

# **Financial Inclusion through Digital Technology in Banking Services**

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## **ABSTRACT**

*Innovation in finance using digital technology has made a drastic change in the life of an individual in dealing with banking services. Digital technology in banking services has made the people to be included in financial sector. Financial inclusion is one of the parameter for the development of financial sector and economic development of a country. Due to introduction of digital technology in banking services increases the usage of banking services which results in inclusion of number of people in financial sector. This research tries to find out the relationship between financial inclusion and use of digital technology in banking services. Research also tries to explore use of digital technology in financial services in last three years from 2017-2019. Data of digital banking is collected from the official website of RBI. Descriptive and inferential analysis has been done to accomplish the objectives and to test the hypothesis framed. Finally, this research shows impact on financial inclusion due to usage of digital technology in banking services.*

*Keywords: Financial Inclusion, Banking Services, Financial Services, Digital Technology (NEFT)*

## **INTRODUCTION**

Everyone is having right to access of financial product and services, which helps to earning the money and make the life easy and convenient. Accessibility was always the problem with people to get financial services. Digitalisation has break the barriers in accessing financial product. Banking services has been grown manifold due to unlimited accessibility 24 by 7. Accessibility of banking/ financial services has also increased banking/financial transactions and results in growth of banking and financial market. Digitalisation is proved to be boon for Indian banking and financial market, since it saves time, increases efficiency, facilitate quick and transparent transaction and finally it has changed our habits related to banking and financial services. Digitalisation cannot be successful without the proper infrastructure, country has to develop infrastructure which can assist the latest digital technology to our country and easily can be accessed. Mobile sets and devices has made it possible, due to cost efficiency almost everyone has mobile set or such devices which become an agent of giving banking and financial services. At present in India RBI almost fully converted some transaction digitally from manually, like money transfer. Earlier one has to wait for enough time to transfer money from one bank to other bank or from one branch to another branch of same bank, which also involve huge cost to transfer money. Due to digitalisation money transfer becomes so simple that even one can transfer money from any bank to other bank or one branch to other branch of same bank within such time required to blinking of eyebrow and that is also at a miniscule cost. Digitalisation has not only helped us in transferring money but also in other transactions like account opening which may be saving, current, fixed deposit, term deposit, withdrawal of money, payments of various bills through banks like payment of utility bills like electricity, water, telephone, mobile, insurance premium etc.

Financial literacy is pre requirement of planned life. Whenever one is earning he must have financially literate to manage that earning otherwise it can be fatal to his earning. There is infrastructure available in some of the urban and semi urban area where people can access financial services but still there are many people who are not accessible to these infrastructures and therefore they can access financial services. Financially excluded people should get chance and opportunity to be included in financial services it is their rights and this rights can be achieved through digitalisation in banking and financial sector. There are people who hesitate to visit bank either due to remoteness of the nearby branches or due to any other factor. Therefore, such people are not get included in banking and financial services. Digitalisation has given them chance to get involved with banking and financial transaction and number of users of financial transaction

has been increased manifold which shows that due to digitalisation number of transaction has been increased and we can conclude that financial inclusion is done to a greater extent due to increase in the number of transactions.

## **REVIEW OF LITERATURE**

**Yan Shen and Yiping Huang (2016)**, Introduction to the special issue: Internet finance in China Internet finance, which is often referred to as “digital finance” and “Fintech”. Internet finance refers to the new business model of utilizing the Internet and information communication technologies to accomplish a wide range of financial activities, such as third-party payment, online lending, direct sales of funds, crowdfunding, online insurance, and banking. The Internet can significantly lower transaction costs and reduce information asymmetry, enhance the efficiency of risk-based pricing and risk management, and expand sets of feasible transactions.

**Agufa Midika Michelle (2016)**, The Effect of Digital Finance On Financial Inclusion in The Banking Industry in Kenya, the study established that digital finance doesn't have any association on financial inclusion in banking sector in Kenya since banking organizations accept digital financial services to lower operating cost connected with opening and operating branches to increase their profitability and financial performance and not to foster financial inclusion.

**Peterson K Ozili (2018)**, Impact of Digital Finance on Financial Inclusion and Stability, this article delivers a dialog on digital finance and its repercussion for financial inclusion and financial stability. Digital finance through Fintech providers has optimistic effects for financial inclusion in developing and advanced economies, and the expediency that digital finance provides to individuals with low and inconstant income is often more valued to them than the higher cost they will pay to get such services from conservative regulated banks.

**Huma Haider (2018)**, Innovative financial technologies to support livelihoods and economic outcomes, the study scrutinized the innovative financial technologies sustenance livings of people. Access to digital technologies, in particular mobile phones, internet connectivity and biometric authentication, agrees for a broader variety of financial services, such as online banking, digital credit, and mobile phone banking for the unbanked. Digital financial services can be additional expedient and reasonable than traditional banking services, permitting low-income and poor people in developing nations to save and borrow in the official financial system, earn a financial return and smooth their consumption.

## **OBJECTIVES OF THE STUDY**

- 1) To analyse digital banking transaction (NEFT) from the year 2016-2019 in India.
- 2) To analyse digital banking transaction (NEFT) bank wise (namely Public Sector Bank, Private Sector Bank and Co-operative Bank) from the year 2016-2019 in India.

## **HYPOTHESIS OF THE STUDY**

H<sub>0</sub>: There is no significant difference in the number of digital banking transaction (NEFT) of banks from the year 2016-2019 in India.

H<sub>1</sub>: There is significant difference in the number of digital banking transaction (NEFT) of banks from the year 2016-2019 in India.

## **RESEARCH METHODOLOGY**

This research study is empirical in nature. In this research researcher has framed one hypothesis and used random sampling to select sample of banking companies. Under the study sample has been drawn from Public sector bank, Private sector bank and Cooperative bank. By using random sampling method researcher has taken into consideration five banks from each types of banks. Required data has been collected from official website of RBI. Researcher has considered data pertaining to NEFT outward transaction of sampled banks from the year 2016-2019. Data of NEFT transaction is available month wise on the RBI website. Researcher has tabulated collected data as per requirement and then average has been taken of different years' data. Analysis section in this research has been divided into two sub-section. First sub-section shows

descriptive analysis of collected data, where mean, median, standard deviation has been calculated. Second sub-section deals with testing of hypothesis by using ANOVA test.

## ANALYSIS OF THE DATA

### Descriptive analysis

Researcher has analysed the collected data descriptively as follows:

<b>DESCRIPTIVE ANALYSIS OF DIGITAL BANKING TRANSATIONS (NEFT) SAMPLE PUBLIC SECTOR BANK</b>				
	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Mean	15024188.42	20497754.8	23516749.8	23226833.2
Standard Error	3349830.646	4594140.854	6036030.811	5775676.213
Median	13904162	16882127	17821206	16560860
Standard Deviation	7490449.037	10272811.25	13496975.21	12914804.63
Sample Variance	5.61068E+13	1.05531E+14	1.82168E+14	1.66792E+14
Kurtosis	-3.008176368	0.741122822	1.178174948	-0.483567018
Skewness	0.188425009	1.214990261	1.349131658	1.051396343
Range	15280957.92	24432447	32246171	30174628
Minimum	7793230.076	12252504	12942827	12504507
Maximum	23074188	36684951	45188998	42679135
Sum	75120942.08	102488774	117583749	116134166
Count	5	5	5	5
<b>DESCRIPTIVE ANALYSIS OF DIGITAL BANKING TRANSATIONS (NEFT) SAMPLE PRIVATE SECTOR BANK</b>				
	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Mean	31019647.8	39617521	46776711.6	41174143.8
Standard Error	24782414.15	30869096.47	36750806.96	30785252.99
Median	5995827	9695748	10949700	11034188
Standard Deviation	55415162.68	69025398.11	82177302.58	68837918.39
Sample Variance	3.07084E+15	4.76451E+15	6.75311E+15	4.73866E+15
Kurtosis	4.761671873	4.737357902	4.761158232	4.653827453
Skewness	2.173597116	2.166493177	2.172650822	2.145179027
Range	128003935	160482541	191177901	161314450
Minimum	1571379	1817942	1742642	1959710
Maximum	129575314	162300483	192920543	163274160
Sum	155098239	198087605	233883558	205870719
Count	5	5	5	5
<b>DESCRIPTIVE ANALYSIS OF DIGITAL BANKING TRANSATIONS (NEFT) SAMPLE COOPERATIVE BANK</b>				
	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Mean	171095.4	313171.6	381208.8	433054.4
Standard Error	87496.16892	137496.3329	169525.233	180303.946
Median	100766	182219	181607	225453
Standard Deviation	195647.3815	307451.147	379069.9448	403171.8798
Sample Variance	38277897880	94526207793	1.43694E+11	1.62548E+11
Kurtosis	4.674981612	4.657027997	3.944470861	3.538501369
Skewness	2.144410319	2.145523211	1.981239924	1.889290305
Range	466056	717137	898144	960098
Minimum	52130	141400	144010	168716
Maximum	518186	858537	1042154	1128814

Sum	855477	1565858	1906044	2165272
Count	5	5	5	5

**COMPARATIVE ANALYSIS OF NEFT TRANSACTIONS OF BANKS DURING THE YEAR 2016-2019.**

BANK	COMPARATIVE ANALYSIS OF NO. OF NEFT TRANSACTIONS (OUTWARD)			
	2016	2017	2018	2019
ALLAHABAD BANK	100.00	121.42	128.17	119.11
ANDHRA BANK	100.00	157.50	163.97	158.42
BANK OF BARODA	100.00	163.36	201.23	190.06
BANK OF INDIA	100.00	105.04	120.88	130.76
BANK OF MAHARASHTRA	100.00	157.22	176.30	182.45
AXIS BANK	100.00	125.26	148.89	126.01
CITY UNION BANK LTD	100.00	161.71	182.62	184.03
DCB BANK LIMITED	100.00	164.89	222.18	264.73
DHANLAXMI BANK LTD	100.00	115.69	110.90	124.71
FEDERAL BANK	100.00	132.02	150.55	154.22
ABHYUDAYA CO-OP BANK LTD	100.00	165.68	201.12	217.84
AHMEDABAD MERCANTILE COOP BANK	100.00	205.40	263.80	327.49
AKOLA DISTRICT CENTRAL CO-OP BANK	100.00	349.55	276.25	323.64
ALMORA URBAN CO-OPERATIVE BANK LTD	100.00	142.85	176.40	201.10
BASSEIN CATHOLIC CO-OP BANK LTD	100.00	207.49	312.00	380.48

**Interpretation**

Above table shows comparative analysis of NEFT transactions of sampled banks from the year 2016 to 2019. For comparison year 2016 has been taken as base year. It is seen that sampled cooperative banks NEFT transaction has been increases significantly than public and private sector bank in the year 2017. On an average 200% increase in the digital transaction for cooperative bank sector almost in all years that is 2017,2018 and 2019. For private sector bank increase in NEFT transactions is on an average 150% in the year 2017,2018 and 2019. In case of public sector bank this increase in transaction is just around on an average 140-150% in the year 2017,2018 and 2019.

**INFERENTIAL ANALYSIS**

**PUBLIC SECTOR BANK**

Anova: Single

Factor

**SUMMARY**

Groups	Count	Sum	Average	Variance
2016	5	75120942.08	15024188.42	5.61068E+13
2017	5	102488774	20497754.8	1.05531E+14
2018	5	117583749	23516749.8	1.82168E+14
2019	5	116134166	23226833.2	1.66792E+14

**ANOVA**

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	2.3E+14	3	7.75055E+13	0.607174209	0.61992	3.23887
Within Groups	2E+15	16	1.27649E+14			
Total	2.3E+15	19				

**Interpretation**

The above table shows that the calculated value of F is 0.60717 which is less than the table value of 3.23887 at 5% level of significance with degree of freedom being (3,16) and hence could have arisen due to chance. This analysis supports the null hypothesis of no difference in sample means. We may therefore, conclude that the difference in the number of digital banking transaction (NEFT) of Public Sector bank from the year 2016-2019 in India is insignificant and is just a matter of chance.

**PRIVATE SECTOR BANK BANK**

Anova: Single Factor

**SUMMARY**

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
2016	5	155098239	31019647.8	3.07084E+15
2017	5	198087605	39617521	4.76451E+15
2018	5	233883558	46776711.6	6.75311E+15
2019	5	205870719	41174143.8	4.73866E+15

**ANOVA**

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	6.4E+14	3	2.12662E+14	0.044013135	0.98726	3.23887
Within Groups	7.7E+16	16	4.83178E+15			
Total	7.8E+16	19				

**Interpretation**

The above table shows that the calculated value of F is 0.0440 which is less than the table value of 3.23887 at 5% level of significance with degree of freedom being (3,16) and hence could have arisen due to chance. This analysis supports the null hypothesis of no difference in sample means. We may therefore, conclude that the difference in the number of digital banking transaction (NEFT) of Private sector bank from the year 2016-2019 in India is insignificant and is just a matter of chance.

**COOPERATIVE BANK**

Anova: Single Factor

**SUMMARY**

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
2016	5	855477	171095.4	38277897880
2017	5	1565858	313171.6	94526207793
2018	5	1906044	381208.8	1.43694E+11
2019	5	2165272	433054.4	1.62548E+11

**ANOVA**

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1.9E+11	3	64435299044	0.587048683	0.63222	3.23887
Within Groups	1.8E+12	16	1.09761E+11			
Total	1.9E+12	19				

**Interpretation**

The above table shows that the calculated value of F is 0.5870 which is less than the table value of 3.23887 at 5% level of significance with degree of freedom being (3,16) and hence could have arisen due to chance. This analysis supports the null hypothesis of no difference in sample means. We may therefore, conclude that the difference in the number of digital banking transaction (NEFT) of Cooperative bank from the year 2016-2019 in India is insignificant and is just a matter of chance.

**FINDINGS AND CONCLUSIONS**

From the above analysis researcher has made the following findings and conclusions:

There is no significant difference in NEFT transaction of public sector bank, private sector bank and cooperative bank, which concludes that difference in NEFT transaction during the study period is just by chance and therefore it can be concluded that even though number of digital transaction has been increased and financial inclusion is spread accordingly but statistically it is not proved by the data collected from the sample bank.

**REFERENCES**

- 1) Yan Shen and Yiping Huang "Introduction to the special issue: Internet finance in China" china economic journal" (2016)
- 2) Agufa Midika Michelle, "The Effect Of Digital Finance On Financial Inclusion In The Banking Industry In Kenya"(Nov 2016)
- 3) Peterson K Ozili, "Impact of Digital Finance on Financial Inclusion and Stability" (2018)
4. Haider, H. "Innovative financial technologies to support livelihoods and economic outcomes" (2018)