customer's unstated needs and understand the likes/dislikes of the customers, with/without even taking direct feedback from the customer.

Every day, new devices/technologies are providing various customer touch points. Every time customers touch computers or screens, they provide an information trail. It is banks' responsibility to understand how they use this trail to move their bottom line upwards.

### **Literature Review**

Employees are the internal customers and essential resource for banks. It has been established that employee adaptation of technology in the banking sector is necessary and vital for improving service performance (Kelley, 1992; Reyierse and Hasker, 1992). For example, define the service profit chain as involving the direct and robust relationship between profit; growth; customer loyalty; customer stratification; the value of goods and services delivered to customers; and employee capability satisfaction, loyalty and productivity. Mobarek (2007), in his study in the Botswana region, pointed out that the delivery channels are lacking in meeting the demands of customers by not making them aware of e-banking and up-to-date technology by the bank employees. Several competitive advantages are associated with the adaptation of technology in the banking sector, including the creation of entry barriers, enhancement of productivity, and increased revenue generation from new services (Fitzsimmons and Fitzsimmons, 1997). Roboff and Charles (1998) found that employees have a weak understanding of online banking security risks, although they know the risks. Furthermore, they found that consumers often trust that their banks are more concerned about privacy issues and protect them. Finally, they argue that although consumers' confidence in their bank is strong, their confidence in technology is weak. HR fosters employee adaptation in the banking sector (Ostroff and Bowen (2000)). They asserted that the organization influences employee adaptation of technology in the banking sector.

### **Statement of the Problem**

Bankers have to adapt themselves to the technological developments that have taken place in the Banking sector due to automation and advancement in information and technology and update their knowledge to keep pace with the changed circumstances. But lack of enthusiasm and interest and technical expertise among the staff members, fear of losing their job and the possibility of a slowdown in recruitment, meagre branch expansion, and decline in bank jobs caused by automation has caused a phobia in the minds of the employees of the banking sector and as such adaptation to the technological changes have not taken place to the desired extent. Citigroup has forecast that nearly a third of the jobs in the banking industry could be

lost in the decade between 2015 and 2025. Further Information Technology solutions have paved the way for many cybercrimes such as Hacking, phishing, spam scams, spoofing, internet pharming, credit card fraud, encryption which has resulted in huge loss to the banking industry and it constitutes 130000 cases amounting to Rs.700 crores during 2008-17. Hence employee adaptation of technology has become the need of the hour.

**Main Objectives of this Study are:**

- To study the impact of employees adaptation on productivity, and organization culture in public and private sector banks in Tamilnadu.
- To suggest strategies to improve employee adoption in public and private sector banks in Tamilnadu.
- To Know the technological changes taken place in the Banking Sector.
- To know the reason for lack of employee adoptability of the technological changes in the banking sector.
- To find solution to the above problem taking into consideration the advantages, convenience and comforts it is providing to the customers, employees and Bank's in terms of business and profit.

**The hypotheses of this study are as under:**

H1. The adoption levels of technology-enabled banking self-services by bank customers vary with the type of bank group (foreign, private or public sectors) they deal with.

H2. The adoption levels of the technology-enabled banking self-services by bank customers vary significantly with the variation in their demographic factors such as gender (H2a), age (H2b), income (H2c) and occupation (H2d).

H3. The adoption levels of technology-enabled banking self-services by bank customers are related to their *self efficacy* in using them.

H4. The adoption levels of technology-enabled banking self-services by bank customers are related to their perception of *relative advantage* in using them.

H5. The adoption levels of technology-enabled banking self-services by bank customers are related to their *perception of risk* in using them.

H8. There is no significant difference between male and female towards the job characteristics for predicting the employee adoption in banks”.

**Research Methodology**

The aim of the study is to explore the factors that influence banks staff attitude towards the adaptation of technology in Indian banks, hence qualitative data through semi-structured interviews was gathered since it is considered to be the best method for qualitative data collection as it involves an interaction between the interviewer and the interviewee for which the purpose is to obtain valid information.

### **Sampling Technique**

The unit of sampling element was the bank employees of selected private and public sector banks who are working in totally automated environment in chosen geographical location. “For accumulating data from respondents’ judgment sampling approach is used. Within this technique the responses are gathered from only those respondents who are capable of understanding the requirement of the research and can offer their response for the research study on equitable basis without any bias and prejudice and with adequate knowledgeable about the adoption of technology by employees in banks”.

For the purpose of this study, stratified random sampling has also been also adopted.

### **Sample Size**

“For the purpose of data collection total, 200 questionnaires have been distributed amongst the private and public sector banks of Tamilnadu. List of the selected banks have been given below”.

<b>S. No</b>	<b>Name of Bank</b>	<b>Questionnaire received</b>
<b>1</b>	<b>ICICI</b>	<b>45</b>
<b>2</b>	<b>HDFC</b>	<b>38</b>
<b>3</b>	<b>Union Bank of India</b>	<b>22</b>
<b>4</b>	<b>IOB</b>	<b>24</b>

### **Primary Data**

Primary data is essentially untouched/unpublished data and they could be understood as the information collected from sources such as personal interviews, questionnaires or surveys with a specific intention and on a specific subject, and observation and discussion.

- Raw facts and data sheets from the private bank’s database.
- By directly contacting private and public sector bank employees.
- Enquiring participants from different banks to capture comprehensive information regarding employee adoption.
- Structured questionnaire used to obtain data on factors which affects the engagement of employee from the selected banks.

## Secondary Data

Secondary data is the data which have been already developed by and can readily be found from other sources. Such data are cheaper and more quickly obtainable than the primary data and also may be available when primary data cannot be obtained at all. “Secondary data is that data which is collected through the data that are presently published sources like reports, websites, research papers, books etc. Major sources of these kinds of data are records of banks that are their log files which are computerized and digitized.

“For collecting secondary data the researcher has visited selected banks of Tamilnadu namely HDFC Bank, ICICI Bank, Union Bank of India Bank, IOB Bank, the four leading Indian banks. The usage of the internet was also of great assistance to the researcher as various major search engines namely, ask.com, google.com, yahoo.com, exp.com, respond.com, altavista.com, and others were visited for this research. Internet websites like bnet.com and ssrn.com also proved very helpful where a researcher found a good repository of worldwide research papers. A large amount of matters gathered from various internet websites was sorted out and scrutinized as significant for the study.

## Questionnaire Development for Data Collection from Bank Employees

The questionnaire consists of four sections. Section 1: Demographic profile of the Respondents, Section 2: Employment profile of the Respondents, Section 3: Employee’s opinion about awareness of customers towards banking services, Section 4: It was developed based on five parameters Relative advantage, Complexity, Strategic advantage by decision making process and Innovation and development to ascertain the adaptation of the technology employees. 180 copies of questionnaires were distributed among (Executive, Manager, Officer) of different branches of each bank out of which the following number of questionnaire returned back with full information.

### Section-1: Demographic Profile of the Respondents

An attempt is made to study the adaptation of technology by bank employee in selected private and public sector banks. The table given below shows the demographic profile of respondents.

*Table 1.*

Demographic Profile of the Respondents

Demographic Variables	Categories	ICICI	HDFC	UNION BANK OF INDIA	IOB
Sex	Male	33(73)	30(79)	17(77)	16(73)
	Female	12(27)	8(21)	5(23)	6(27)

Age	18 Yrs – 25 Yrs	22(49)	7(18)	11(50)	8(36)
	25 Yrs – 36 yrs	19(42)	23(61)	7(32)	9(41)
	36 Yrs – 50 Yrs	2(4)	5(13)	2(9)	3(14)
	50 Yrs+	2(4)	3(8)	2(9)	2(9)

(Figures in Brackets denotes % to column total, Source: Primary date- questionnaire)

**Findings:** The Table 1 shows that sex as a personal variable affects employee's technology adoption. In the above table, 73% of male and 27% female respondents uses ICICI banking services, 79% of male and 21% of female respondents uses HDFC bank, 77 % of male and 23 % of female respondents uses UNION BANK OF INDIA bank while 73% of male and 27% of female respondents uses IOB Bank. The survey reveals that the number of male employees who adopt technology is more than female employees. The result reveals that there are a number of job opportunities for age group of 25-36 years in private sector banks.

## Section 2: Employment profile of the Respondents

The table given below shows the employment profile of the respondents:

Table 2.

Employment Profile of the Respondents

Employment Variables	Categories	ICICI	HDFC	UNION BANK OF INDIA	IOB
Designation	Executives	16(36)	14(37)	9(41)	10(45)
	Manager	8(18)	9(24)	6(21)	5(23)
	Officer	21(47)	15(39)	7(32)	7(32)
Experience	<5 Yrs	22(19)	7(18)	11(50)	8(36)
	5Yrs – 10 Yrs	19(42)	23(61)	7(32)	9(41)
	10Yrs-15 Yrs	2(4)	5(13)	2(9)	3(14)
	>15Yrs	2(4)	3(8)	2(9)	2(9)
Qualification	Diplomo	4(9)	2(5)	2(9)	1(5)
	Bachelor	8(18)	4(11)	5(23)	3(14)
	Degree	9(20)	6(16)	3(14)	6(27)
	PG Diploma	8(18)	8(21)	5(23)	5(23)
	PG (Professional Degree)	16(36)	18(47)	7(32)	7(32)
Timing of Induction Training Program	0-10 Hour	13(29)	18(47)	3(14)	3(14)
	11-20 Hour	4(9)	5(13)	5(23)	4(18)
	21-40 Hour	10(22)	7(18)	8(36)	5(23)
	41Hr &More	18(40)	8(21)	6(27)	10(45)
Computer and Internet Training Program	0-10 Hour	21(47)	23(61)	3(14)	2(9)
	11-20 Hour	3(7)	4(11)	3(14)	5(23)
	21-40 Hour	8(18)	4(11)	7(32)	7(32)
Estimated work by computer daily	41Hr &More	13(29)	7(18)	9(41)	8(36)
	0-2 Hour	6(13)	22(58)	2(9)	4(18)
	2-5 Hour	6(13)	6(16)	5(23)	4(18)
	5-9 Hour	14(31)	6(16)	5(23)	6(27)

9Hr &More	19(42)	4(11)	10(45)	8(36)
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(Figures in Brackets denotes % to column total, Source: Primary Data – Questionnaire)

**Findings:** The Table 2 shows that designation is the factor that determines the job position of the employee in the organization. Most of ICICI, HDFC, UNION BANK OF INDIA & IOB banks respondents belong to the age group of 25-36 years. The result reveals that the popularity for banking jobs is between age groups of 25-36 years in selected public and private sector banks. Experience is the factor that determines skill and knowledge of the employees. In ICICI, HDFC, UNION BANK OF INDIA & IOB banks most of the respondents belong to the category between 5-10 years and <5 years. The result reveals that several the talent pools are increasing in different operational areas of banks. Qualification is the factor that fulfills the conditions of being qualified. Different banks check the basic qualification required to appear for the entrance test being conducted to fulfill their vacancies. Most of educational qualification demanded by banks is post graduation that includes M.Com, M.B.A., ICWAI and others. 47% employee of HDFC, 36% of ICICI and 32% of UNION BANK OF INDIA and IOB employees are postgraduate. Induction training program is organized by the banks for new recruits to help them do their job better and quicker, adjust or acclimatize quickly and effectively in their new working environment. 47% of employees prefer 0-10 hours of induction program in HDFC, 40% of employees of ICICI, 45% of IOB employees, 27% of UNION BANK OF INDIA employees and 21% of HDFC employees prefer more than 41 hours of induction program.

Computer and internet training program becomes compulsory for an organization to meet the increasing needs of the customer data protection and to meet daily task. The computer is a compulsory paper for the clerks and probationary officer. 41% employees of UNION BANK OF INDIA bank, 36 % employees of IOB bank, 29% employees of ICICI bank and 18% employees of HDFC bank have attended more than 41 hours of training program.

Working on the computer makes the task easier, save time and provide accuracy.

It improves organizational productivity and efficiency. The study found that most of respondents are using computers more than 9 hours in their daily task.

### Section 3: Employee’s Opinion about Awareness of Customers towards Banking Services

Table 3.1.

Awareness of Customer about IT Enabled Banking Services (ICICI Bank)

Services	0-20	21-40	41-60	61-80	81-100	Weighted Score	Percentage
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	(1)	(2)	(3)	(4)	(5)		
ATM Banking	3	4	5	15	18	176	78
Branch Banking	4	5	9	13	14	163	72
Internet Banking	2	9	16	12	6	146	65
Mobile Banking	4	4	15	13	9	154	68

Table 3.2.

## Awareness of Customer about IT Enabled Banking Services (HDFC Bank)

Services	0-20 (1)	21-40 (2)	41-60 (3)	61-80 (4)	81-100 (5)	Weighted Score	Percentage
ATM Banking	2	4	7	11	14	145	76
Branch Banking	2	3	6	11	16	150	79
Internet Banking	6	1	6	7	18	144	76
Mobile / Tele Banking	7	2	2	16	11	136	72.5

Table 3.3.

## Awareness of Customer about IT Enabled Banking Services (UNION BANK OF INDIA Bank)

Services	0-20 (1)	21-40 (2)	41-60 (3)	61-80 (4)	81-100 (5)	Weighted Score	Percentage
ATM Banking	2	1	3	5	11	88	80
Branch Banking	2	3	3	6	8	81	74
Internet Banking	2	3	3	6	8	81	74
Mobile / Tele Banking	1	2	4	6	9	86	78

Table 3.4.

## Awareness of Customer about IT Enabled Banking Services (IOB Bank)

Services	0-20 (1)	21-40 (2)	41-60 (3)	61-80 (4)	81-100 (5)	Weighted Score	Percentage
ATM Banking	2	3	4	4	9	81	74
Branch Banking	2	3	3	5	9	82	75
Internet Banking	2	2	5	6	7	80	73
Mobile / Tele Banking	1	3	7	5	6	78	71

(Here: 1 Means Very Weak. 2 means Moderately Weak, 3 means neither Strong nor Weak, 4 means Moderately Strong, 5 means Very Strong)

Table 3.5.

## Composite Table of the Awareness of Select Public and Private Bank Customers towards IT Enabled Banking Services

Services	ICICI	HDFC	UNION BANK OF INDIA	IOB
ATM Banking	78,222	76,316	80,000	73,636



Branch Banking	72,444	78,947	73,636	74,545
Internet Banking	64,889	75,789	73,636	72,727
Mobile / Tele Banking	68,444	71,579	78,182	70,909

Figures denotes % to column (Source: Primary data- Questionnaire)

**Findings:** Customer awareness is an important part of an overall information security education program; consumer awareness programs create more informal buying decisions. According to employees opinion maximum customers are using ATMs as direct banking channel. The table 3.5 shows that 78.94% of customers are using branch banking, 75.77% of customers are using Internet banking and 78.18% of customers are using mobile/tele banking facilities provided by different private banks. The study shows the increasing popularity of Internet banking and mobile banking besides ATMs and branch banking between customers.

**Section 4: Factors responsible for adoption of banking technology by Bank Employees**

**Relative Advantages in Adopting New Technologies**

Relative advantage is an important factor that determines adoption of new innovations. Likewise, as IT banking services allow customers to access their banking accounts from any location, at any time of the day, it provides tremendous advantage and convenience to users. It also gives customers greater control over managing their finances, as they are able to check their accounts easily To study the relative advantages received by the employees in adopting new technology. Seven attributes were taken and labeled as: Safety and convenience, time and location constraint; reduce costs, save time of bank customers, daily responsibilities, higher opportunities and sophisticated services. Four individual weighted scores were computed for each individual private bank and then a composite score is prepared of the four banks. The attributes are represented below with the help of table &graphs.

Table 4.1.

Relative Advantage (ICICI Bank)

S. No	Relative Advantage	5	4	3	2	1	Total Score (T.S)	(T.S*5)	Weighted Score (W.S)	%
1	Safety and Convenience	21	15	3	3	3	45	225	183	81
2	Time and location constraint	21	9	8	6	1	45	225	178	79
3	Reduce Costs	22	15	3	3	2	45	225	187	83
4	Save time of Bank customers	24	14	4	3	0	45	225	194	86
5	Daily responsibilities	18	11	14	2	0	45	225	180	80

6	Higher Opportunities	19	14	6	4	2	45	225	179	80
7	Sophisticated Services	17	8	3	9	8	45	225	152	68

Table 4.2.

## Relative Advantage (HDFC Bank)

S. No	Relative Advantage	5	4	3	2	1	Total Score (T.S)	(T.S*5)	Weighted Score (W.S)	%
1	Safety and Convenience	16	10	5	4	3	38	190	146	77
2	Time and location constraint	15	12	3	4	4	38	190	144	76
3	Reduce Costs	14	11	5	5	3	38	190	142	75
4	Save time of Bank customers	13	10	6	9	5	43	190	146	77
5	Daily responsibilities	12	11	6	5	4	38	190	136	72
6	Higher Opportunities	17	11	3	6	1	38	190	151	79
7	Sophisticated Services	12	14	6	4	2	38	190	144	76

Table 4.3.

## Relative Advantage (UNION BANK OF INDIA Bank)

S. No	Relative Advantage	5	4	3	2	1	Total Score (T.S)	(T.S*5)	Weighted Score (W.S)	%
1	Safety and Convenience	10	5	2	3	2	22	110	84	76
2	Time and location constraint	8	5	4	3	2	22	110	80	73
3	Reduce Costs	9	6	3	2	2	22	110	84	76
4	Save time of Bank customers	10	5	3	2	3	23	115	86	75
5	Daily responsibilities	9	6	2	3	2	22	110	83	75
6	Higher Opportunities	7	8	4	3	0	22	110	85	77
7	Sophisticated Services	8	5	4	3	2	22	110	80	73

Table 4.4.

## Relative Advantage (IOB Bank)

S. No	Relative Advantage	5	4	3	2	1	Total Score (T.S)	(T.S*5)	Weighted Score (W.S)	%
1	Safety and Convenience	8	5	4	3	2	22	110	80	73
2	Time and location constraint	6	9	3	2	2	22	110	81	74
3	Reduce Costs	7	9	3	2	1	22	110	85	77
4	Save time of Bank	5	8	4	3	2	22	110	77	70

	customers									
5	Daily responsibilities	6	6	4	3	3	22	110	75	68
6	Higher Opportunities	7	8	3	2	2	22	110	82	75
7	Sophisticated Services	4	7	5	3	3	22	110	72	65

Table 4.5.

Composite Table of Relative Advantages of Select Public and Private Sector banks

S. No	Relative Advantage	ICICI	HDFC	UNION BANK OF INDIA	IOB
1	Safety and Convenience	81,333	76,842	76,364	72,727
2	Time and location constraint	79,111	75,789	72,727	73,636
3	Reduce Costs	83,111	74,737	76,364	77,273
4	Save time of Bank customers	86,222	76,842	74,783	70,000
5	Daily responsibilities	80,000	71,579	75,455	68,182
6	Higher Opportunities	79,556	79,474	77,273	74,545
7	Sophisticated Services	67,556	75,789	72,727	65,455

**Findings:** The Table 4.5 shows that 81% of ICICI employees prefer banking technology as they are safe and convenient. 79% of ICICI employee says that the technology remove the time and location constraint. 83% of ICICI, 77% of IOB, 76% of Union Bank of India and 74% of HDFC says the new technology help in reducing costs.86% of ICICI, 76% of HDFC of technologies help in saving time of their work and as well as of their customers.80% of ICICI, 75% of HDFC customer find, the relative advantage by using technology such as efficiency in their routine jobs, more focus on customer concern. Employees are more discipline and quickly organize their work very efficiently. 80% of ICICI, 79% of HDFC, 77% of Union Bank of India and 74% of IOB employees find new technology provide an opportunity in diverse areas.75% of HDFC, 72% of Union Bank of India, 68% of ICICI and 65% of employees deal with complexity of banking product and services.

The result shows that ICICI, HDFC, Union Bank of India bank advancement in new technologies has increase efficiency, reduction in cost help in achieving higher levels of productivity. It has reduced location and time constraint, now employees may work on diversified task, may adopt them according to the changing environment and customer

demands. Technology helps in empowering employees with new ideas and innovation. Training and resources are given for the process to evolve; employees are expected to develop feelings of self-efficacy, job satisfaction, security, confidence and job meaningfulness.

### Section 5. Complexities Faced by Employees in Adopting IT Banking Services

Innovation with substantial complexity requires more technical skills and needs greater implementation and operational efforts to increase its chances of adoption. Bank continuously monitor the integrity of data, needs adequate investment for adoption of services in this cut throat competition. Trust, security and privacy are the important pillars that make the adoption of IT banking services faster. More on, all the banks have to invest on promotional plans to make the customer feel easy of the complex emerging technologies.

Table 5.1.

#### Complexity (ICICI Bank)

S. No	Relative Advantage	5	4	3	2	1	Total Score (T.S)	(T.S*5)	Weighted Score (W.S)	%
1	Monitor the integrity	24	4	5	5	5	45	225	169	75
2	Adequate Investments	16	15	12	2	0	45	225	180	80
3	Trust- Security	21	13	5	3	3	45	225	181	80
4	Promotional Plans	8	5	4	14	13	45	225	117	52
5	Trust - Privacy	25	6	5	5	4	45	225	178	79

Table 5.2.

#### Complexity (HDFC Bank)

S. No	Relative Advantage	5	4	3	2	1	Total Score (T.S)	(T.S*5)	Weighted Score (W.S)	%
1	Monitor the integrity	12	6	5	5	10	38	190	119	63
2	Adequate Investments	18	6	7	4	3	38	190	146	77
3	Trust- Security	15	12	5	3	3	38	190	147	77
4	Promotional Plans	15	10	4	3	6	38	190	139	73
5	Trust - Privacy	13	11	6	5	3	38	190	140	74

Table 5.3.

Complexity (UNION BANK OF INDIA Bank)

S. No	Relative Advantage	5	4	3	2	1	Total Score (T.S)	(T.S*5)	Weighted Score (W.S)	%
1	Monitor the integrity	7	9	3	1	2	22	190	84	44
2	Adequate Investments	10	6	2	3	1	22	190	87	46
3	Trust- Security	7	9	2	2	2	22	190	83	44
4	Promotional Plans	7	5	6	2	2	22	190	79	42
5	Trust - Privacy	7	5	6	2	2	22	190	79	42

Table 5.4.

Complexity (INDISIND Bank)

S. No	Relative Advantage	5	4	3	2	1	Total Score (T.S)	(T.S*5)	Weighted Score (W.S)	%
1	Monitor the integrity	5	8	4	2	3	22	110	76	69
2	Adequate Investments	5	9	5	2	1	22	110	81	74
3	Trust- Security	6	8	4	2	2	22	110	80	73
4	Promotional Plans	5	10	4	3	0	22	110	83	75
5	Trust - Privacy	5	9	5	2	1	22	110	81	74

Table 5.5.

Composite Table of Complexity of select public and Private sector Banks

S. No	Relative Advantage	ICICI	HDFC	UNION BANK OF INDIA	IOB
1	Monitor the integrity	75,111	62,632	44,211	69,091
2	Adequate Investments	80,000	76,842	45,789	73,636
3	Trust- Security	80,444	77,368	43,684	72,727
4	Promotional Plans	52,000	73,158	41,579	75,455
5	Trust – Privacy	79,111	73,684	41,579	73,636

**Findings:** The table 5.5 shows that 75% of ICICI, 69% of IOB, 62% of HDFC and 44% of Union Bank of India employees find technology helps in monitoring the integrity of data. 80% of ICICI, 76% of HDFC, 73% of IOB employees says technology provides adequate profits of their investment in different product and services. 80% of ICICI employees are proactive and reactive in security related aspects of customer and this helps in increasing satisfaction and trust among customers. 75% of IOB employees are using technology in promoting their product and services. ICICI bank is lacking in promotional planning. 79% of ICICI employees found the new technology has increase the privacy between the customers. The customer trust bank as they maintain the privacy of data and information.

The result shows that ICICI, HDFC and IOB employees are active in handling the complex issues related to privacy, security, integrity of data and investment related aspects. Following is the graphical representation of different attributes faced by the employees to manage complexity.

## **Development of Various ICT based Products and Services**

### **Core Banking Solution**

It is networking of branches which enable customers to operate their accounts and avail banking services from any branch of the bank on CBS network regardless of the branch where he maintains the account.

### **E-banking**

This enables the bank to deliver its services easily to its customers. With this facility, customers can access their bank details on their own computers, make money transfers from one account to another, print bank statements and inquire about their financial transactions.

### **ATM**

It is an electronic telecommunications device that enables customers of financial institutions to perform financial transactions such as cash withdrawals, deposits, transfer of funds, obtaining account information at any time and without the need for direct interaction with bank staff.

### **RTGS/NEFT a Gateway for Money Transfers**

RTGS (real time gross settlement and NEFT (national electronic funds transfer) are electronic payment systems that allow individuals to transfer funds between banks. Fund transfer under NEFT is settled in batches as opposed to the real time settlement process in RTGS

### **Plastic Money**

Credit cards and Debit cards have made the banking industry more flexible than before. With a credit card, a customer can borrow a specific amount of money from the bank to purchase any thing and the bank bills them later. In this case, they don't have to go through the hassle of borrowing small money and a customer can pay for anything using that card. Banks have installed ATM machines in various places, this means that a customer does not have to go to the main branch to make transactions if he has a Debit/ ATM card. This facility has also enabled anytime banking, because customers can use ATM machines to deposit cash in their accounts.

### **Mobile Banking / Digital Banking**

The mobile and digital transformation in the banking system has only just begun and growth is already explosive. Banks are investing heavily in digital banking technology, in which customers use mobile to use banking services.

### **Self-inquiry Facility**

Instead of customers lining up or going to the help desk, banks have provided simple self inquiry systems on all branches.

### **Signature Retrieval Facilities**

Technology has played a big role in reducing fraud in banks which protects its clients. For example, banks use a technology which verifies signatures before a customer withdraws large sums of money on a specific account and this reduces on the errors or risks which might arise due to forgery.

### **Online e-Term Term Deposit / Recurring Deposit through Portal**

Customers who have operative account with a Bank can open Fixed Deposit / Recurring Deposit through web portal. For opening FD / RD, Internet Banking / Mobile banking is not required.

### **Aadhaar Enabled Payment System**

Aadhaar Enabled Payment System is a payment system which allows online financial inclusion transactions at PoS (Micro ATM) terminals through the Bank's Business correspondent using Aadhaar authentication. Balance enquiry, Cash Withdrawal, Cash deposit and Aadhaar to Aadhaar Funds transfer can be done through this facility.

### **Mobile Wallet**

It is a mobile based application, it enables the holder for purchase, bill payments, recharges, online shopping etc., without using Cash or Debit cards.

### **Peer-to-Peer (P2P) Lending Services**

Companies use alternative credit models and data sources to provide consumers and businesses with faster and easier access to capital. P2Plending allows online services to directly match lenders with borrowers who may be individuals or businesses. Examples are Lend box, Fair cent, i2iFunding and GyanDhan.

### **Point of Sale Terminal**

It is a hardware system for processing card payments at retail locations. Software to read magnetic strips of credit and debit cards is embedded in the hardware. When a credit card or debit card is used to pay for something, a conventional point-of-sale terminal first reads the magnetic strip to check for sufficient funds to transfer to the merchant then makes the transfer. The sales transaction is recorded and a receipt is printed or sent to the buyer via email or text.

### **E-Audit**



E-audits is an online compliance and risk management software solution for Banks to build and report all the checks you have or might want. From simple tick lists to complex audits you can build, schedule and assign by name, title, site, area etc. and report findings and designate tasks with key data instantly viewable on dashboards-audits could transform the way you work giving better performance, reduced cost and management the information to get the best from teams and resources.

### **E-KYC**

A procedure that would enable a customer to walk in to the bank with an Aadhaar number and open an account by only by getting his/her fingerprint scanned. With the help of Unique Identification Authority of India (UIDAI), bank's system will pull out all data of the customer that is stored online which includes name, address, age and other relevant data necessary and it will also save a copy of the KYC document that remain stored in UIDAI' servers. The bank will only print out the account opening form with all the details of the customers already in it.

### **Forex Business**

Forex (FX) is the market in which currencies are traded with the help of Banks. The import and export business are taking place with the help of Banks and the Banks are using various digital products for fast and accurate FX business. e.g., SWIFT, EDPMS and IDPMS.

### **NRI Services**

Digital banking is a secure packed with most convenient & powerful way to open and manage the account NRI accounts. With this facility provided by the Banks, the NRIs are opening and managing their accounts from their home / working place in abroad.

### **Investment Banking**

In Investment 1 banking consumer finance, payment solution platforms, financial asset management, test automation, cloud migration, integration and big data & analytical services is rendered over the span of a decade.

### **Risk Management**

To fulfill risk management obligations, banks must protect themselves from cyber-attacks and combat financial fraud and all forms of money laundering. They must also comply with increasingly stringent directions and regulations of Reserve Bank of India (RBI) in this regard.

### **Micro Finance**

People in poor countries with bad roads, little electricity and no land lines are suddenly connected to the world via mobile phones and digital Banking. Now, through digital technology, customers have the flexibility to access Banks and repay the loans through their mobile phones avoiding the risk of cash in transit and other technologies.

### **Kiosk Banking**

It is an initiative taken by the RBI for those living in villages or other remote areas who are deprived of banking services due to the non-availability of bank branch in their locality. Here customer is not required to go to the bank to avail the banking services, instead the bank comes to the villages where the person can make the transaction. It is an internet enabled booth established in the villages where the customers can come and avail the basic banking service.

### **Factors Affecting Employee Adaptation of Technology in Banking**

Fear of new responsibilities, uncertainty and job losses, losing autonomy and control, losing customer relationship, lack of effective leadership, Lack of training, Lack of strategic IT plan, Lack of appropriate technical knowledge among the staff, more investment required, Poor It infrastructure, Lack of national IT expertise, Fear of transaction errors, Fear of frauds.

### **Benefits of Adopting ICT in Banking Sector**

Simple to open and easy to operate, faster and efficient, Fraudulent activity can be traced easily, Banks can cross sell their products, Improve communication, Increase productivity and save times, Improve data storage and file management, Improve financial management, Improve competitive advantage, Creating high-value digital services, Digitizing services frees up real time to spend with customers improving operational efficiency and reducing costs. Risk management

### **Demerits of Adopting IT in Banking Sector**

Technology and service interruptions, Security and identity breach concerns, Limitation on deposits, Convenient but not always faster, Limited scope of services, Potential to overspend, Connectivity problems, Misuse of passwords, Necessity of internet.

### **Limitations of the Study**

- Whilst, conducting this research there were various confinements met. Right off the bat the 'time imperatives' in which the research was directed under. This was because of the way that the analyst led this examination at the particular time. In this way, the research was constrained to the measure of time that could be spent doing it.
- Secondly, the information collected from employees with different job specifications or specializations and it made it difficult to analyze the relative significance of employee adoption in private banks.
- Thirdly, to gain a better result, a bigger sample may have given a more significant result.
- One more constraint confronted was the sample size measure which was utilized to gather the information. Many times, the meetings were fixed up with the interviewees but they did not appear. This prompted delays.
- The geographical exposure of the present study is a limited to Tamilnadu only.

### **Suggestions**

1. Withdrawal of small amounts in cash should be encouraged through ATMs by the bank branches.
2. Bank customers should be educated to use digital mode of payments.
3. Bank should provide and popularize Alternative Deliver Channel Products to all the customers at the time of opening account itself.
4. Artificial Intelligence should be used for transactions of repetitive nature.
5. Bank's IT security system should be strengthened further to avoid cyber crimes.
6. Employee should be given adequate training for re-skilling, up-skilling and capacity building for technology adoption.
7. Provide 24/7 real time access to banking across all channels.

### **Conclusion**

Indian banking industry is witnessing significant double digit growth by adopting technology and transforming to digital banking. Adopting technology in banking has more merits than demerits as mentioned above. The universal application of ICT can change the way banking has been perceived. In these days of high competition only those banks which renders service to the entire satisfaction of the customers at an affordable cost fulfilling the expectations of the customer without giving room for customer conflicts alone can survive and grow with profit which is possible only with automation and employee adoption. Hence considering the multifarious benefits and growth prospects of digitization the staff members of the banking sector should change their mindset and adopt themselves to the transformation taking place in the banking sector and update their knowledge and skill sets to meet the challenges, beat the competition, exploit the business potentials, increase the market share and thereby contribute for the sustainable business development, survival and profitability of the banking sector.

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