

## Impact of Usage of Financial Services on Human Development Index in Nanded District

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### Abstract:

The Human Development Index is affected by the financial inclusion. The Usage of financial services is one of the dimensions of financial inclusion. In the present research study, researcher made an attempt to study the impact of financial inclusion on monthly income of users of financial inclusion in Nanded district. For this purpose, researcher selected the sample of 380 respondents. The sample size is divided into rural and urban households equally. The present research work is carried out in the rural and urban parts of Nanded district. The impact of financial inclusion on income of users of financial inclusion in Nanded district can be studied when the research is carried out with the assistance of before and after situation of introduction of financial inclusion. It is observed that Therefore there is no significant difference of Monthly income among rural and urban households (Users of financially inclusion) in Nanded District. The conclusions are drawn at that the end of the research paper.

Keywords: Users of Financial Services, Financial Inclusion and Human Development Index etc.

### 1. Introduction

"All our programmes should be helpful for the poor; we have to empower them through financial inclusion" Twitted by Hon'ble Prime Minister Shri Narendra Modi. "The financial inclusion had received a big boost with the opening of 17 crore bank accounts through the Pradhan Mantri Jan Dhan Yojana and Rs. 20,000 crore deposited in the Jan Dhan accounts reflected the 'Richness of India's poor'" addressed by Hon'ble Prime Minister Shri Narendra Modi.

The Financial Inclusion is the insertion of financial services to the underserved and weaker section of the society. It is the process of ensuring financial access to the unbanked population of the nation. The financial inclusion is the progression of financial system, financial instrument and overall financial system. According to World Bank (2008), "The concept of financial inclusion in a comprehensive manner. It defines financial inclusion or broad access to financial services as absence of price or non-price barriers in the use of financial

services".

The appraisal of socio-economic development of nation is measured through a statistical measure called Human Development Index (HDI). It was created by United Nations. According to Human Development Reports of United Nations Development Programme It is a precise extent of average achievement in key dimensions of human development: 1) a long and healthy life, 2) being knowledgeable 3) A decent standard of living.

**Objective of the research work:** To study the impact of usage of financial services on Human Development Index in Nanded district.

**Hypothesis of the research work:** There is no impact of usage of financial services on Human Development Index in Nanded district.

### Review of Literature:

According to Global Partnership for Financial Inclusion (2012), The indicators or dimensions- Usage indicator is related to Formally banked adults, Adults with credit at regulated institutions, Adults with Insurance,

Cashless transactions, Mobile transactional use, High frequency of account use, Saving propensity, Remittances, Formally banked enterprises. Access indicator relates to Points of Service, E-money accounts, Interoperability of Points of Service. Quantity indicator relates to Financial Knowledge, Financial behavior, Disclosure demands; Dispute Resolution, Cost of Usage and Credit Barriers.

or dimensions- Usage indicator is related to the ways of using financial services for example promptness and period of the usage of financial service, average saving balance, number of transactions per account, number of Internet payments. The Usage, Access and Quantity indicator measures the extent of financial inclusion hence suggested to measure the financial inclusion.

According to World Bank (2015), The indicators

### Research Methodology.

Table No. 1.1 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	January to September 2016
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 Formula	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.
24	Questions Types	Dichotomous, open ended, closed ended and ranking.
25	Statistical Tools	Z test, chi square, ANOVA, descriptive statistical tools and parametric and non parametric statistical tests.
26	Statistical Package	Ms Excel 2010 and SPSS 20.

**Data Analysis and Interpretation:**

The impact of Usage of financial services on Human Development Index before and after the financial inclusion in rural and urban households is divided into 10 hypotheses as You frequently visit the bank to use banking services, You deposit cash regularly, You withdraw money frequently, You frequently utilize loan services of the bank, You use bank for the repayment of loan, You use internet banking, You use mobile banking, You use ATM (Debit and Credit) Card frequently, You use other banking services such as Cheques, Demand Draft, overdraft facility etc, Overall, you visit to bank frequently for using different banking services.

**Table No. 1.2a Impact of Usage of the Financial (Banking) Services on HDI**

Sr.No.	T	Before						After					
		SD	D	N	A	SA	Total	SD	D	N	A	SA	Total
1.1	R	64	82	13	14	7	180	13	22	21	72	52	180
	%	17.8	22.8	3.6	3.9	1.9	50	3.6	6.1	5.8	20	14.4	50
	U	47	86	19	24	4	180	12	21	20	72	55	180
	%	13.1	23.9	5.3	6.7	1.1	50	3.3	5.8	5.6	20	15.30	50
1.2	R	61	87	18	11	3	180	15	22	20	74	49	180
	%	16.9	24.2	5	3.1	0.80	50	4.20	6.10	5.60	20.60	13.60	50
	U	49	83	21	22	5	180	11	20	20	72	57	180
	%	13.6	23.1	5.8	6.1	1.40	50	3.1	5.6	5.6	20	15.80	50
1.3	R	66	84	13	11	6	180	12	24	20	76	48	180
	%	18.3	23.3	3.6	3.1	1.70	50	3.30	6.70	5.60	21.10	13.30	50
	U	47	76	18	23	16	180	13	20	22	80	45	180
	%	13.1	21.1	5	6.4	4.40	50	3.6	5.60	6.10	22.20	12.50	50
1.4	R	69	84	11	12	4	180	16	20	18	77	49	180
	%	19.2	23.3	3.10	3.3	1.10	50	4.4	5.6	5	21.4	13.60	50
	U	49	78	16	26	11	180	12	20	19	82	47	180
	%	13.6	21.7	4.40	7.2	3.10	50	3.30	5.60	5.30	22.80	13.10	50
1.5	R	67	83	15	13	2	180	13	26	17	74	50	180
	%	18.6	23.1	4.2	3.6	0.6	50	3.6	7.2	4.7	20.6	13.9	50
	U	46	82	19	25	8	180	14	21	20	75	50	180
	%	12.8	22.8	5.3	6.9	2.2	50	3.9	5.8	5.6	20.8	13.9	50
1.6	R	66	86	12	12	4	180	15	24	17	72	52	180
	%	18.3	23.9	3.3	3.3	1.1	50	4.2	6.7	4.7	20	14.4	50
	U	51	83	19	21	6	180	9	24	23	77	47	180
	%	14.2	23.1	5.30	5.8	1.70	50	2.50	6.70	6.40	21.40	13.1	50
1.7	R	67	84	14	12	3	180	16	25	14	76	49	180
	%	18.6	23.3	3.9	3.3	0.8	50	4.4	6.9	3.9	21.1	13.6	50
	U	45	87	19	21	8	180	14	20	21	78	47	180
	%	12.5	24.2	5.3	5.8	2.2	50	3.9	5.6	5.8	21.7	13.1	50
1.8	R	64	87	16	8	5	180	15	25	16	73	51	180
	%	17.8	24.2	4.4	2.2	1.4	50	4.2	6.9	4.4	20.3	14.2	50

	U	50	84	18	18	10	180	12	21	20	78	49	180
	%	13.9	23.3	5	5	2.8	50	3.3	5.8	5.6	21.7	13.6	50
1.9	R	62	88	14	12	4	180	17	27	15	73	48	180
	%	17.2	24.4	3.9	3.3	1.1	50	4.7	7.5	4.2	20.3	13.3	50
	U	47	84	19	23	7	180	14	21	19	78	48	180
	%	13.1	23.3	5.3	6.4	1.9	50	3.9	5.8	5.3	21.7	13.3	50
1.10	R	65	86	14	10	5	180	14	27	17	73	49	180
	%	18.1	23.9	3.9	2.8	1.4	50	3.9	7.5	4.7	20.3	13.6	50
	U	48	86	17	24	5	180	13	22	18	81	46	180
	%	13.3	23.9	4.7	6.7	1.4	50	3.6	6.1	5	22.5	12.8	50

Source: Field Survey and SPSS output

**Table No. 1.2b Impact of Usage of the Financial (Banking) Services on HDI**

1.1 to 1.10		R	%	U	%
	SD	61 to 69	17 to 20	45 to 51	12.5 to 14.2
Before	D	80 to 88	22.3 to 24.5	76 to 87	21.2 to 24.2
	N	11 to 18	3.1 to 5	16 to 21	4.5 to 5.9
	A	8 to 14	2.3 to 3.9	18 to 26	5 to 7.3
	SA	3 to 7	0.9 to 2	4 to 16	1.2 to 4.5
	Total	180	50	180	50
	SD	12 to 17	3.3 to 4.7	9 to 14	2.5 to 3.9
	D	20 to 27	5.6 to 7.5	20 to 24	6.1 to 6.7
After	N	14 to 21	3.9 to 5.9	18 to 23	5 to 6.4
	A	72 to 77	20 to 21.4	72 to 82	20 to 22.8
	SA	48 to 52	13.4 to 14.5	45 to 57	12.5 to 15.9
	Total	180	50	180	50

From the above table no. 1.2, it is clear that 61 to 69(17 to 20%) and 45 to 51 (12.5 to 14.2%) rural and urban respondents strongly disagree that there is an impact of quality of financial services on HDI before the financial inclusion respectively. Due to the introduction of financial inclusion policy, it is reduced to 12 to 17 (3.3 to 4.7%) and 9 to 14 (2.5 to 3.9%) rural and urban respondents strongly disagree the same after the financial inclusion. The 80 to 88 (22.3 to 24.5%) and 76 to 87 (21.2 to 24.2%) rural and urban respondents disagree that there is an impact of quality of financial services on HDI before the financial inclusion respectively. Due to the introduction of financial inclusion policy, it is reduced to 20 to 27 (5.6 to 7.5%) and 20 to 24 (6.1 to 6.7%) 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 14 (2.3 to 3.9%) and 18 to 26 (5 to 7.3%) rural and urban respondents agree that there is an impact of quality of financial services on HDI before the financial inclusion respectively. Due to the introduction of financial inclusion policy, it is increased to 72 to 77 (20 to 21.4%) and 72 to 82 (20 to 22.8%) rural and urban respondents agree the same after the financial inclusion. The 3 to 7 (0.9 to 2%) and 4 to 16 (1.2 to 4.5%) rural and urban respondents strongly agree that there is an impact of quality of financial services on HDI before the financial inclusion respectively. Due to the introduction of financial

inclusion policy, it is raised to 48 to 52 (13.4 to 14.5%) and 45 to 57 (12.5 to 15.9%) 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 a measure of 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

By using Test of Homogeneity of Variances (Levene Statistic), equality of variances are verified so as to know the heteroscedasticity and homoscedasticity It leads to the application of either t test or ANOVA along with Robust Tests of Equality of Means as follows

**Table No. 1.3 Test of Homogeneity of Variances (Before FI)**

	Ho: Variances are equal	Ho: Means are equal	Test Applicabl e	Levene Sign.	Robust Signi
1.1) Before- You frequently visit the bank to use banking services.	Accepted	Accepted	ANOVA	0.286	0.086
	Equal	Equal			
1.2) Before- You deposit cash regularly.	Rejected	Rejected	t test	0.02	0.022
	Unequal	Unequal			
1.3) Before- You withdraw money frequently.	Rejected	Rejected	t test	0	0
	Unequal	Unequal			
1.4) Before- You frequently utilize loan services of the bank.	Rejected	Rejected	t test	0	0
	Unequal	Unequal			
1.5) Before- You use bank for the repayment of loan.	Rejected	Rejected	t test	0.002	0.001
	Unequal	Unequal			
1.6) Before- You use internet banking.	Accepted	Rejected	ANOVA	0.058	0.017
	Equal	Unequal			
1.7) Before- You use mobile banking.	Rejected	Rejected	t test	0.022	0.002
	Unequal	Unequal			
1.8) Before- You use ATM (Debit and Credit) Card frequently.	Rejected	Rejected	t test	0.01	0.009
	Unequal	Unequal			
1.9) Before- You use other banking services such as Cheques, Demand Draft, overdraft facility etc.	Rejected	Rejected	t test	0.008	0.009
	Unequal	Unequal			
1.10) Before- Overall, you visit to bank frequently for using different banking services.	Accepted	Rejected	ANOVA	0.055	0.012
	Equal	Unequal			

Source: Field Survey and SPSS output

**Table No. 1.4 Test of Homogeneity of Variances (After FI)**

	Ho: Variances are equal	Ho: Means are equal	Test Applicable	Levene Sign.	Robust Signi
1.1) After- You frequently visit the bank to use banking services.	Accepted Equal	Accepted Equal	ANOVA	.717	.694
1.2) After- You deposit cash regularly.	Accepted Equal	Accepted Equal	ANOVA	.296	.295
1.3) After- You withdraw money frequently.	Accepted Equal	Accepted Equal	ANOVA	.688	1.000
1.4) After- You frequently utilize loan services of the bank.	Accepted Equal	Accepted Equal	ANOVA	.280	.692
1.5) After- You use bank for the repayment of loan.	Accepted Equal	Accepted Equal	ANOVA	.718	.863
1.6) After- You use internet banking.	Accepted Equal	Accepted Equal	ANOVA	.141	.758
1.7) After- You use mobile banking.	Accepted Equal	Accepted Equal	ANOVA	.317	.764
1.8) After- You use ATM (Debit and Credit) Card frequently.	Accepted Equal	Accepted Equal	ANOVA	.200	.634
1.9) After- You use other banking services such as Cheques, Demand Draft, overdraft facility etc.	Accepted Equal	Accepted Equal	ANOVA	.145	.472
1.10) After- Overall, you visit to bank frequently for using different banking services.	Accepted Equal	Accepted Equal	ANOVA	.261	.697

Source: Field Survey and SPSS output

From the above table no. 1.3 and 1.4, t test and ANOVA test are used for different 10 subhypotheses as mentioned and if heteroscedasticity is present then t test is applied and homoscedasticity is observed then ANOVA is used. The description of t test and ANOVA test are as follows

**Table No1.5 Independent Samples t -Test**

		T	Df	Sig. (2-tailed)	(2-Comparing with .05)	Hypothesis Decision
1.2) Before- You deposit cash regularly.	Equal variances assumed	-2.302	358	.022	Less than .05	Rejected Unequal
	Equal variances not assumed	-2.302	351.146	.022	Less than .05	Rejected Unequal
1.3) Before- You withdraw money frequently.	Equal variances assumed	-3.652	358	.000	Less than .05	Rejected Unequal
	Equal variances not assumed	-3.652	340.939	.000	Less than .05	Rejected Unequal
1.4) Before- You frequently utilize loan services of the bank.	Equal variances assumed	-3.626	358	.000	Less than .05	Rejected Unequal
	Equal variances not assumed	-3.626	341.291	.000	Less than .05	Rejected Unequal
1.5) Before- You use bank for the repayment of loan.	Equal variances assumed	-3.453	358	.001	Less than .05	Rejected Unequal
	Equal variances not assumed	-3.453	344.213	.001	Less than .05	Rejected Unequal
1.7) Before- You use mobile banking.	Equal variances assumed	-3.132	358	.002	Less than .05	Rejected Unequal
	Equal variances not assumed	-3.132	349.374	.002	Less than .05	Rejected Unequal

1.8) Before- You use ATM (Debit and Credit) Card frequently.	Equal variances assumed	-2.613	358	.009	Less than .05	Rejected Unequal
	Equal variances not assumed	-2.613	346.775	.009	Less than .05	Rejected Unequal
1.9) Before- You use other banking services such as Cheques, Demand Draft, overdraft facility etc.	Equal variances assumed	-2.638	358	.009	Less than .05	Rejected Unequal
	Equal variances not assumed	-2.638	350.776	.009	Less than .05	Rejected Unequal

Source: Field Survey and SPSS output

**Table no. 1.6 ANOVA**

		Sum of Squares	df	Mean Square	F	Sig.	Comparing with .05	Hypothesis Decision
1.1) Before- You frequently visit the bank to use banking services.	Between Groups	3.211	1	3.211	2.961	0.086	Greater than .05	Accepted
	Within Groups	388.289	358	1.085				
	Total	391.5	359					
1.6) Before- You use internet banking.	Between Groups	5.878	1	5.878	5.783	0.017	Less than .05	Rejected
	Within Groups	363.844	358	1.016				
	Total	369.72	359					
1.10) Before- Overall, you visit to bank frequently for using different banking services.	Between Groups	6.4	1	6.4	6.314	0.012	Less than .05	Rejected
	Within Groups	362.88	358	1.014				
	Total	369.28	359					
1.1) After- You frequently visit the bank to use banking services.	Between Groups	0.225	1	0.225	0.155	0.694	Greater than .05	Accepted
	Within Groups	519.706	358	1.452				
	Total	519.93	359					
1.2) After- You deposit cash regularly.	Between Groups	1.6	1	1.6	1.1	0.295	Greater than .05	Accepted
	Within Groups	520.8	358	1.455				
	Total	522.4	359					
1.3) After- You withdraw money frequently.	Between Groups	0	1	0	0	1	Greater than .05	Accepted
	Within Groups	501.156	358	1.4				
	Total	501.15	359					
1.4) After- You frequently utilize loan services of the bank.	Between Groups	0.225	1	0.225	0.157	0.692	Greater than .05	Accepted
	Within Groups	514.15	358	1.436				
	Total	514.37	359					

1.5) After- You use bank for the repayment of loan.	Between Groups	0.044	1	0.044	0.03	0.863	Greater than .05	Accepted
	Within Groups	533.11	358	1.489				
	Total	533.15	359					
1.6) After- You use internet banking.	Between Groups	0.136	1	0.136	0.095	0.758	Greater than .05	Accepted
	Within Groups	513.861	358	1.435				
	Total	513.99	359					
1.7) After- You use mobile banking.	Between Groups	0.136	1	0.136	0.09	0.764	Greater than .05	Accepted
	Within Groups	541.528	358	1.513				
	Total	541.66	359					
1.8) After- You use ATM (Debit and Credit) Card frequently.	Between Groups	0.336	1	0.336	0.227	0.634	Greater than .05	Accepted
	Within Groups	529.661	358	1.48				
	Total	529.99	359					
1.9) After- You use other banking services such as Cheques, Demand Draft, overdraft facility etc.	Between Groups	0.803	1	0.803	0.517	0.472	Greater than .05	Accepted
	Within Groups	555.394	358	1.551				
	Total	556.19	359					
1.10) After- Overall, you visit to bank frequently for using different banking services.	Between Groups	0.225	1	0.225	0.152	0.697	Greater than .05	Accepted
	Within Groups	529.439	358	1.479				
	Total	529.66	359					

Source: Field Survey and SPSS output

From above table no. 1.5 and 1.6, 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.

Conclusion:

The table no. 1.5 and 1.6 illustrated that 10 sub hypotheses are verified before and after the financial inclusion and the consolidation is as shown below.

Table No. 1.7 Hypothesis 01.1-01.10 Decisions

Sr. No.	Title	Before	After
		Financial Inclusion	
3.1	You frequently visit the bank to use banking services.	Accepted	Accepted
3.2	You deposit cash regularly.	Rejected	Accepted
3.3	You withdraw money frequently.	Rejected	Accepted
3.4	You frequently utilize loan services of the bank.	Rejected	Accepted
3.5	You use bank for the repayment of loan.	Rejected	Accepted
3.6	You use internet banking.	Rejected	Accepted

3.7	You use mobile banking.	Rejected	Accepted
3.8	You use ATM (Debit and Credit) Card frequently.	Rejected	Accepted
3.9	You use other banking services such as Cheques, Demand Draft, overdraft facility etc.	Rejected	Accepted
3.10	Overall, you visit to bank frequently for using different banking services.	Rejected	Accepted

Source: Field Survey and SPSS output

It is concluded that there was no impact of usage of financial services on HDI before the introduction of financial inclusion and there was impact of usage of financial services on HDI after the introduction of financial inclusion.

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