

# Digital Infrastructure of Commercial Banks with Special Reference to Vellore District

B. Lavanya, D. S. Selvakumar

*Abstract: Digital Infrastructure has taken place in each and every industry in today's modern world. Banking has been a backbone to many businesses in the past as well as in the present times. Digitalization of all traditional banking activities and services paves the way for the new concept. This helps the banks to satisfy its customers to the core and delight them. Digitalization benefits the customers for making online deposits, online payments, and online money exchange, account opening, bill payment and tracking of account activity. Though digitization has many benefits, it has its own limitation that still exists. This study focuses on the merits and disadvantages of the digital infrastructure of banks to its customers. For the purpose of the study primary data has been collected with the help of questionnaire and secondary data has been collected from books and journals. This study uses percentage analysis and chi-square test for the purpose of data interpretation. The outcome of the study will help the banks to know their customers better and to maintain its performance in digital field.*

**Keywords:** Commercial bank, Conventional banking, Digital banking, Digital Infrastructure, Technology.

## I. INTRODUCTION

Innovation and modernization led to the new concept known as digitalization. Digitalization is possible in each and every industry including banking today. This study focus on the purpose and usage of digital banking features, its benefits and some of the problems faced by customers and to provide some possible suggestions to improve the digitalization of banks among AXIS bank, HDFC bank, SBI and ICICI bank.

### A. Digital Services provided by banks

Almost all the banks are providing similar features to its customers such as net banking, recharge of mobile phones, mobile banking and cashless transactions.

AXIS bank has Quick Response based Scanning solutions that has been a great digital platform for small ticket vendors to conduct cashless transactions. The bank has a Unified Payment Interface app that provides digital payment channels across India. The Bank is consistently educating and encouraging citizens to make more use of digital mode of payments for their daily transactions.

HDFC bank provides PayZapp, LITE App, Instant loans at ATM and the recently introduced Robotic Assistant (IRA) at HDFC Bank branches. The IRA is an addition to HDFC

bank's general services that allows customers to perform over 205 and 90 different types of transactions respectively. These innovations were recently recognized at the prestigious IBA Banking Technology Awards.

SBI has introduced YONO (You Only Need One) cash system in digital banking to enable users to access a variety of financial and other services such as flight, train, bus and taxi bookings, online shopping, or medical bill payments. YONO is offered as a smartphone app for both Android and iOS platform.

ICICI Bank introduced Artificial Intelligence-infused chat that act as quasi-bankers, software bots that can even do remittances and making loan choices and block technology to make banking more beneficial and secured.

### B. Objectives of the study

The following are the main objectives of the study:

- i. To identify the purpose and usage of digital banking services to the customers.
- ii. To ascertain the various benefits derived from digital infrastructure of banks.
- iii. To find out some of the problems faced by the customers in utilizing digital banking features.
- iv. To provide possible suggestions to improve the bank's digital performance.

## II. REVIEW OF LITERATURE

Robert Ortstad and Binan Sonono (2007) in their study "The Effects of the Digital Transformation Process on Banks Relationship with Customers" have observed that banks in Sweden became more digitally oriented in order to satisfy their customers new preferences and demands.

Cajetan Ikechukwu Mbama (2018) in her study "Digital Banking Services, Customer Experience and Financial Performance in UK Banks" has identified that customers were more interested in flexible banking by way of mobile banking rather than internet banking.

Stefanie Gsell and Julia Mette (2017) in their study "The Impact of Digitalization on the Business Model of German Retail Banks" have observed that banks were interested in knowing their customers personally and their requirements to satisfy them fully and to improve its digital performance.

Dr. Neha Chhabra Roy and Dr. T Viswanathan (2018) in their study "Impact of Technological Disruption on Workforce Challenges of Indian Banks -Identification, Assessment & Mitigation" has identified that adopting modern technology in banks have increased its performance in recent years.

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\* Correspondence Author

**B. Lavanya**, Department of Commerce, School of Social Science and Languages, Vellore Institute of Technology, Vellore, India. Email: laya.lavanya1986@gmail.com

**Dr. D. S. Selvakumar\***, Department of Commerce, School of Social Science and Languages, Vellore Institute of Technology, Vellore, India. E-mail: dssselvakumar2020@gmail.com

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Dr. Subramanian.S in his study “Payments in India going digital: A study with reference to credit card payments” has observed that there is a relationship between volumes transaction and the value of payments but not in outstanding cards possess. This means that increasing number of transaction simultaneously the values of payments are also increases.

## DIGITAL BANKING – A COMPARISON

Services	ICICI Bank	SBI	HDFC Bank	Axis Bank
Tab-based account opening	YES	YES	NO	NO
Mobile Banking	YES	YES	YES	YES
Video Banking	YES	YES	NO	NO
Mobile Wallets	YES	YES	YES	YES
Contactless cards	YES	YES	NO	YES
Social media banking	YES	NO	NO	YES
E-Toll	YES	NO	NO	YES
Smart Watch Banking	YES	NO	YES	YES

Source: Bank Announcements, RBI

## III. STATEMENT OF THE PROBLEM

Technology seems to be a heartbeat of any business today including banking industry. But digitalization is technology-driven. Digital technologies take the form of mobile internet, artificial intelligence and Internet on Things. Though technology has plenty of advantages but still it's lacking with its own limitations. This study made an attempt to identify the various digital benefits offered by banks and the problems faced by the customers in utilizing digital benefits.

## IV. SCOPE

The scope of the present study is limited to commercial banks in Vellore District. The researcher selected Axis bank, HDFC bank, State Bank of India and ICICI bank for the study.

## V. HYPOTHESIS

- There is no relationship between the age and the times of availing the online banking facility by the customers.
- There is no relationship between the Education and the Action taken by bank against online hacking or stealing of information.
- There is no relationship between the Income of the respondents and opinion of customers on annoying cashless transaction.

## VI. RESEARCH METHODOLOGY

### A. Research Design:

The research design adopted in this study was Descriptive.

### B. Sample size:

The sample size selected in the study is 50. The sampling technique adopted in the study is Convenient sampling.

### C. Data collection:

Both primary and secondary data are used for collection of data in the study.

### D. Framework and analysis:

Percentage analysis and chi-square test have been used in this study. Chi-square test has been adopted based on the formulated hypothesis.

## VII. DATA INTERPRETATION

### A. Percentage Analysis

Table 1.1. Usage of online banking facility

Usage	No. of Respondents	Percentage
Less than 2times	12	24
2 to 5 times	18	36
5 to 8 times	11	22
More than 8 times	9	18
Total	50	100

### Inference

Regarding the usage of online banking almost 36% of the respondents avail the facility for 2 to 5 times in a month. 24% utilize for less than 2 times, 22% of the respondents for 5 to 8 times a month and only 18% utilize for more than 8 times.

Table 1.2. Convenient usage

Convenience	No of Respondents	Percentage
Using Laptop	36	72
Using smart phone	14	28
Total	50	100

### Inference

Regarding Convenience of usage almost 72% of the respondents are using Laptop for net facility and only 28% are using smart phones.

Table 1.3. Purpose of using net or smart phones

Purpose	No of Respondents	Percentage
Payment of bills	50	100
NEFT/RTGS Transfer	10	20
Checking statement of account	50	100
Making Deposits	20	40
Obtaining Debit/credit card	15	30
Payment of taxes	15	30
Availing Loan facility	5	10

### Inference

Regarding purpose of using internet or smartphones almost all the 100% of the respondents are using the online for payment of bills and checking statement of accounts. 40% of the respondents are using for making deposits, 30% of them are using for obtaining Debit or credit card and for payment of taxes. Nearly 20% of them are using for NEFT/RTGS Transfer.

**Table 1.4. Fast Transfer of funds**

Transfer	No of Respondents	Percentage
Highly Satisfied	13	26
Satisfied	23	46
Moderate	14	28
Dissatisfied	0	0
Highly Dissatisfied	0	0
Total	50	100

**Inference**

Regarding fast transfer of funds almost 46% of the respondents are satisfied. 28% of them are moderately satisfied and 26% of them are highly satisfied and none of them are either dissatisfied or highly dissatisfied.

**B. Chi-Square Test**

**Hypothesis 1:**

**Table 2.1**

**H0:** There is no relationship between the Age and the times of availing the online banking facility by the customers.

Age/Usage of Internet	Less than 2 times	2 to 5 times	5 to 8 times	More than 8 times	Total
15-30	3	6	3	1	13
31-45	1	8	2	5	16
46-60	4	3	3	2	12
Above 60	4	1	3	1	9
Total	12	18	11	9	50

**Test Results**

Table value@ 5% level of significance	Computed value	Degrees of Freedom
16.9	11.11	9

**Inference**

The table value for 5% level of significance is 16.9. The computed value is 11.11. Since the computed value is less than the table value, **H0 is accepted.**

Hence there is no relationship between the Age and the times of availing the online banking facility by the customers.

**Hypothesis 2:**

**Table2.2**

**H0:** There is no relationship between the Education and the Action taken by bank against online hacking or stealing of information.

Education/Action taken	Highly Satisfied	Satisfied	Moderate	Dissatisfied	Highly Dissatisfied	Total
SSLC & Below	2	5	2	0	0	9
Higher secondary	1	13	3	0	0	17
UG degree	1	10	9	0	0	20
PG degree	0	2	2	0	0	4
Total	4	30	16	0	0	50

**Test Results**

Table value@ 5% level of significance	Computed value	Degrees of Freedom
21.0	6.94	12

**Inference**

The table value for 5% level of Significance is 21.0. The computed value is 6.94. Since the computed value is less than the table value, **H0 is accepted.**

Hence there is no relationship between the Education of the respondents and the Action taken by the bank against online hacking or stealing of information.

**Hypothesis 3:**

**Table 2.3**

**H0:** There is no relationship between the Income and opinion of customers on annoying cashless transaction.

Income/ Cashless transactions	Very rarely	Rarely	Often	Very often	Total
Less than ₹1,00,000	1	8	7	0	16
₹1,00,000 – ₹2,00,000	1	6	6	1	14
₹2,00,000 – ₹3,00,000	1	4	4	0	9
More than ₹3,00,000	2	9	0	0	11
Total	5	27	17	1	50

**Test Results**

Table value@ 5% level of significance	Computed value	Degrees of Freedom
16.9	12.54	9

**Inference**

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The table value for 5% level of significance is 16.9. The computed value is 12.54. The computed value is less than the table value, **H<sub>0</sub> is accepted.**

Hence, there is no relationship between the Income and opinion of customers on annoying cashless transaction.

## VIII. FINDINGS

The following are the findings of the study:

- i. Majority of the customers are utilizing the online facility for 2 to 5 times per month.
- ii. Most of the 100% of the respondents are using internet or smart phones for the purpose of payment of bills and for checking their statement of account.
- iii. Majority of the respondents felt convenient with Laptop or computer instead of smart phone for banking their transactions.
- iv. Almost all the customers are fully satisfied for the fast transfer of funds.
- v. Most of the customers are satisfied for payment of bills and taxes on time and payment through mobile apps.
- vi. For online customer care services most of them are satisfied but still 16 of them are moderately satisfied.
- vii. Majority of them is of the opinion that rarely net banking has less security system.
- viii. Most of them felt that often ATM machines are in good working condition.
- ix. Majority of them is of the opinion that rarely immediate action is possible in case of online malpractices.
- x. Less income group people felt that cashless transactions are still annoying.

## IX. SUGGESTIONS

- i. The banks need to make some efforts to appoint some person to guide the people in case of any problem in using the ATM services.
- ii. For net banking digital transactions the customer need some assistance to do their transaction by their own. For this the bank has to appoint proper online customer service Chatbot to clarify their query immediately and intimate to the customers.
- iii. For Low income group the cashless transactions are annoying. For this the bank has to take necessary steps to educate these persons.
- iv. The bank has to take immediate action regarding the online malpractices and lodge the case immediately.

## X. CONCLUSION

The results of the study reveal that most of the customers are satisfied with the digital infrastructures that are provided by their respective banks. But if the bank has to delight its customers they have to consider their problems as well. Further this study recommends that the banks should innovate and implement latest technologies to their customers and should make proper efforts to make the customers aware of all the digital services provided by them. This study benefits both for the banks and the customers to know each other still better. This study provides a scope for future research. The future research can be undertaken in different banks other than the banks where the research is already conducted.

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## AUTHORS PROFILE



**B. Lavanya**, M.com, M.Phil, MBA, NET, PGDCA. Research Scholar, Department of Commerce, School of Social Studies and Languages, Vellore Institute of Technology, Vellore.



**Dr. D. S. Selvakumar**, M.com, MBA, M.Phil, M.Ed, LL.M, P.hD., is associated with Department of Commerce, School of Social Sciences, Vellore Institute of Technology, Vellore as Professor and has 33 years of teaching experience to his credit. He has attended Faculty Development Program in Management at Indian Institute of Management, Ahmadabad and awarded FDPM-(IIM-A) and alumni of (IIM-A). Participated and presented papers in many International Conferences including University of London UK, University of Washington Italy, Singapore, Malaysia, Dubai, Sri Lanka and in Thailand.