

# **A STUDY ON SUSTAINABILITY OF URBAN COOPERATIVE BANK BY ADOPTING INFORMATION AND COMMUNICATION TECHNOLOGY.**

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## ***Abstract***

*Information and communication technology is significantly changing the way of business. These changes and development results in new delivery of channels for banking products and services such as implementation of core banking system, installation of Automated Teller Machines (ATMs), Telephone Banking, PC-Banking, and Electronic Funds Transfer. Many banks are making huge investments in technology to maintain and develop their infrastructure. Urban cooperative banks which was started to cater the banking needs is also gradually transforming into technology banking. Their main concern has been to serve customers more conveniently and in the process, increase profits and competitiveness. UCB's have recognized the ICT as an opportunity to increase their performance and their competitiveness. This study shows the sustainability of vishweshwar cooperative bank by adopting information and communication technology. 60 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, T-test method and linear regression method. It analysis the role of customer services delivery like automatic teller machine, core banking services, and mobile banking in improving the performance of the bank.*

## **I. Introduction**

Information and Communication Technology (ICT) is fast becoming a vibrant channel that drives the nation economy. ICT is becoming increasingly important for the growth of the economy and is an important tool to sustain in the competitive economy. Business organisations, especially the banking industry of the present century operates in a complex and competitive environment characterized by these changing conditions and highly unpredictable economic climate. Growth and competitiveness of banks are dependent on the successful application of new technologies. Due to the vast development in the area of E-Banking it is essential that the policy makers should focus on the growing demand in ICT skills and take corrective steps to prepare the required numbers and quality beforehand. E-Banking enables to conduct banking business electronically over the internet where the costs are minimal and it is no longer bound by time or geographical boundary.

The availability and usage of adequate ICT skills are important factors, which influence the competitiveness among the cooperative banks in this era of e-Economy. Though ICT services were encouraged during the 90's in the Indian banking sector the big step was taken to introduce

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E-banking services at maximum level only after the year 2002-03. Implementation of ICT has shown greater impact on factors like total deposits, total advances, total investment, total business have made a significant positive effect on commercial banks. ICT has a significant positive impact on the organizational performance. How can the urban cooperative banks keep abreast of these changes? How can the banks stay ahead and introduce next generation of banking products? The answers to these questions would be to have employees fluent in digital language and people who are innovative and creative. They should be capable in introducing new banking products and understanding the future banking needs of our society. Services like electronic banking and ATMs have become the main technology driven revolution in conducting banking financial transactions. Banks have made huge investments in telecommunication and electronic systems, users have also been validated to accept electronic banking system as useful and easy to use. ICT has been acknowledged as the backbone of banks in the financial sector as it promotes and facilitates the performance (Financial and Operational) of banks in the country. Though the technology is the most effective tool in commercial banks, UCB's are also influenced by this advanced tool. To sustain in the banking market economy, urban cooperative banks have made huge investment on ICT. Do the banks gain the expected return on expenditure? Have they achieved the maximum value for the money spent? Do they have a specific plan to collect the return? It is in view of this that the research work attempts to examine the impact of Information and Communication and Technology (ICT) on the performance (operational and financial) of banks.

Indian banking sector especially cooperative banks is not lagging behind in adoption of ICT. Even though there is slow adaptation of technology in cooperative banks especially in rural cooperative banks, many urban cooperative banks have adopted it to sustain in the market. The urban cooperative banks have proven that implementing technology has changed the outlook in all areas of governance, operations and control of the bank. In the background of the above, it is crucial that cooperative banking sector moves on to ICT at the earliest to sustain themselves in the economy growth. The present study identifies the bank performance before and after the incorporation of information technology into the system. The study shows if investment made in information technology was worth the end result achieved and the role if technology can pay way to sustainable development.

## **II. ICT and Urban Cooperative Banks.**

### **A. Cooperative Banking Pre – ICT implementation.**

The co-operative bank is an important element of the Indian financial system. Cooperative movement is quite well established in India. The co-operative banks have a history of almost 100 years. The first legislation on cooperation was passed in 1904. In 1914 the three tier structure for cooperative banks was designed like, primary agricultural credit societies (PACs) works at the grass root level, central cooperative banks at the district level and state cooperative banks at the apex level. The first urban cooperative bank in India was formed nearly 100 years back. Cooperative institutions were engaged in all kinds of activities namely production, processing, marketing, distribution, servicing and banking in India. The sources of funds for the cooperative banks are – Central and State government, the Reserve Bank of India and NABARD, other cooperative institutions, ownership funds and depositors and debenture holders.

There were many constraints and hardships experienced by urban cooperative bank in the era of pre-ICT usage. Total number of accounts handled manually by branches with the allocated staff members was limited. Hence the opening of new accounts was restricted in most of the high level branches. Today there is no restriction as such and systems allow the opening of any number of accounts. Before the implementation of Automatic Teller Machines (ATMs) customers had to visit their own branch to withdraw cash. Anytime banking was not available. Unavailability of any-where banking features was due to the unavailability of ATM banking, Internet banking, SMS and phone banking. Banks were opened only during the specified time durations. Banking business hours were restricted. Bank staff could not leave the branch until they balance their day's accounting. In some instances, balancing was extended to late nights. Daily balancing, month-end balancing and year-end balancing were tiresome tasks to operational staff of the branch. Branches had to offer more restricted banking hours during such periods.

If a customer wanted to withdraw money from his savings account, he had to fill a savings debit form, present it to the cashier, obtain a token and wait till the number is called. When the token number is called, he had to place the signature again on the same debit voucher confirming cash receipt from the cashier. Accordingly he had to visit the cashier at least twice to receive his own money. There were no single point transactions. Bank staff had to check signatures, mandates and ledger sheets and they need to make necessary entries manually before disbursing or after accepting cash from customers. There were long waiting queues at branches on special days

when the branch staff could not handle the workload. Fund transfer between two accounts belonging to separate branches or banks was a complicated task and it took several days to effect the transaction. Reconciliation of main accounts took many days and they were usually two to three days behind. Extraction of past records was a task of searching through huge paper files and documents. But today, a customer can receive cash from the branch teller at the first appearance. Tellers are given authority to pay up to a higher level without seeking officer's approval. Tellers can review all the information on-line using the teller terminals before taking decisions. Debit voucher forms are validated on- line using teller printers.

Customer advices and statements were type written. Even the balance inquiry was a complex task. Job expertise was a mandatory requirement to work at the branch. Customers were given lengthy account numbers as the branch codes and ledger numbers were incorporated in account numbers for easy identification. There was no easy way to extract instant ad-hoc MIS reports for decision-making. There were no cashless shopping, marketing or holidaying. People had to carry cash with them. Credit cards and debit cards were not available.

### **B. Cooperative Banking Post-ICT Implementation.**

Initially the cooperative banks were hesitating to adopt information technology, as their investment was huge and lack of skilled manpower. Later the banks found themselves lagging behind the other commercial banks, they transformed into computerization and later implemented core banking system. Rapid developments in communication and network system has changed the operational environment of urban cooperative banks. An effective and efficient management information system (MIS) can make a major impact on deposits, loans and other services provided by cooperative banks. Technological innovations, both internal and external, brought about changes in cooperative banks. Its adoption has resulted in development of e-banking, on-line banking, internet banking, telephone banking, mobile banking and automated teller machine. Cooperative banks have to change their vision, mission, strategy and governance in the context of information technology. Information technology has a lot of influence on cooperative banks and it will help them to face competition and new challenges to meet customer's expectations in the context of globalization and structural readjustment.

Now urban cooperative banks are leading in implementing information and communication technology, but state and district cooperative banks are still lagging in computerisation drive and are still in their infancy. Few urban cooperative banks in Maharashtra have started their customer

services through tele-banking, inter branch transaction and providing 24 hours services through ATM. Measuring productivity of emerging information technology in cooperative banking sector is difficult, due to difficulty of measuring output accurately when quality of service is changing.

### **III. Objectives of the Study**

The intention of the study is to examine whether adopting information and communication technology has made the bank sustainable. The present study was focus on following objectives:

- To study the role of technology in sustainability development of the urban cooperative bank.
- To determine whether there is an increase in the level of efficiency and effectiveness of operations since the introduction of information and electronic technologies in Cooperative bank.
- To determine the extent to which information technology has contributed to customer satisfaction and bank performance.

### **Research Hypothesis**

- **Hypothesis 1:**  
**H<sub>0</sub>:** The use of information technology does not have a significant effect on the operation of the bank.  
**H<sub>1</sub>:** The use of information technology has a significant effect on the operation of the bank.
- **Hypothesis 2:**  
**H<sub>0</sub>:** Information technology devices do not help bank staffs effectively in the performance of their duties.  
**H<sub>1</sub>:** Information technology device has helped bank staffs effectively in the performance of their duties.

### **III. Methodology of the Study**

For the study a well reputed bank “The Vishweshwar Cooperative Bank Ltd, Pune” was used for the research project. The study aims to determine the significant role of information technology in the bank. It will examine how information and communication technology has enhanced the growth of Vishweshwar Cooperative Bank. It also determines the effect of information technology in the process and operation of the bank. It will evaluate the extent to which the bank has been influenced and affected ever since the introduction of information and communication technology.

In order to study the sustainability of information and communication technology adoption in Urban cooperative bank with respect to the banking services rendered, a questionnaire survey was conducted. Total of sixty respondents were given questionnaire which includes bank

managers, employees, and customers in order to get an appreciation of what type of I.T systems and electronic application services were available in the chosen banks. The responses were measured with a five-point rating scale, where (SA)=5 Strongly Agree, (A)=4 Agree, (N)=3 Neutral, (D)=2 Disagree, (SD)=1 Strongly Disagree. This will help to clarify and broaden our sense of direction in this research work.

The method engaged to examine the impact of information technology on bank is survey method. The bank was selected based on its technology driven state, profitability, large capital base and reliable network of branches in pune jurisdiction of Maharashtra State & Chikodi Taluka, Dist. Belgaum in Karnataka. The primary data was collected from the head office and its branches in pune. Collected data from the questionnaire was examined using SPSS package, while the hypotheses would be tested using the T-test method and linear regression method.

#### **IV. The Vishweshwar Cooperative Bank Ltd, Pune**

The Vishweshwar Sahakari Bank Ltd., Pune was established in the year 1972 by Founder Late Shri Namdeorao Rukari, Bharatsheth Gadve & Baburao Harpale with aim of taking the bank to the common people by adopting the principle of cooperation in banking. It was started as a small cooperative bank and gradually increased its branches, with merger of Nipani Bank, Karnataka during the year 2011, bank has become multi state coop bank with Jurisdiction Maharashtra State & Chikodi Taluka, Dist. Belgaum in Karnataka.

##### **A. Information and communication Technology position of the Bank.**

Bank has successfully implemented core banking solution (CBS) project in 2007 having centralised data center at Pune. All 28 bank branches are under core banking platform. It is the first non scheduled Urban Co-op Bank in Pune District having state of art independent data centre under CBS with Disaster Recovery Centre in different earthquake zone at Barshi. The bank has approximately 2 lakhs customers and provides E- Banking facilities like SMS Banking, Mobile Banking, ATM facilities and Aadhaar payment services. Presently the bank is having a network of 28 branches with 21 ATM's installed, out of which 20 ATM's are on site and one off-site ATM. Five of the ATM's are located in the rural parts of pune. The bank started its ATM service to its customers in the year 2009. The bank has issued 24,000 ATM cards to their customers, which means 12 percent of the customers own the bank's ATM card. All most all the ATM's of the bank gets average hits of 55,000 per month. It was informed that 40 percent of the

other bank cards are operated in the ATM's which is an added income for the bank. 60 percent of the customers use their card for cash withdrawal activity.

The bank implemented mobile banking in the year 2015. The facility of merchant payment through mobile is offered to customers. As a result customers can avail railway ticket, movie ticket, recharge mobile and DTH, pay telephone and electricity bills. The mobile banking customers use the mobile banking service at an average of 1500 hits per month for several uses like mobile/TV recharge, balance statement, bill payments, fund transfer etc. The bank is in the process of implementing Internet banking to their customers very shortly. The bank has developed a large base with the use of latest technology and infrastructure and best customer service. The bank has made an exceptional progress and is developing its strength in various locations.

### B. Financial position of the Bank

The table no: 1 shows the banks financial position for the past six years. The performance of the financial year 2015-16 has been very encouraging. The bank has maintained the level of NPA percentage during the last 6 years.

**Table No: 1 Financial position of Vishweshwar Cooperative Bank Ltd**

(Rs. in Crore)

Particulars/Year	31.03.2016	31.03.2015	31.03.2014	31.03.2013	31.03.2012	31.03.2011
No. of Share Holders	22213	20826	19110	17060	16081	15622
Branches	27	26	23	22	19	15
Share Capital	46.38	40.64	34.28	29.20	26.20	23.33
Reserve Fund	93.95	82.62	75.70	66.81	61.71	41.22
Total Deposits	1506.95	1308.65	1165.73	1005.93	830.57	717.53
Total Advances	975.33	852.70	742.07	629.49	537.81	427.76
Total Business	2482	2161	1908	1635	1368	N/A
Net Profit	15.02	13.54	10.60	10.25	9.66	10.33
Per Employee Business	6.73	5.94	5.87	5.16	4.49	4.27
Capital Adequacy Ratio	14.26%	14.86%	13.03%	14.30%	14.44%	14.09%
N.P.A. (Net)	1.45%	2.54%	2.95%	1.96%	0 %	0%
Audit Class	A	A	A	A	A	A
Dividend	(Proposed) 12%	12%	12%	12%	15%	12%

(Source: Annual Report of the Bank)

At present the bank has crossed the total business of Rs 2500 crore. The total business of the bank has grown by 16 percent to Rs2482 corers. The performance of the bank as on 31st march

2016, the deposits of the bank grew by 16 percent to Rs.1506.95 crore. Total advances grew by 18 percent to Rs.975.33 crores. The Net profit increased and reached Rs 15.02 crore. The no of shareholders has increased by 7 percent in the last six year. The share capital of the bank has increased to 15 percent since 2011. Branches of the bank grew by 12 percent to 27 branches in 2016 by the end of 31<sup>st</sup> March 2016.

#### VI. Impact of Information Technology on Bank's Performance - Data Presentation

**Table No: 2 Sex of Respondent**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MALE	48	80.0	80.0	80.0
	FEMALE	12	20.0	20.0	100.0
	Total	60	100.0	100.0	

The table shows that 48 out of the total of 60 respondents were males, representing approximately 80 percent of the entire sample size, while 12 were females, representing approximately 20 percent of the sample size.

**Table No: 3 Age group of Respondent**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-30 YEARS	19	31.67	31.67	31.67
	31-40 YEARS	22	36.66	36.66	68.33
	41-50 YEARS	12	20.00	20.00	88.33
	51-60 YEARS	7	11.67	11.67	100.0
	Total	60	100.0	100.0	

From the table no:3, it can be deduced that out of the 60 respondents, 19 were between 21-30 years representing (31.67%), 22 were between the ages of 31-40 years representing (36.66%), 12 were between the ages of 41-50 years representing (20.00%), and 7 were between the ages of 51-60 years representing (11.67%).

**Table No: 4 Academic Qualifications of Respondents**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Illiterate	0	0.00	0.00	0.00
	High School	3	5.00	5.00	5.00
	Intermediate	5	8.33	8.33	13.33
	Degree	40	66.67	66.67	80.00
	Master Degree	12	20.00	20.00	100.0
	Total	60	100.0	100.0	

The table No; 4 depicts the academic qualification of the respondents, it can be deduced that out of the 60 respondents, 3 of the respondents have high School representing (5%) of the total



respondents' population, 5 of the respondents have passed intermediate representing (8.33%), 40 of the respondents have Degree representing (66.67%), 12 of the respondents have Master Degree representing (20 %).

**Table No: 5 Service delivery of the bank is prompt and efficient**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	46	76.67	76.67	76.67
	AGREE	10	16.67	16.67	93.34
	NEUTRAL	2	3.33	3.33	96.67
	DISAGREE	2	3.33	3.33	100.0
	Total	60	100.0	100.0	

It can be deduced from the table no:5, that out of the 60 respondents, 56 of the respondents agreed that the services delivery of the bank is prompt and efficient representing (93.34%), 2 of the respondents were neutral representing (3.33%), and 2 of the respondent disagree representing (3.33%).

**Table No: 6 Motivate workers and customers to support bank.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	41	68.33	68.33	68.33
	AGREE	15	25.00	25.00	93.33
	NEUTRAL	4	6.67	6.67	100.0
	Total	60	100.0	100.0	

The above table indicates that 56 of the respondents agreed that we should motivate our colleagues to support bank representing (93.33%), and 4 of the respondent were neutral representing (6.67%).

**Table No: 7 Effectively receive the details of the transaction through E-mail**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	30	50.00	50.00	50.00
	AGREE	09	15.00	15.00	65.00
	NEUTRAL	14	23.33	23.33	88.33
	DISAGREE	0	0.0	0.0	0.0
	STRONGLY DISAGREE	0	0.0	0.0	100.0*
	Total	60*	100.0*	100.0*	

(\*11.67 % respondents don't have Mail Id)

The table show that how the banking transaction details are sent effectively through my E-mail. Out of the 60 respondents, 39 of the respondents agreed that they receive the details of their transaction through e-mail representing (65%), 14 of the respondents were neutral representing (23.3%), and 7 of the respondents representing (11.67 %\*) said that they don't have email id.

**Table No: 8 Savings and withdrawing money is time consuming.**

		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Valid	STRONGLY AGREE	7	11.67	11.67	11.67
	AGREE	31	51.66	51.66	63.33
	NEUTRAL	11	18.33	18.33	81.66
	DISAGREE	5	8.34	8.34	90.00
	STRONGLY DISAGREE	6	10.0	10.0	100.0
	Total	94	100.0	100.0	

It can be deduced from the above table that out of the 60 respondents, 38 of the respondents agreed that saving and withdrawing money is time consuming with the bank representing (63.3%), 11 of the respondents were neutral representing (18.33%), and 11 of the respondents disagree representing (18.34%).

**Table No: 9 Prompt and Efficient service delivery from the bank's ATM services**

		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Valid	STRONGLY AGREE	32	53.34	53.34	53.34
	AGREE	22	36.66	36.66	90.00
	NEUTRAL	4	6.67	6.67	96.67
	DISAGREE	2	3.33	3.33	100.0
	Total	60	100.0	100.0	

The table No:9 shows how prompt and efficient is the service delivery of the bank's ATM services. It depicts that 54 of the respondents agreed that they enjoy prompt and efficient service delivery from bank's ATM representing (90.0%), 4 of the respondents were neutral representing (6.67%), and 2 of the respondents disagree representing (3.33%).

**Table No: 10 ICT does not increase prompt and efficient service delivery of the bank.**

		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
	AGREE	1	1.66	1.66	1.66
	NEUTRAL	4	6.67	6.67	8.33
	DISAGREE	13	21.67	21.67	30.00
	STRONGLY DISAGREE	42	70.00	70.00	100.0
	Total	60	100.0	100.0	

The Table no:10 shows that out of the 60 respondents, only 1 of the respondents agreed that information technology does not increase prompt and efficient service delivery of the bank representing ( 1.66%), 4 of the respondents were neutral representing (6.67%), and 55 of the respondents disagree representing (91.66%).

**Table No: 11 Use of ICT reduces the time during the transactions in the bank.**

		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Valid	STRONGLY AGREE	28	46.66	46.66	46.66
	AGREE	17	28.33	28.33	74.99
	NEUTRAL	6	10.00	10.00	84.99
	DISAGREE	5	8.34	8.34	93.33
	STRONGLY DISAGREE	4	6.67	6.67	100.0
	Total	60	100.0	100.0	

From the table no:11 it is deduced that out of the 60 respondents, 45 of the respondents agreed that they spend less minutes/hours in carrying out transactions in the bank with the use of information technology representing (74.99%), 6 of the respondents were neutral representing (10%), and 9 of the respondents disagree representing (15%).

**Table No: 12 Introduction of ICT helped bank staffs to work better than pre –ICT**

		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Valid	STRONGLY AGREE	13	21.66	21.66	21.66
	AGREE	41	68.34	68.34	90.00
	NEUTRAL	4	6.67	6.67	96.67
	DISAGREE	2	3.33	3.33	100.0
	Total	60	100.0	100.0	

Table no:12, shows that out of the 60 respondents, 54 of the respondents agreed that the introduction of information technology has helped bank staffs to work better in a team than before the introduction representing (90%), 4 of the respondents were neutral representing (6.66%), and 2 of the respondents disagree representing (3.33%).

**Table No: 13 Bank has provided a better range of banking services since the introduction of ICT.**

		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Valid	STRONGLY AGREE	42	70.00	70.00	70.00
	AGREE	14	23.33	23.33	93.33
	NEUTRAL	4	6.67	6.67	100.0
	Total	60	100.0	100.0	

The Table no:13 show that how bank has provided a better and wider range of banking services since the introduction of ICT. The table implies that out of the 60 respondents, 56 of the respondents agreed that since the introduction of information technology banks have provided a better and wider range of banking services representing (93.33%), 4 of the respondents were neutral representing (6.67%).

**Table No: 14 Introduction of I.T has attracted more customers to the bank.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	6	10.00	10.00	10.00
	AGREE	34	56.67	56.67	66.67
	NEUTRAL	18	30.00	30.00	96.67
	DISAGREE	2	3.33	3.33	100.0
	Total	60	100.0	100.0	

It can be deduced from table no: 14 that out of the 60 respondents, 40 of the respondents agreed that the introduction of information technology in banks has attracted more customers to the bank representing (66.67%), 18 of the respondents were neutral representing (30%), and 2 of the respondents disagree representing (3.33%).

**Table No: 15 E- Banking facilities have reduced banking cost.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	20	33.33	33.33	33.33
	AGREE	22	36.66	36.66	69.99
	NEUTRAL	8	13.33	13.33	83.32
	DISAGREE	5	8.33	8.34	91.66
	STRONGLY DISAGREE	5	8.33	8.34	100.0
	Total	60	100.0	100.0	

From the Table no: 15, it can be deduced that out of the 60 respondents, 42 of the respondents agreed that internet banking has reduced banking cost representing (69.9%), 8 of the respondents were neutral representing (13.3%), and 10 of the respondents disagree representing (16.6%).

**Table No: 16 Satisfaction with the bank services.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	8	13.34	13.34	13.34
	AGREE	42	70.00	70.00	83.34
	NEUTRAL	10	16.66	16.66	100.0
	Total	60	100.0	100.0	

From the Table 16, it can be deduced that out of the 60 respondents, 50 of the respondents agreed that customers are satisfied with the bank services representing (83.34%), 10 of the respondents were neutral representing (16.66%).

**Table No: 17 Introduction of I.T has made the bank profitable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	43	71.66	71.66	71.66
	AGREE	8	13.34	13.34	85.00
	NEUTRAL	9	15.00	15.00	100.0
	Total	60	100.0	100.0	

The Table no: 17 shows that out of the 60 respondents, 51 of the respondents agreed that since the introduction of information technology banks has become more profitable representing (85%), 9 of the respondents were neutral representing (15%).

**Table No: 18 ICT have really impacted banks operation positively.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	36	60.00	60.00	60.0
	AGREE	18	30.00	30.00	90.0
	NEUTRAL	6	10.00	10.00	100.0
	Total	94	100.0	100.0	

The Table No 18 indicates that how Information and communication technology has helped the impact of banks operation positively. It is deduced that out of the 60 respondents, 54 of the respondents agreed that information and communication technology had really impacted banks operation positively representing (90%), 6 of the respondent were neutral representing (10%), and none of the respondents disagreed.

**Table No: 19 ICT did not impact banks performance.**

		Frequency	Percent	Valid Percent	Cumulative Percent
	NEUTRAL	4	6.67	6.67	6.67
	DISAGREE	14	23.33	23.33	30.00
	STRONGLY DISAGREE	42	70.00	70.00	100.0
	Total	60	100.0	100.0	

The Table 19 indicates that the information and communication technology didn't create an impact on banks performance, the table shows that 42 respondents out of the 60 strongly disagreed, 14 of the respondents disagreed that information technology do not impact banks operation representing (30%), 4 of the respondents were neutral representing (6.67%), and none of the respondents agree the statement representing.

**Table No: 20 DETAILED STATISTICS OF BANK OFFICIALS AND CUSTOMERS USING MEAN AND STANDARD DEVIATION**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
We enjoy prompt and efficient service delivery by banks.	60	1.00	4.00	1.3333	0.7051
We should encourage our colleagues to patronize banks.	60	1.00	3.00	1.3833	0.6132
We effectively receive the details of my transaction through E-mail.	60	1.00	5.00	1.5	0.9829
Savings and withdrawing money is time consuming with the bank.	60	1.00	5.00	2.5333	1.1270
We enjoy prompt and efficient service delivery from the bank's ATM services.	60	1.00	4.00	1.6	0.7635
ICT does not increase prompt and efficient service delivery of the bank.	60	1.00	4.00	3.6	0.6937
I spend less minutes/hours in carrying out transactions in the bank my with the use of ICT	60	1.00	5.00	2.0	1.2350
Introduction of I.T has helped bank staffs to work better in a team than before the introduction of I.T.	60	1.00	4.00	1.9166	0.6455
The bank has since provided a better and wider range of banking services since the introduction of I.T.	60	1.00	4.00	1.3666	0.60141
The introduction of I.T in this bank has since attracted more customers to the bank.	60	1.00	4.00	2.266	0.6856
E- Banking facilities has reduced banking cost.	60	1.00	5.00	2.133	1.3777
I do think customers are satisfied with the bank services.	60	1.00	3.00	2.033	0.5430
Since the introduction of I.T, this bank has become more profitable.	60	1.00	3.00	1.4333	0.7456
Information and communication technology have really helped impacted banks Operation positively.	60	1.00	3.00	1.5	0.6764
ICT has impacted banks operation.	60	1.00	3.00	2.6333	0.6098
Valid N (list wise)	60				

### **HYPOTESIS TESTING**

In testing **Hypothesis 1**, The One-Sample T Test compares the mean score of a sample to a known value. Usually, the known value is a population mean.

**H<sub>0</sub>:** The use of information technology does not have a significant effect on the operation of the bank.

**H<sub>1</sub>:** The use of information technology has a significant effect on the operation of the bank.

**One Sample T-Statistics**

One sample t-test is a statistical procedure used to examine the mean difference between the sample and the known value of the population mean. In one sample t-test, we know the population mean. We draw a random sample from the population and then compare the sample mean with the population mean and make a statistical decision as to whether or not the sample mean is different from the population mean.

One Sample T-Statistics				
One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Information and communication technology have really helped impacted banks operation positively.	60	1.5	0.6764	0.08732

One Sample test						
One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
ICT have really helped impacted banks operation positively.	17.1782	59	.000	1.5	1.3252	1.6747

**Interpretation**

The above question has a calculated value (t-value) of 17.1782 and a critical value of approximately 2.000 at 5% level of significance and degree of freedom of 59.

**Decision**

From the above analysis, the calculated value is above the tabulated value, therefore the null hypothesis (H<sub>0</sub>) should be rejected in favor of the alternative hypothesis (H<sub>1</sub>) accepted. Also, the two tail significance level which is 0.00 is less than 0.05 which is the level of significance; therefore the null hypothesis should be rejected. Hence, the use of ICT has a significant effect on the operation of the bank.

In testing **Hypothesis 2**, The One-Sample T Test compares the mean score of a sample to a known value. Usually, the known value is a population mean.

**H<sub>0</sub>**: Information technology devices do not help bank staffs effectively on the performance of their duties.

**H<sub>1</sub>**: Information technology device has helped bank staffs effectively on the performance of their duties.

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
I do not think information technology has impacted banks performance in any aspect.	60	2.6333	0.6098	0.07872

One-Sample Test						
Test Value = 0						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
I do not think information technology has impacted banks performance in any aspect.	33.4515	59	.000	2.6333	2.4757	2.7908

### Interpretation

The above question has a calculated value (t-value) of 33.45 and a critical value of approximately 2.000 at 5% level of significance and degree of freedom of 59.

**Decision:** From the above analysis, the calculated value is above the tabulated value, therefore the null hypothesis ( $H_0$ ) should be rejected in favor of the alternative hypothesis ( $H_1$ ) accepted. Also, the two tail significance level which is 0.00 is less than 0.05 which is the level of significance; therefore the null hypothesis should be rejected. Hence, information technology device has helped bank staffs effectively on the performance of their duties.

### Using Anova

#### Hypothesis 1:

**H<sub>0</sub>**: The use of information technology does not have a significant effect on the operation of the bank.

**H<sub>1</sub>**: The use of information technology has a significant effect on the operation of the bank.



Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.342 <sup>a</sup>	.117	.107	1.00318		
a. Predictors: (Constant), Information technology and computer have really helped impacted banks operation positively.						
ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.266	1	12.266	12.188	.001 <sup>a</sup>
	Residual	92.585	58	1.006		
	Total	104.851	59			
a. Predictors: (Constant), Information technology and computer have really helped impacted banks operation positively.						
b. Dependent Variable: Internet banking has reduced banking cost.						

### Interpretation of Results

The results from the model summary table above revealed that the extent to which the variance in operation of the banks can be explained by the model that is 11.7% i.e (R square = 0.117). The ANOVA table shows the F-calculated value to be 12.188 at 0.001 significance level. The implication is that the use of information technology has a significant effect on the operation of the bank.

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.479	.240		6.165	.000
	Information technology and computer have really helped impacted banks operation positively.	.602	.172	.342	3.491	.001
a. Dependent Variable: Internet banking has reduced banking cost.						

The coefficient table above shows the simple model that expresses the extent to which information technology affects the operation of the bank. The model is shown mathematically as follows;  $Y = a + bx$  where  $y$  is the operation of the bank and  $x$  is information technology, 'a' is a constant factor and  $b$  is the value of coefficient. From this table therefore, Operation of the Bank =  $1.479 + 0.602$  Information technology. This means that for every 100% change in operations of the bank, information technology is responsible for 60.2% of the change.

### Decision

The significance level is 0.000 and is less than 0.05, thus we accept the alternative hypothesis and reject the null hypothesis. This implies that information technology has a significant effect on the operation of the bank.

**Hypothesis Two:**

**H<sub>0</sub>:** Information technology devices do not help bank staffs effectively in the performance of their duties.

**H<sub>1</sub>:** Information technology device has helped bank staffs effectively in the performance of their duties.

Model Summary						
Model		R	R Square	Adjusted R Square	Std. Error of the Estimate	
1		.416 <sup>a</sup>	.173	.164	.95570	
a. Predictors: (Constant), I effectively receive the details of my transaction through my E-mail.						
ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.588	1	17.588	19.257	.000 <sup>a</sup>
	Residual	84.029	59	.913		
	Total	101.617	60			
a. Predictors: (Constant), I effectively receive the details of my transaction through my E-mail.						
b. Dependent Variable: Since the introduction of I.T, this bank has become more profitable.						

**Interpretation of Results**

The results from the model summary table above revealed that the extent to which the variance in performance of bank staffs in carrying out their duties can be explained by the model that is 17.3% i.e (R square = 0.173). The ANOVA table shows the F-calculated value to be 19.257 at 0.000 significance level. The implication is that information technology device has helped bank staffs effectively in the performance of their duties.

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.065	.222		4.805	.000
	I effectively receive the details of my transaction through my E-mail.	.386	.088	.416	4.388	.000
a. Dependent Variable: Since the introduction of I.T, this bank has become more profitable.						

The coefficient table above shows the simple model that expresses the extent to which information technology has helped bank staffs effectively in the performance of their duties. The model is shown mathematically as follows;  $Y = a+bx$  where y is the performance of bank staffs

and x is information technology, 'a' is a constant factor and b is the value of coefficient. From this table therefore, performance of bank staffs = 1.065 + 0.386 Information technology. It means that for every 100% change in the performance of bank staffs, information technology is responsible for 38.6% of the change.

### **Decision**

The significance level is 0.000 and is less than 0.05, thus we accept the alternative hypothesis and reject the null hypothesis. This implies that information technology device has helped bank staffs effectively in the performance of their duties.

### **VII. Findings of the Study:**

The study brings the glimpse about the introduction of information technology has given the bank better infrastructure and techniques that satisfies both the employees and the customers. The study reveals that the bank customers enjoy efficient and prompt service delivery by banks, because they can perform many transactions without having to visit the bank physically, and this is done via the use of information and communication technology (ICT) into banking operations. With the use of technology mobile banking and other components of I.T has therefore brought about ease and convenience to effectively make financial transactions by customers themselves. Even with the interference of information technology on banking services in Vishweshwar cooperative bank ltd, the customer service of the bank haven't been found to be as effective without visiting the bank physically for majority of the customers. The adaption level of technology is still lagging in majority of the bank's customer. Even though the customers are aware of latest e banking services offered by the bank, still majority of the customers prefer branch banking.

The adoption of information technology by the bank has brought change in the bank with a better and wider range of banking services, since the introduction of information technology. Even though bank has adopted e banking services like ATM's, Mobile banking, NEFT/RTGS, Aadhaar card payment, SMS banking etc, only the minority customers have accesses to these facilities. Majority of young age group who has better and average IT knowledge access to such facilities. The introduction of information and communication technology has changed the bank with better banking services for both employees and customers. Since the introduction of information technology, the bank has reduced their banking cost and they have become profitable. The bank's decision on adopting information and communication technology has

considerable changed on the value of vishweshwar cooperative bank ltd. No doubt that information and communication is the better tool in the sustainability of the urban cooperative Banks.

From the hypothesis tested, it can be concluded that;

- i. Information and communication technology has enhanced the banks performance and operational efficiency.
- ii. Information and communication technology has reduced banking cost.
- iii. Adoption of Information and communication technology by bank has made customers enjoy ease, smooth and convenient way of banking.
- iv. The use of Information and communication technology by the bank has brought profitability to the bank.

#### **VIII. Recommendations:**

- i. Prioritize the customer before adopting the technology. It is important to first and foremost identify the needs of the customer before introducing technology. The technique chosen must be relevant to the total corporate objective so as to avoid stagnation or loss. It should not be the race with other commercial and private banks in implementing the E-banking services.
- ii. A lot need to be done to create confidence in the minds of customers about the benefits and security of the E- banking delivery channels.
- iii. The customers should be influenced to use the E- banking services provided by the bank.

#### **IX. Learning:**

In the modern era, the use of information technology has been magnificently increased in service industries, particularly, the banking industry, by using Information Technology related products such as internet banking, electronic payments. Financial organizations can deliver high quality services to client with less effort and in the process improving the bank's earnings. Information technology can bring down the operational costs of the banks (the cost advantage) and hence improve its financial performance. For instance, mobile banking facilitates and speeds up banks procedures to achieve standardized and low value-added transactions such as bill payments and balance inquiries processes via online network. Consequently, this technology will help banks concentrate their capitals on exceptional, high- value added transactions such as personal trust services.

The findings of the survey will be used by stakeholders in the Banking Industry to make appropriate decisions towards adoption of different technological channels in delivery of services. They will understand the benefits of adopting electronic banking in their financial institutions. They will also appreciate the impact of information, communication and technology on their performance.

## **X. Conclusion**

The research study expresses that information and communication technology has a positive impact on the image, goodwill and growth of Vishweshwar cooperative bank. Customer satisfaction is of a paramount importance to the achievement of organizational goals. It has increased the rate of patronage as a result of the supply of redefined products and services to meet the needs and demand of the public. Information and communication technology has also helped to reduce the rate of fraud in the banking system. Present day banking activities are computerized and not manual, making it difficult to make any alterations; such actions can easily be traced and corrective measure taken. It has also provided better and well-grounded infrastructure to speed up transaction, increase consistency and enhance banks operation. Banks have been able to derive benefits from information technology, electronic banking and service delivery in the area of improved efficiency and effectiveness of their operations so that more transactions can be processed faster and most conveniently, which will undoubtedly impact significantly on the overall performance of the bank. The customer on the other hand, stand to enjoy the benefit of quick service delivery, reduced frequency of going to the banks physically and reduced cash handling, which will give rise to higher volume of turnover.

Vishweshwar cooperative bank is aggressively promoting the use of E-Banking to enhance their business performance and to sustain in the competitive environment. The study proves that after introduction of CBS the operational efficiency of banks has certainly improved. Most of the ATM's which are located in the branch premises has also gradually increased the access of facility. Even though ATM's were introduced for the benefits of its own bank's customers, it acts as the source of income for the bank. No doubt, implementation of information and communication technology has made a significant welcome change in the Vishweshwar cooperative bank and certainly improved the efficiency of the banking operations and proved to be sustainable tool for the bank.

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