

EFFECT OF ACCESS OF FINANCIAL SERVICES ON HUMAN DEVELOPMENT INDEX

1. Dr. Gajanan Mudholkar, Assistant Professor, School of Commerce and Management Sciences, S.R.T.M. University, Nanded.
2. Dr. Rupali Gajanan Mudholkar, Research Scholar, School of Commerce and Management Sciences, S.R.T.M. University, Nanded (Maharashtra).
3. Dr. RadhakishanHoge, D.B. College, Bhokar.

Abstract:The socio- economic development of nation depends on the human development of citizens of that nation which in turn depend on financial inclusion parameters through the access and usage of formal financial services.The objective of the research study is to compare the impact of Access to the Financial Services on HDI in rural and urban households of Nanded district.

Keywords: Access of financial services, human development index and financial inclusion.

1. Introduction:

Reserve Bank of India has defined Financial Inclusion as “the process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups such as weaker sections and low income groups in particular at an affordable cost in a fair and transparent manner by mainstream institutional players.”

The socio- economic development of nation depends on the human development of citizens of that nation which in turn depend on financial inclusion parameters through the access and usage of formal financial services.

According to World Bank report (2012), the objectives of financial inclusion can be accomplished by the strategies of financial inclusion. The strategies are the plans of actions defined to serve financial access to the underserved people.

The financial inclusion does not reduce the poverty directly but it improves the standard of living.It assists the poor people to start their own business by financial assistance of formal access of financial services such as loans. Through the growth of their small business into large business, they may reduce their poverty indirectly.

Kempson (2006) narrated about the causes of financial exclusion. He explained that the causes differ from nation to nation leading to the financial exclusion,. He observed that the KYC norms, rules, regulations, banking charges, access and traditional barriers are some of the barriers of financial inclusion.

The financial inclusion provides the access, usage and availability of financial services to human beings.

1.1 Significance of Research Problem

The financial inclusion has made revolutionary modifications in the lives of rural and urban households. The financial inclusion has a significant impact on the different aspects of human development index. The access to the banking services has been increased due to the financial inclusion.

1.2 Objectives of Research study: The objective of the research study is to compare the impact of Access to the Financial Services on HDI in rural and urban households of Nanded district.

1.3 Hypothesis of the Research study: The hypotheses under study are categorized into null hypothesis (H₀) and alternative hypothesis (H_a) designed as per the objectives of study are as

Null hypothesis (H₀): There is no significant difference between the impact of Access to the Financial Services on HDI in rural and urban households of Nanded district.

Alternative Hypothesis ((H_a): There is significant difference between the impact of Access to the Financial Services on HDI in rural and urban households of Nanded district.

2. Review of Literature

According to Chakrabarty (2013), “Financial Inclusion is the process of ensuring access to appropriate financial products and services – deposit accounts, payment services, micro-credit and micro-level insurance – to vulnerable groups such as weaker sections and low income groups by mainstream institutional players”.

Financial Inclusion Data Working Group (2011) studied the financial inclusion and suggested to have access of financial services for the availability of formal and regulated financial services.

Alliance for Financial Inclusion (2010) measured the components of financial inclusion. The financial inclusion can be measured through 4 lenses or its components as Access– capability to utilize existing financial services from financial institutions. Recognize latent barriers to opening account & using a bank account cost and material nearness of bank service points (branches, ATMs, etc). Including the number of open accounts across financial institutions and approximation of proportion of the population with an account. Quality – Relevance of the financial service experience of the consumer, established in approaches and views towards existing services. It is used to measure the character and intensity of the association between the financial service supplier and the customer, existing options its choice. Usage –use of financial services mainly on the durability and strength of financial service use. Promptness, frequency and period of use over time. Grouping of financial services utilized by household. Welfare – its impact on the lives of consumers, transformations in utilization, selling action and wellness.

Mr. Nikhil Yadav et al (2016) in their research study suggested that there should be at least one bank account attached with each household.

Dr. Anurag Singh et al (2012) analyzed the situation of financial inclusion in India. The access to finance can be categorized into percentage of households using bank account, households using non-banking institutions, households using information financial service suppliers, households regularly using financial services and households’ not using financial services.

3. Research Design

The research parameters are consolidated into the following table no. Research Design as follows

Table no.3.1 Research Design

Sr.No.	Parameter	Description
1	Type of Research	Ex Post Facto Descriptive Research
2	Nature of Research	Quantitative
3	Research Instrument	Structured questionnaire and observation
4	Dependent Variable	All essential parameters of human development
5	Independent Variables	All essential parameters of financial inclusion
6	Control over Variables	No Control- Ex Post Facto
7	Survey Period	Six months
8	Type of Products	Products of Financial Inclusion
9	Methods of Data Collection	Sample Survey Method through Interrogation
10	Universe	Users of Financial Inclusion Services in Nanded district.
11	Population	Users of Financial Inclusion in rural & urban parts of Nanded district.
12	Sampling Frame	Rural and Urban Users of Financial Inclusion Equally in Nanded district.
13	Sample Elements	Users (Households) of Financial Inclusion Services in Nanded district (Especially past financially excluded households who have been served the financial inclusion services at present) i.e. unbanked respondents turning into banked respondents.
14	Sample Size Determination	Using Mean and Proportionate Sampling Formula
15	Calculated Sample Size	400 respondents (200 rural and 200 urban)
16	Net Responses	380 respondents (190 rural and 190 urban)
17	Response Rate	90% rural & 90% urban respondents.
18	Rejection Rate	10% rural & 10% urban respondents.
19	Sampling Method	Proportionate Stratified Sampling followed by Multilevel Non Probability Convenient Sampling
20	Sources of Data Collection	Primary and Secondary sources.
21	Primary Sources	Structured questionnaire and observation.
22	Secondary sources	Journals, Articles, Books, Magazines, Digital library, e resource databases and many other published data.
23	Measurement Scales	Nominal, ordinal and interval scale
24	Questions Types	Dichotomous, open ended, closed ended and ranking.
25	Rating Scales Used	Five Point Likert Scale.

26	Data Interpretation	Through graphs, descriptive statistics and inferential statistics
27	Statistical Tools	Z test, chi square, ANOVA, descriptive statistical tools and parametric and non parametric statistical tests.
28	Statistical Software Package	Ms Excel 2010 and SPSS 20.

Source: Researchers' Compilation

4. Data Analysis and Interpretation

The impact of access to the financial (banking) services on HDI could be studied through the following parameters of research questions asked in likert scale as from strongly disagree, disagree, neutral, agree and strongly agree. These parameters are given as Bank location is convenient & approachable, Bank branch's location is convenient & approachable, You have easy access to the useful information, ATM is easily accessible by location and operation, Bank employees are easily accessible, Bank Manager/ Officer is easily accessible, Banking services are served fast and easily, Banking services are served easily to the specially abled customers, There is no barrier to open the account, There is no barrier to operate the account, Financial services are affordable, Bank timings are convenient and accessible, You have access to more than one bank and Generally, You are satisfied with the access to the financial services. The parameters are divided into before and after the financial inclusion in rural and urban households of Nanded district. The researcher studied all these parameters for the condition- before the financial inclusion and for the condition- after the financial inclusion.

Before verifying these hypotheses, researcher calculated the value of Cronbachs' alpha³⁰ (internal consistency among the items of the instrument) for reliability of collected data through questionnaire for all diversified products as

Table No. 4.1 Reliability Analysis

Sr. No	Title	Before	After	No. of Items
1.1 to 1.14	Impact of Access to the Financial (Banking) Services on HDI	0.982	0.943	14

Source: Field Survey and SPSS output

Since the values of Cronbach's Alpha is greater than the accepted value (0.70), hence the instrument is reliable and can be used with other statistical procedures for further investigation.

Impact of Access to the Financial Services on HDI is divided into 14 questions built as sub hypotheses and the these 14 items are compared among the rural and urban households to study the impact of financial inclusion on Human Development Index

before and after the financial inclusion. The item wise comparison became lengthy and tedious, so it is grouped into different ranges indicating smallest and largest values as follows

Table No. 4.2 Consolidation of Impact of Access to the Financial Services on HDI

1.1 to 1.14		R	%	U	%
Before	SD	52 to 64	14.4 to 17.8	42 to 50	11.7 to 13.9
	D	75 to 86	20.8 to 23.9	68 to 79	18.9 to 21.9
	N	19 to 29	5.3 to 8.1	27 to 34	7.5 to 9.4
	A	8 to 18	2.2 to 5	18 to 32	5 to 8.9
	SA	1 to 6	0.3 to 1.7	4 to 12	1.1 to 3.3
	Total	180	50	180	50
	SD	10 to 17	2.8 to 4.7	4 to 13	1.1 to 3.6
	D	23 to 31	6.4 to 8.6	16 to 22	4.4 to 6.1
After	N	17 to 26	4.7 to 7.2	21 to 29	5.8 to 8.1
	A	67 to 74	18.6 to 20.6	70 to 83	19.4 to 23.1
	SA	40 to 54	11.1 to 15	46 to 55	12.7 to 15.3
	Total	180	50	180	50

Source: Field Survey and SPSS output

From the above table no. 5.49, it is observed that 52 to 64 (14.4% to 17.8%) and 42 to 50 (11.7% to 13.9%) rural and urban respondents strongly disagree that there is an impact of financial services before the financial inclusion respectively. Due to the introduction of financial inclusion policy, it is reduced to 10 to 17 (2.8% to 4.7%) and 4 to 13 (1.1% to 3.6%) rural and urban respondents strongly disagree the same after the financial inclusion. The 75 to 86 (20.8% to 23.9%) and 68 to 79 (18.9% to 21.9%) rural and urban respondents disagree that there is an impact of financial services before the financial inclusion respectively. Due to the introduction of financial inclusion policy, it is reduced to 23 to 31 (6.4% to 8.6%) and 16 to 22 (4.4% to 6.1%) rural and urban respondents disagree the same after the financial inclusion. The impact of neutral opinion before and after the financial inclusion is very negligible in rural and urban respondents.

The 8 to 18 (2.2% to 5%) and 18 to 32 (5% to 8.9%) rural and urban respondents agree that there is an impact of financial services before the financial inclusion respectively. Due to the introduction of financial inclusion policy, it is increased to 67 to 74 (18.6% to 20.6%) and 70 to 83 (19.4% to 23.1%) rural and urban respondents

agree the same after the financial inclusion. The 1 to 6(0.3% to 1.4%) and 4 to 12 (1.1% to 3.3%) rural and urban respondents strongly agree that there is an impact of financial services before the financial inclusion respectively. Due to the introduction of financial inclusion policy, it is raised to rural and urban respondents strongly agree the same after the financial inclusion.

There are two variables i.e. nominal and interval for access to the financial services before the financial inclusion and the interval variable is dependent. Researcher wants to measure the strength of relationship between the variables or a test of the statistical significance of differences between groups. Assuming that the interval scaled variable is normally distributed in the population and scedasticity is checked to know whether t test is applicable or F test (ANOVA) is applicable. If variances are equal, homo scedasticity is present and F test (ANOVA) is applicable. In other cases when hetero scedasticity is present, Welch statistic, Brown-Forsythe statistic and t-test are used as follows Now Researcher is interested in studying the impact of financial inclusion (access to the financial inclusion) on HDI after the financial inclusion. Following table helped researcher to know the application of either t test or F test (ANOVA) as follows

Table No. 4.3 Test of Homogeneity of Variances

	H ₀ Variances are equal	Ho: Means are equal	Test Applicable	Levene Sig.	Robust Sig.
1.1) After- Bank location is convenient & approachable	Greater than .05 Equal	Greater than .05 Equal	ANOVA	.052	.230
1.2) After- Bank branch's location is convenient & approachable	Less than .05 Unequal	Less than .05 Unequal	t test	.002	.013
1.3) After- You have easy access to the useful information.	Greater than .05 Equal	Greater than .05 Equal	ANOVA	.064	.129
1.4) After- ATM is easily accessible by location and operation.	Greater than .05 Equal	Greater than .05 Equal	ANOVA	.416	.320
1.5) After- Bank employees are easily accessible.	Less than .05 Unequal	Greater than .05 Equal	t test	.001	.087

1.6) After- Bank Manager/ Officer is easily accessible.	Less than .05 Unequal	Less than .05 Unequal	t test	.000	.002
1.7) After- Banking services are served fast and easily.	Less than .05 Unequal	Less than .05 Unequal	t test	.001	.020
1.8) After- Banking services are served easily to the specially abled customers.	Less than .05 Unequal	Less than .05 Unequal	t test	.000	.003
1.9) After- There is no barrier to open the account.	Less than .05 Unequal	Less than .05 Unequal	t test	.002	.027
1.10) After- There is no barrier to operate the account.	Less than .05 Unequal	Greater than .05 Equal	t test	.022	.093
1.11) After- Financial services are affordable.	Less than .05 Unequal	Less than .05 Unequal	t test	.013	.127
1.12) After- Bank timings are convenient and accessible.	Less than .05 Unequal	Greater than .05 Equal	t test	.014	.071
1.13) After- You have access to more than one bank.	Greater than .05 Equal	Greater than .05 Equal	ANOVA	.286	.423
1.14) After- Generally, You are satisfied with the access to the financial services.	Greater than .05 Equal	Greater than .05 Equal	ANOVA	.157	.599

Source: Field Survey and SPSS output

From the above table no. 4.3, if hetero scedasticity is present then t test is applied and homoscedasticity is observed then ANOVA is used.

The sub hypotheses 1.1,1.3,1.5, 1.13 and 1.14 can be tested through ANOVA as

Table No. 4.4 ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.	Comparing with .05	Ho Decision
1.1) After- Bank location is convenient & approachable	Between Groups	2.025	1	2.025	1.447	.230	Greater than .05	Accepted
	Within Groups	501.172	358	1.400				
	Total	503.197	359					
1.3) After- You have easy access to the useful information.	Between Groups	3.211	1	3.211	2.311	.129	Greater than .05	Accepted
	Within Groups	497.411	358	1.389				
	Total	500.622	359					
1.5) After- Bank employees are easily accessible.	Between Groups	4.011	1	4.011	2.951	.087	Greater than .05	Accepted
	Within Groups	486.611	358	1.359				
	Total	490.622	359					
1.13) After- You have access to more than one bank.	Between Groups	.900	1	.900	.645	.423	Greater than .05	Accepted
	Within Groups	499.889	358	1.396				
	Total	500.789	359					
1.14) After- Generally, You are satisfied with the access to the financial services.	Between Groups	.400	1	.400	.278	.599	Greater than .05	Accepted
	Within Groups	516.000	358	1.441				
	Total	516.400	359					

Source: Field Survey and SPSS output

Table No. 4.5 t test

t	Df	Sig. (2-tailed)	Comparing with .05	Hypothesis Decision

1.2) After- Bank branch's location is convenient & approachable	Equal variances assumed	-2.491	358	.013	Less than .05	Rejected
	Equal variances not assumed	-2.491	351.717	.013	Less than .05	Rejected
1.4) After- ATM is easily accessible by location and operation.	Equal variances assumed	-.995	358	.320	Greater than .05	Accepted
	Equal variances not assumed	-.995	357.744	.320	Greater than .05	Accepted
1.6) After- Bank Manager/ Officer is easily accessible.	Equal variances assumed	-3.072	358	.002	Less than .05	Rejected
	Equal variances not assumed	-3.072	344.696	.002	Less than .05	Rejected
1.7) After- Banking services are served fast and easily.	Equal variances assumed	-2.346	358	.019	Less than .05	Rejected
	Equal variances not assumed	-2.346	349.185	.020	Less than .05	Rejected
1.8) After- Banking services are served easily to the specially abled customers.	Equal variances assumed	-2.941	358	.003	Less than .05	Rejected
	Equal variances not assumed	-2.941	344.716	.003	Less than .05	Rejected
1.9) After- There is no barrier to open the account.	Equal variances assumed	-2.219	358	.027	Less than .05	Rejected
	Equal variances not assumed	-2.219	352.495	.027	Less than .05	Rejected

1.10) After- There is no barrier to operate the account.	Equal variances assumed	- 1.685	358	.093	Greater than .05	Accepted
	Equal variances not assumed	- 1.685	354.844	.093	Greater than .05	Accepted
1.11) After- Financial services are affordable.	Equal variances assumed	- 1.529	358	.127	Greater than .05	Accepted
	Equal variances not assumed	- 1.529	353.300	.127	Greater than .05	Accepted
1.12) After- Bank timings are convenient and accessible.	Equal variances assumed	- 1.808	358	.071	Greater than .05	Accepted
	Equal variances not assumed	- 1.808	354.602	.071	Greater than .05	Accepted

Source: Field Survey and SPSS output

From above table no. 5.54 and 5.55, it is proved that if the significance value of t test and ANOVA is greater than the standard significance value 0.05, then the H_0 null hypothesis is accepted otherwise if the significance value of t test and ANOVA is less than the standard significance value 0.05 and then the H_0 null hypothesis is rejected.

5. Findings, Conclusions and Suggestions

The findings and conclusions of the present research study are consolidated as follows

Table No. 5.1 Hypothesis Decisions

Sr. No.	Title	Before	After
		Financial Inclusion	
1	Generally, You are satisfied with the access to the financial services.	Rejected	Accepted

Table No. 5.2 Hypothesis 01.1-01.14 Decisions

Sr.	Title	Before	After
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No.		Financial Inclusion	
1.1	Bank location is convenient & approachable	Rejected	Accepted
1.2	Bank branch's location is convenient & approachable	Rejected	Rejected
1.3	You have easy access to the useful information.	Rejected	Accepted
1.4	ATM is easily accessible by location and operation.	Rejected	Accepted
1.5	Bank employees are easily accessible.	Rejected	Accepted
1.6	Bank Manager/ Officer is easily accessible.	Rejected	Rejected
1.7	Banking services are served fast and easily.	Rejected	Rejected
1.8	Banking services are served easily to the specially abled customers.	Accepted	Rejected
1.9	There is no barrier to open the account.	Rejected	Rejected
1.10	There is no barrier to operate the account.	Rejected	Accepted
1.11	Financial services are affordable.	Rejected	Accepted
1.12	Bank timings are convenient and accessible.	Rejected	Accepted
1.13	You have access to more than one bank.	Rejected	Accepted
1.14	Generally, You are satisfied with the access to the financial services.	Rejected	Accepted

Source: Field Survey and SPSS output

5.2 Conclusion: Before the Financial Inclusion: Null hypothesis Rejected: There is significant difference between the impact of Access to the Financial Services on HDI in rural and urban households of Nanded district.

After the Financial Inclusion: Null hypothesis Accepted: There is no significant difference between the impact of Access to the Financial Services on HDI in rural and urban households of Nanded district.

5.3 Suggestions: The access to the financial services may be enhanced by increasing the number of bank branches and by promoting financial inclusion. The aadhar card should be linked to each bank account so that the access ,usage and creditability can be known easily. • The Business Correspondents (BCs) of banks may play vital role in providing access to the financial services in remote places so their role and responsibility should be flexible and they may work as bankers on the behalf of banks. A geographical information system (GIS) to map all banking access points.

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