

## **Impact of Covid-19 pandemic on Digital Banking in India –Systematic Literature review.**

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### **Abstract**

E-banking is far beyond than the just shift from traditional or offline banking system to a digital world. It is an significant change how banks and the other financial institution interact with, learn about and satisfy customers needs. E-banking starts with an understanding of customer choices , preferences, behavior and likes, dislikes, needs which are stated as well as unstated , aspirations etc. Emerging Trends in Indian Banking Sector with special reference to E-banking services focus that Slowly but steadily, in India customers are moving towards the use of e-banking services. This study brings out the existing picture of e-banking services provided by both Public and private sector banks in Ahmednagar district. The Z –Test technique is used to analyze the collected data of the e banking service users.

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**Keyword:** Assurance, Covid-19 E-banking, Information Technology, Reliability & responsibility, Security.

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### **1. Introduction**

The landscape of India's financial sector is changing as anywhere, anytime-banking, using different channels and technology, will bring a multi-fold increase the reach of technology to rural and remote areas. E-banking is became the need of an hour. E-banking in India has to confront a lot of challenges. The government is introducing regulatory measures from time to time to ensure reliability and security, but introduction of technology is not enough. First country in the world to have taken a lead in E-banking was Finland. In India, the first bank was ICICI bank, it has taken initiative to introduce E-banking as early as in the year 1997 under the brand name Infinity.

Revolution in the IT has made easy for Indian economy to steadily inroads into the-banking institutions and has also brought about a significant changes in many aspects in the form of

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computerization of banking transactions and latest delivery channels such as Internet banking, Mobile-banking, Telephone-banking, Automated Teller Machine (ATM), Credit Cards, Debit cards, Electronic Transfer Fund (ETF), Electronic Clearing services (ECS), etc. Apart from a several leading private players, SBI and Central Bank of India are the major public players in the-banking sector. Despite the fact that in the Indian Banking Industry public sector banks have huge network, infrastructure and customer base, still its performance is low for e-banking services as compared to its counterpart in the private sector.

The brief introduction of the banking sector, overview and e-banking services is given as below:

### **Banking Industry**

Today banking is the flourishing industry in India, as it focuses technological innovations. Internet banking has emerged as the prime focus area in the “Digital Transformation” agenda of banks. In 2012-13, Indian banks had deployed a lot of technology-intensive solutions to boost the revenue, enhance customer experience and optimize cost structure. However, there is a big change in the technology agenda and implementation capability among different players of the-banking sector:

- Enhancing core-banking value
- Dealing with a changing risk regime
- Shift from cash to electronic payment mode
- Grappling with financial inclusion

The technological developments of the Indian banking sector has been mainly directed by the several committees set up by the RBI and the Govt. of India to evaluate the implementation of technological changes. Indian banking has succeeded in several aspects of its business to gain improvement, but still adoption of information technology in totality is the biggest challenge.

### **2. Objectives Of The Research Study**

- a) To study the e-Banking services provided by public and private Sector banks in Ahmednagar district.
- b) To understand the agreement towards satisfaction level for Service quality of E banking services provided by banks, the reliability & responsiveness, Assurance and security.

### **3. Hypothesis**

For the purpose of the study following Hypothesis is formed and tested.

**H<sub>0</sub>:** The satisfaction level of e-banking users for Services quality of e banking, Reliability & Responsiveness, Assurance and Security is good of all banks.

$H_0 < 0.50$  and  $H_1 > 0.50$

#### 4. E-Banking Services At Glance

The world today is changing rapidly, and banking is also changing with it. As banks that have no brick-and-mortar branches, only online banking is now common. E-banking also offers the convenience of round-the-clock online banking and many customer service options. E-banking can be defined as the effective delivery and automation of new banking products and services for customers through electronic & interactive communication channels. “It encompasses the wide technological innovations that have taken the place in banking from transferring funds online, making online payments for almost all the service, managing account balances to making a railway, airway and hotel bookings. It has removed the barriers of ‘Brick and mortar’ model of banking.”

“Electronic banking is the acme of information technology usage, to omit time and place limitation”. E-banking services at a glance given below.

1. **Core-banking:** Core-banking is a general term which is used to explain services provided by a group of networked branches of Bank.
2. **Automated Teller Machine:** ATM can be defined as a machine which allows to the customers of a banking institution to transact banking business & process without any help of a bank cashier, clerk or any bank employee.
3. **Debit card:** A debit card is very similar to a cash card/ATM card, but it allows you to do a lot more than use an ATM machine. A debit card is like an electronic cheque which can be used to pay for goods and services.
4. **Credit Card:** It is a card issued by a bank or financial institution gives the holder an option or right to borrow funds, generally at the point of sale.
5. **Electronic Fund Transfer (EFT):** EFT offers facility to make payments to account holders of other banks in most efficiently and quickly. All this get done against the physical clearing, where the cheques are cleared on presenting of the physical instrument at the clearing house, in system EFT the transactions get settled electronically.

6. **Real Time Gross Settlement (RTGS):**– It provides for an electronic based settlement of inter Bank & Customer based transactions, with intraday collateralized liquidity support from RBI to the participants of the system.
7. **Mobile Banking :** It is a complete payment solution, which gives us the power to pay in just One Click. We can shop on mobile with the help of partner apps, ,groceries, buy movie tickets,compare and booking of flight tickets and hotels, online shop at a great discounts, money transfer to anyone from the contact list or from the bank account, bills payment and recharge on mobile, DTH and data card and many more things can be done.
8. **Unified Payments Interface (UPI):** It is a system which have powers of multiple bank accounts into a single mobile application (of any participating bank), merging some of the banking features, seamless fund routing & merchant payment into single hood. It also provide service of “Peer to Peer” collect request which can be scheduled and paid as per requirement and convenienceof the client. Each Bank provide its own UPI App for Windows, Android and iOS mobile platforms.
9. **Point of sale (PoS):** PoS is the place where selling process take place. It is also known as a point of purchase.On a macro level, a PoS may be a market, a mall or a city. On a micro level, retailers consider a PoS to be the area where a customer completes there purchasing transaction, such as a checkout counter.

## **5. Research Methodology:**

E-banking service users of public and private banks in Ahmednagar district constitute the universe.

### **a) Sources of Data:**

Primary data is collected with the help of structured questionnaires from 430 e-banking service users. Secondary data is collected from Research Journals &Articles, PhD Thesis, Newspapers and Internet.

### **b) Sampling Design:**

#### **i. Selection of Banks:**

Three public and three private sector banks selected for research purpose in Ahmednagar district namely State Bank of India, Central Bank of India, Bank of Maharashtra, ICICI Bank, HDFC Bank and Axis Bank

**ii. Selection of Taluka:**

There are 14 talukas in Ahmednagar district, From North Division Rahuri & Shrirampur and from South Division Ahmednagar & Shrigonda.

**iii. Population/Universe of Banks:**

The population/ universe is defined as total 78 Public and private sector banks in selected taluka's of Ahmednagar district.

**iv. Sample size of E-banking Users**

The size of the sample is decided using statistical method. In this research paper, the sample size (n) is **430**.

**6. Data Analysis & Findings**

Statistical tools are used for data analysis. In order to study the specific opinion of e banking users towards above e bank related statement Z test of Proportion is used:

**Table 1.** Z test for Agreements towards satisfaction level for the Service Quality of E-banking services provided by your bank

Sr. No.	Sub Sr. No.	Statements	Hypo.	Z Value	Table Value	Discussion
a)	<b>Agreements towards satisfaction level for the Service Quality of E-banking services provided by your bank</b>					
	1	Simple and easy procedure for registration of e-banking services	<b>H<sub>0</sub> &lt; 0.50</b> <b>H<sub>1</sub> &gt; 0.50*</b>	12.12	1.96	Fail to accept H <sub>0</sub>
	2	Easy to operate ATM banking services	<b>H<sub>0</sub> &lt; 0.50</b> <b>H<sub>1</sub> &gt; 0.50*</b>	6.55	1.96	Fail to accept H <sub>0</sub>
	3	Easy to operate mobile-banking services	<b>H<sub>0</sub> &lt; 0.50*</b> <b>H<sub>1</sub> &gt; 0.50</b>	-9.54	1.96	Accept H <sub>0</sub>
	4	Easy to operate Internet banking services	<b>H<sub>0</sub> &lt; 0.50*</b> <b>H<sub>1</sub> &gt; 0.50</b>	-3.95	1.96	Accept H <sub>0</sub>
	5	Convenient location and availability of ATMs	<b>H<sub>0</sub> &lt; 0.50*</b> <b>H<sub>1</sub> &gt; 0.50</b>	-6.55	1.96	Accept H <sub>0</sub>
	6	I did not find any mismatch of balance/problems till now while using e-services	<b>H<sub>0</sub> &lt; 0.50*</b> <b>H<sub>1</sub> &gt; 0.50</b>	-6.55	1.96	Accept H <sub>0</sub>

### **Discussion:**

- Simple and easy procedure for registration of e-banking services for this statement the Z Value (12.12) which is greater than the table value (1.96) so researcher fail to reject the Null Hypothesis ( $H_0$ ), it means more than 50% respondents are agree with this statement in short the procedure for registration of e-banking services is simple & easy.
- Easy to operate ATM banking services for this statement the Z Value (6.55) which is greater than the table value (1.96) so researcher fail to reject the Null Hypothesis ( $H_0$ ), it means more than 50% respondents are agreeing with this statement in short the ATM Banking service is easy to operate.
- Easy to operate mobile-banking services for this statement the Z Value (-9.54) which is less than the table value (1.96) so researcher accept Null Hypothesis ( $H_0$ ), it means less than 50% respondents are agree with this statement in short the Mobile-banking system is not easy to operate.
- Easy to operate Internet banking services for this statement the Z Value (-3.95) which is less than the table value (1.96) so researcher accept Null Hypothesis ( $H_0$ ), it means less than 50% respondents are agree with this statement in short the Internet Banking system is not easy to operate.
- Convenient location and availability of ATMs for this statement the Z Value (-6.55) which is less than the table value (1.96) so researcher accept Null Hypothesis ( $H_0$ ), it means less than 50% respondents are agree with this statement in short ATMs are not available at convenient locations.

I did not find any mismatch of balances/problems till now while using e-services for this statement the Z Value (-6.55) which is less than the table value (1.96) so researcher accept Null Hypothesis ( $H_0$ ), it means less than 50% respondents are agree with this statement in short the above statement is not true.

**Table 2.** Z test for Agreements towards satisfaction level of the reliability & responsiveness

Sr. No.	Sub Sr. No.	Statements	Hypo.	Z Value	Table Value	Discussion
b	<b>Agreements towards satisfaction level for the Reliability &amp; Responsiveness</b>					
	7	E-banking services are as per specifications/ brochure	$H_0 < 0.50$ $H_1 > 0.50^*$	20.73	1.96	Fail to accept $H_0$
	8	Good support for customer's service problems queries	$H_0 < 0.50$ $H_1 > 0.50^*$	7.04	1.96	Fail to accept $H_0$
	9	Use of ATM cards with multiple bank ATMs	$H_0 < 0.50$ $H_1 > 0.50^*$	2.60	1.96	Fail to accept $H_0$
	10	Bank alerts before/after updation in account balances	$H_0 < 0.50$ $H_1 > 0.50^*$	20.73	1.96	Fail to accept $H_0$
	11	Provides information regarding new scheme of Bank	$H_0 < 0.50$ $H_1 > 0.50^*$	20.73	1.96	Fail to accept $H_0$

**Discussion:**

- E-banking services are as per specifications/ brochure for this statement the Z Value (20.73) which is greater than the table value (1.96) so researcher fail to reject the Null Hypothesis ( $H_0$ ), it means more than 50% respondents are agree with this statement in short the E-banking services are as per specifications/ brochure.
- Good support for customer service problems, queries about this statement the Z Value (7.04) which is greater than the table value (1.96) so researcher fail to reject the Null Hypothesis ( $H_0$ ), it means more than 50% respondents are agree with this statement in short banks are providing Good support for customer's service problem queries.
- The use of ATM cards with multiple bank ATMs for this statement the Z Value (2.60) which is greater than the table value (1.96) so researcher fail to reject the Null Hypothesis ( $H_0$ ), it means more than 50% respondents are agree with this statement in short the above statement is true.
- Bank alerts before/after updation in account balances for this statement the Z Value (20.73) which is greater than the table value (1.96) so researcher fail to reject the Null Hypothesis ( $H_0$ ), it means more than 50% respondents are agree with this statement in short the above statement is true.
- Provides information regarding the new scheme of Bank for this statement the Z Value (20.73) which is greater than the table value (1.96) so researcher fail to reject the Null

Hypothesis ( $H_0$ ), it means more than 50% respondents are agree with this statement in short banks are provide information regarding the new scheme of Bank.

**Table 3.** Z test for Agreements towards satisfaction level for the Assurance

Sr. No.	Sub Sr. No.	Statements	Hypo.	Z Value	Table Value	Discussion
c	<b>Agreements towards satisfaction level for the Assurance</b>					
	12	Availability of information of bank on Internet	$H_0 < 0.50^*$ $H_1 > 0.50$	-11.09	1.96	Accept $H_0$
	13	24/7 Hours e-banking services are available (ATM, Internet, Mobile)	$H_0 < 0.50^*$ $H_1 > 0.50$	-6.55	1.96	Accept $H_0$
	14	Good account security maintained by the bank	$H_0 < 0.50$ $H_1 > 0.50^*$	3.34	1.96	Fail to accept $H_0$
	15	Satisfactorily solves problems of Users	$H_0 < 0.50$ $H_1 > 0.50^*$	20.73	1.96	Fail to accept $H_0$

**Discussion:**

- Availability of information of bank on the internet for this statement the Z Value (-11.09) which is less than the table value (1.96) so researcher accept Null Hypothesis ( $H_0$ ), it means less than 50% respondents are agree with this statement in short the above statement is not true, because more than 50% respondents are not aware about internet banking.
- 24/7 Hours e-banking services are available (ATM, Internet, Mobile) for this statement the Z Value (-6.09) which is less than the table value (1.96) so researcher accept Null Hypothesis ( $H_0$ ), it means less than 50% respondents are agree with this statement in short the above statement is not true, because more than 50% respondents are not aware about Mobile / e-banking.
- Good account security maintained by bank for this statement the Z Value (3.34) which is greater than the table value (1.96) so researcher fail to reject the Null Hypothesis ( $H_0$ ), it means more than 50% respondents are agree with this statement in short banks are maintained good account security.
- Satisfactorily solves problems of Users for this statement the Z Value (20.73) which is greater than the table value (1.96) so researcher fail to reject the Null Hypothesis ( $H_0$ ), it means more than 50% respondents are agree with this statement in short banks solves problems of Users .

**Table 4.** Z test for Agreements towards satisfaction level for the Security

Sr. No.	Sub Sr. No.	Statements	Hypo.	Z Value	Table Value	Discussion
d	<b>Agreements towards satisfaction level for the Security</b>					
	17	Proper security is provided of your account	$H_0 < 0.50^*$ $H_1 > 0.50$	-6.55	1.96	Accept $H_0$
	18	Personal Identification Number (PIN) system is suitable for security	$H_0 < 0.50$ $H_1 > 0.50^*$	20.73	1.96	Fail to accept $H_0$
	19	The bank keeps account information Confidential	$H_0 < 0.50$ $H_1 > 0.50^*$	20.73	1.96	Fail to accept $H_0$
	20	Better security regarding unauthorized access(Hackers)	$H_0 < 0.50$ $H_1 > 0.50^*$	2.60	1.96	Fail to accept $H_0$
	21	Provides physical (watchman, camera, etc.) security to ATM centers	$H_0 < 0.50$ $H_1 > 0.50^*$	2.60	1.96	Fail to accept $H_0$

**Discussion:**

- Proper security is provided to your account for this statement the Z Value (-6.96) which is less than the table value (1.96) so researcher accept Null Hypothesis ( $H_0$ ), it means less than 50% respondents are agree with this statement in short the above statement is not true.
- Personal Identification Number (PIN) system is suitable for this statement the Z Value (20.73) which is greater than the table value (1.96) so researcher fail to reject the Null Hypothesis ( $H_0$ ), it means more than 50% respondents are agree with this statement in short Personal Identification Number (PIN) system is suitable for account security.
- The bank keeps account information Confidential for this statement the Z Value (20.73) which is greater than the table value (1.96) so researcher fail to reject the Null Hypothesis ( $H_0$ ), it means more than 50% respondents are agree with this statement in short the statement is true.
- Better security regarding unauthorized access(Hackers) for this statement the Z Value (2.60) which is greater than the table value (1.96) so researcher fail to reject the Null Hypothesis ( $H_0$ ), it means more than 50% respondents are agree with this statement in short banks provides better security regarding unauthorized access(Hackers).
- Provides physical (watchman, camera, etc.) security to ATM centers for this statement the Z Value (2.60) which is greater than the table value (1.96) so researcher fail to reject the Null

Hypothesis (H<sub>0</sub>), it means more than 50% respondents are agree with this statement in short the above statement is true.

### **7. Conclusion:**

The Banking sector is now witnessing a big wave of progress with introduction of E banking and innovations in the banking scenario. Indian banking system is growing in size and complexity while acting as an important agent of economic growth and intermingling different segments of the financial sector. E-banking has changed the outlook of banking industry worldwide as now banks are offering more classy services to the customers with the constant product and process innovations.

From the research it is also concluded that though the public banks are having a huge customer base, infrastructure and network still the private banks are better in providing e-banking services.

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